

Drinking patterns between men and women in two distinct Brazilian communities

Diferenças nos padrões de consumo de álcool entre homens e mulheres em duas comunidades brasileiras distintas

Florence Kerr-Corrêa,¹ Adriana Marcassa Tucci,² Andrea Mary Hegedus,³
Luzia Aparecida Trinca,⁴ Janaina Barbosa de Oliveira,⁵
Tricia Maria Feitosa Floripes,⁶ Ligia Regina Franco Sansigolo Kerr⁷

Abstract

Objective: A survey was conducted to compare gender differences in patterns of drinking in two stratified, urban and representative samples from two communities (B and RJr). **Method:** The Genacis (Gender, Alcohol, and Culture: an International Study) questionnaire was used. **Results:** There were several significant differences in the demographics and patterns of alcohol use between these two samples. One had an older, more Catholic, educated, Caucasian population, with more women in the labor force. Data from B community showed that women and men had similar patterns of drinking. RJr had much higher use of alcohol among men, and almost 22% of those under 49 years old were binge drinkers. **Discussion:** Access, smoking, income and having a heavy drinker partner were important risk factors for women's drinking. **Conclusions:** This study shows that when women's roles become more similar to men's, so do their drinking patterns.

Descriptors: Women; Men; Alcoholic intoxication; Epidemiology; Research

Resumo

Objetivo: Realizou-se um inquérito para comparar diferenças de gênero nos padrões de consumo de álcool em duas amostras urbanas, estratificadas e representativas de duas comunidades (B e RJr). **Método:** O questionário Genacis (Gênero, Álcool e Cultura: Um Estudo Internacional Gender, Alcohol, and Culture: An Internacional Study) foi utilizado. **Resultados:** Houve várias diferenças significativas em dados sociodemográficos e de padrões de uso de álcool entre essas duas amostras. Uma delas tinha população mais velha, educada, católica, branca e mais mulheres na força de trabalho. Dados da comunidade B mostraram que mulheres e homens tiveram padrões similares de consumo de álcool. RJr teve uso de álcool mais alto entre homens e 22% dos homens abaixo de 49 anos de idade tinham padrão de uso do tipo binge. **Discussão:** O acesso, tabagismo, renda e ter um parceiro com consumo pesado de álcool foram fatores de risco importantes para o consumo das mulheres. **Conclusões:** Este estudo mostra que quando os papéis das mulheres se tornam similares aos dos homens, modificam seu padrão de consumo de álcool.

Descritores: Mulheres; Homens; Intoxicação alcoólica; Epidemiologia; Pesquisa

¹ Department of Neurology, Psychology and Psychiatry, Universidade Estadual Paulista (Unesp), Botucatu (SP), Brazil

² Department of Health Sciences, Universidade Federal de São Paulo (Unifesp), Santos (SP), Brazil

³ Northrop Grumman, Atlanta, Georgia, USA

⁴ Department of Biostatistics, Institute of Biosciences, Universidade Estadual Paulista (Unesp), Botucatu (SP), Brazil

⁵ Graduate Program in Mental Health, Universidade de São Paulo (USP), Ribeirão Preto (SP), Brazil

⁶ Graduate Program in Public Health, Universidade Estadual Paulista (Unesp), Botucatu (SP), Brazil

⁷ Department of Community Health, Universidade Federal do Ceará (UFC), Fortaleza (CE), Brazil

Correspondence

Florence Kerr-Corrêa
Departamento de Neurologia, Psicologia e Psiquiatria
Faculdade de Medicina de Botucatu – UNESP
Rubião Junior, s/n
18607-970, Botucatu, SP, Brazil
Fone: (+55 14 38116260) Fax: (+55 14) 3815-3965
E-mail: correa@fmb.unesp.br

Introduction

Gender differences in alcohol consumption are grounded by the ways each culture distinguishes between male and female roles¹ and reflect the broader behavioral aspects of gender roles. Women's alcohol problems have often been neglected, being either viewed as not needing or deserving help, or resulting in punishment rather than treatment. On the other hand, men frequently regard their own drinking as "normal" until it impairs their behavior and social relations. A better understanding of why men and women have different drinking patterns can give insight into the fundamental characteristics of gender roles, and how these roles may change or resist change. Finally, understanding gender differences in alcohol use may prevent costly biases in how societies attempt to control or reduce alcohol related problems.^{2,3}

One recent review of 16 general population surveys from 10 countries⁴ found that while women and men differed little in the probability of current drinking versus abstaining, men always exceeded women in drinking frequencies and quantities, and in rates of heavy drinking episodes and drinking consequences. Consistently, women were more likely to be lifetime abstainers than men. The authors concluded that gender differences in drinking might be biologically influenced. However, substantial variation in these differences in drinking patterns among countries may suggest that they are strongly influenced by sociocultural factors. The literature has shown that patterns of use have consequences that can impact on drinkers as much as or even more than levels of drinking and severity of symptoms.⁵ Almeida-Filho et al. analyzed hazardous uses of alcohol between genders in a northeast city of Brazil.⁶ A positive association of high-risk drinking prevalence was found with education and social class, but not with ethnicity. Male gender and higher socioeconomic status were associated with increased odds of high-risk drinking.

Prevalence of alcohol abuse in Brazil varies across studies. A recent household survey that studied all cities above 200,000 inhabitants in Brazil⁷ found 18.9% of men and 7.8% of women to be dependent on alcohol in southeast, where the present study was conducted. There has been a trend toward an increase of alcohol abuse incidence, comparing studies conducted in the 1980s, 2001 and 2005.

This report is a further analysis from a southeast Brazilian town using GENACIS data,³ a multinational project that aims to compare patterns of alcohol use/abuse between the genders in different contexts in several countries.^{8,9} This paper will discuss and compare the results of a study using the GENACIS questionnaire in two different community samples in terms of gender differences in drinking patterns of alcoholic beverages compared to abstinence. The following hypotheses regarding alcohol and gender were examined: the first hypothesis is that in both communities men would be more frequent and heavier drinkers compared to women. In Botucatu, this hypothesis would be less evident due to higher socioeconomic levels in general. The second hypothesis is that having a religion affiliation would increase abstinence rates and any religious drinkers would fall in the light consumption range. Third, it is expected that drinkers would be more frequent smokers (tobacco). Finally, for women, the hypothesis is that having a partner who is also a heavy drinker would increase one's chances of being a heavy drinker; for both genders, having friends or a family history of alcohol abuse would increase the chances of being a drinker as well.

Method

1. Setting

Botucatu, located in the central region of São Paulo state, has 108,306 inhabitants. It is predominantly urban (96.2%) and has

an annual growth rate of 1.64%.¹⁰ About 98.8% of households have a public water supply and sewage, which is approximately three times the national average and double the general Southeast Brazilian rate, the richest area in the country.¹⁰ The municipal economy is based on commerce, as well as on the service industry. None of these activities prevails over the other.

Rubião Jr. is a sub-district of Botucatu and is located 4 km away from downtown. It has 4,800 inhabitants, 3,405 from urban and 1,395 from rural areas (2000 census). Growth has been unplanned, rapid and by internal migration. Although community associations are implementing programs to improve income and education, the socioeconomic-educational level is far below the main town. Some slums were part of the sample, where houses without sewage and socio economic inequality were high. On the other hand, several university students and workers live there. Only people who lived in the urban area were interviewed.

In Brazil, there is an extremely tolerant attitude toward alcohol consumption. Federal law that regulates alcohol advertising allows beverages with alcohol content lower than 13% to be considered as food. There are other important issues regarding alcohol consumption and its related problems in our country, including in these two communities. Access to alcohol is easy. The law that imposes a minimum age for purchasing alcohol (18 years) is not enforced. There are no laws that control operating hours of bars, regulate licenses to sell alcohol, or limit places where alcohol can be bought. The maximum blood alcohol concentration allowed for drivers is 0.06% (0.6 g of ethanol for each 1000 ml of blood).^{3,7,11} However, in practice, there are not enough devices or police to enforce it. Probably, in Rubião Jr. the scenario is still worst since it is located in the periphery of the town.

2. Participants

1) Botucatu

The GENACIS questionnaire was included as a component of a morbidity and service use survey conducted by the Department of Public Health of Universidade Estadual Paulista (Unesp). A stratified sample, represented by socioeconomic and educational levels, was drawn from Botucatu and included people over 17 years old. Each stratum was composed using a sector census,¹⁰ and respondents were selected using cluster sampling schemes. The sampling unit was composed of family households, including condominiums and single dwellings; student housing and commercial buildings were excluded. Interviews were conducted in as a private a setting as possible. More than one person per household could be interviewed, a decision taken since the beginning of the study in order to make this research less expensive and feasible. Other studies have been done using the same approach, including here.¹²

The final sample of 740 individuals underwent face-to-face interviews in 2001 and 2002. Among these interviewees, adults over 17 years old were invited to participate, including 372 men (50.3%; mean age 50.3 years; s.d. \pm 21.1) and 368 women (49.7%; mean age 50.9 years; s.d. \pm 16.5). Overall, approximately 5.8% refused to participate and some preferred not to respond to a few questions, primarily in the violence/intimacy section.

2) Rubião Jr.

Rubião Jr. is a sub-district of Botucatu. The School of Medicine and the University Hospital are located there. Respondents were interviewed during 2002, in a randomized sample of 525 people, including 194 men (37%; mean age 41.6 years; s.d. \pm 16.5) and 331 women (63%; mean age 40.3 years; s.d. \pm 16.5). The sample was drawn from the general population. Adults over 17 were

invited to answer the GENACIS questionnaire. Around 5% refused to participate; some did not want to answer some questions, mainly in the violence/intimate section, as in Botucatu. The sample unity was composed of family households; student housings, stores and other commercial places were not considered. The interviews were conducted in a private place. More than one person per house could be interviewed as in the Botucatu sample.

3. Procedure

Female interviewers, experienced in population surveys, were given advanced training regarding the GENACIS questionnaire by the first author and administered all measures used in this study. This advanced training included specific information on alcohol and drinking behavior (e.g., antecedents and consequences, problematic behavior and binge drinking) and violence, sexual and intimacy questions. Interviewers were supervised monthly throughout the year to answer any questions that arose, control for interview bias and drift, and address issues regarding the sensitivity of some of the questions in this culture. There were several reasons to hire only female interviewers. Traditionally, it is female who transmit the knowledge and practices about health maintenance and are the primary care takers of their families and even neighbors and friends.¹³ As such, they have easier access to other people's houses. Also, it is easier to find better prepared women, compared to men, who are willing to do this kind of temporary job. Although a gender-of-interviewer effects is likely to be asymmetric – that is, more likely to affect men than women on gender-sensitive items, it may depend on the social context in which the surveys take place. And finally,¹⁴ there are authors like Galla et al.¹⁵ who argue that more “non-traditional” responses occur for both male and female respondents only when facing a female interviewer.

4. Measures

GENACIS Questionnaire on Gender, Alcohol and Culture: the GENACIS questionnaire has been described elsewhere,³ is available on request, and includes specific information on alcohol and drinking behaviors (e.g., antecedents and consequences, problematic behavior, and binge drinking). The version used in Botucatu sample consisted of a core questionnaire of 59 items, with sections on: demographics; work experiences; social networks; drinking variables – including quantity/frequency; context; family history of alcohol use; expectancies when using; several consequences of alcohol use; intimate relationships and sexuality; violence and victimization, as well as health and lifestyle, together with illicit and prescribed drug use. The questionnaire used in Rubião Jr. was the expanded version of GENACIS questionnaire, with 125 items. Both of them evaluate the same areas and contain questions about quantity and frequency of alcohol use.

Self-Report Questionnaire (SRQ): this measure is a 20-item, self-assessment of mental health¹⁶ that has been validated in Brazil by Mari and Willians.¹⁷ A score above 7 indicates a high risk for having a mental disorder. Nevertheless, Mari and Willians suggested using a score of 6 for men and 8 for women because it is more specific, since men tend to underreport psychological symptoms, while the opposite is true for women. In this study, the different scores were used for men and women.

Alcohol Consumption Variables: all alcohol consumption (e.g., beer, wine, liquor, etc.) was standardized to one drink unit of 12-15 g of ethanol, which is the average drink size in Brazil. Respondents were considered to be *abstinent* when they reported not drinking at all in the past year. *Light infrequent drinking* (LD) was defined

as drinking one or two drinks per occasion, less than once a week or 1 to 3 times a month. *Light frequent drinking* (LF) was defined as reporting one or two drinks per occasion, weekly or more, in the last year. *Moderate infrequent drinking* (MI) was defined as drinking three drinks per occasion, less than once a week or 1 to 3 times a month. *Moderate frequent drinking* (MF) was defined as drinking three drinks per occasion, weekly or more, in the last year. *Heavy infrequent drinking* (HI) was defined as drinking at least five drinks per occasion, less than once a week or 1 to 3 times a month, with or without problems associated with consumption. *Heavy frequent drinking* (HF) was defined as drinking at least five drinks per occasion, weekly or more in the last year, but without problems. *Heavy frequent drinking with problems* (HFP) was defined as drinking at least five drinks per occasion, weekly or more, in the last year and at least one of the following: 1) one negative consequence (e.g., legal, clinical, psychiatric, familial, work) at any time in the last 12 months, or 2) any dependence criterion. The same number of drinks was considered for both men and women since analyses conducted considering fewer drinks for women have given the same results. All drinking categories were mutually exclusive.

5. Analysis

Associations between variables were tested by the chi-square or Fisher's exact tests before choosing the variables in the model for the logistic regression analysis (LRA). A backward variable selection process was carried out to explore the possible associations with drinking behavior (drinking vs. abstinent) that could be important to distinguish the two communities (Rubião Junior to Botucatu).

The LRA model for drinking (vs. abstinence) included the following significant variables: gender; total family income; age; marital status; religion; educational level (compared to post secondary education); paid work (compared to no paid work); ethnicity; gender of co-workers (compared to more women colleagues); tobacco use; positive family alcohol abuse history; friend's drinking problems; level of partner's drinking; marriage satisfaction; drinking alone; ability to talk to the partner about feelings and problems; expectancies about drinking (feeling less sexually inhibited, more pleasurable sexual activity; more aggressive and more sexually attractive); and SRQ score (score ≥ 6 for men and ≥ 8 for women). The analyses were performed separately for each gender and were conducted using SAS software.

6. Ethical considerations

The Ethical Committee on Research from Botucatu School of Medicine, Universidade Estadual Paulista, approved this project on April 4th 2001. Participants were included only after written informed consent was obtained, and they were reassured that the questionnaire would not be connected to their names.

Results

1. Socioeconomic data

Table 1 shows the socioeconomic characteristics of the sample. In Botucatu ($n = 740$), the distribution was even for sex, with mean age about 50 years, most married or living in a common law marriage and had at least 8 years of education (only 3.7% were illiterate and 32.2% had a college degree). Low educational levels and illiteracy were more prevalent (56%) in older people (over 65) (not in table). This finding is consistent with the population in São Paulo State, where younger people have more access to education.¹⁸ On the other hand, in Rubião Junior ($n = 524$), most were female, both genders had a mean age of about 40 years, most were married

or living in a common law marriage, fewer had at least 8 years of education (9.7% were illiterate and only 6.3% had a college degree). The association between age and years of education showed that low education and illiteracy (data not shown in table) prevailed in people under 65 years old, which is different from what was found in São Paulo State.¹⁸

Chi-square analyses (Table 1) showed that there were significant differences between communities for age, education, religion, marital status, income, ethnic group for women and occupation.

2. Drinking patterns

Table 2 shows that, in Botucatu, about 44.9% of men and 46.0% of women were abstinent during the last 12 months. Surprisingly and contrary to our expectations, when women did drink their drinking was similar to men in terms of frequency and quantity of drinking, heavy and problem drinking for all age ranges. There was no significant association between gender and patterns of alcohol drinking in Botucatu.

On the other hand, patterns of alcohol use in Rubião Junior were quite different for men and women: men drank significantly more than women in all age groups ($p < 0.0001$). The abstinence rates among women were up to 80.3% (vs. 48.5% for men).

Comparing Botucatu to Rubião Jr., significant differences were found between the male and female samples ($p < 0.0001$) with respect to patterns of drinking. Among males, in Botucatu, more light to moderate drinkers and also problem drinkers were found, but not many binge drinkers (heavy). In Rubião Jr., 21.7% of men were binge drinkers with fewer drinking problems. Also contrary to Botucatu, women in Rubião Jr. were predominately abstainers.

The logistic regression analysis (LRA; Table 3) shows that the two communities differ in relation to drinking behavior. Because of sparse or no data in some categories of drinking patterns these samples were grouped into drinkers and abstainers. The possible risk factors for drinking (vs. abstaining) for women were: Botucatu and Rubião Jr. – up to 7 years of education; Botucatu – having a heavy drinking partner, not having a family history of alcohol problems; Rubião Jr. – younger, lower income, smoking, low SRQ scores; for men: Botucatu and Rubião Jr. – smoking and having friends who have a drinking problem; Botucatu – married/common law, up to 11 years of education, low SRQ scores, not having a history of family's alcohol problem; Rubião Jr. – lower income.

Discussion

While biological differences between women and men are important factors in the determination of alcohol use, sociocultural factors also play an important role. According to study hypotheses, several important sociocultural variables were found to have an impact on gender differences in drinking in two Brazilian communities separated by only 6 kilometers. Differences in these demographic characteristics point to the importance of differences in access to alcohol and social roles. These differences were also examined in terms of different patterns of drinking and drinking versus abstinence.

Overall, these regional samples differed somewhat from those described in other studies. Only 4.7% of the Brazilian population has 12 or more years of education and about 24.8% are illiterate¹⁷ compared to Botucatu, which presents 32.2% and 3.7%, respectively.³ Even when compared to the southeast region, where

Table 1 - Sociodemographic characteristics of Botucatu and Rubião Jr. samples (p values for comparisons between the two sites, separated by gender)

Characteristics	Total		Male		Female	
	Botucatu	Rubião Jr.	Botucatu	Rubião Jr.	Botucatu	Rubião Jr.
Sample size	740	525	372	194	368	331
Age (mean ± SD)*			50.1 ± 21.7	41.6 ± 16.5	53.5 ± 22.5	39.5 ± 16.5
Education (1)*	(%)	(%)	(%)	(%)	(%)	(%)
Up to 7 years	3.7	57.3	4.3	47.4	3.0	63.1
8-11 years	64.1	36.4	63.2	44.3	65.1	31.7
12 years or more	32.2	6.3	32.5	8.3	31.9	5.10
Religion (2)*						
Agnostic/Atheist	6.2	7.6	8.3	13.0	4.1	4.5
Catholic	70.8	60.9	69.6	61.1	72.0	60.8
Evangelical/Protestant	15.0	27.5	15.3	22.3	14.7	30.5
Kardecist	3.3	1.5	2.7	1.0	3.8	1.8
Other	2.1	2.5	1.3	2.6	3.0	2.4
No information	2.6	0	2.8	0	2.4	0
Marital status (3)*						
Married	61.4	42.1	62.3	40.7	60.5	42.9
Common law	12.0	25.7	12.1	19.6	11.8	29.3
Widowed	5.8	7.8	4.6	3.1	7.1	10.6
Divorced	8.0	8.0	9.2	12.4	6.8	5.4
Single	12.8	16.4	11.9	24.2	13.7	11.8
Family income (4) (1 min wage = US\$100/month)*						
≤ 2 minimum wages	15.4	31.8	18.0	25.5	12.8	35.6
3-6 minimum wages	36.6	51.3	35.8	53.1	37.5	50.3
≥ 7 minimum wages	45.6	16.8	43.3	21.4	47.8	14.1
No information	2.4	0.2	2.9	0.0	1.9	0.0
Occupation (5)*						
Paid work	80.6	61.0	87.2	87.9	74.5	45.5
Student	7.3	1.9	8.5	2.1	6.0	1.8
Housewife	8.6	30.4	0.0	0	17.1	47.9
Unemployed	3.5	6.7	4.4	10.0	2.5	4.9

* Significant differences comparing both communities by gender ($p < 0.01$)

Table 2 – Percentage of abstinence and drinking patterns in current drinkers during the last 12 months by gender and age group

	n (%)	Male age categories					Female age categories					Total n (%)
		18 to 34	35 to 49	50 to 64	≥ 65	n (%)	18 to 34	35 to 49	50 to 64	≥ 65		
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)		
Botucatu												
Abstainers	167 (44.9)	42.6	45.7	50.8	43.6	170 (46.0)	44.4	57.9	45.1	43.3	337 (45.5)	
Light	126 (33.9)	37.4	18.6	33.3	39.5	144 (39.4)	37.4	33.3	36.6	44.0	270 (36.5)	
Moderate	27 (7.2)	7.0	8.6	6.4	7.3	25 (6.7)	7.1	1.8	12.7	5.7	1 (0.1)	
Heavy	32 (8.6)	7.9	14.3	6.4	7.2	18 (5.0)	9.1	3.5	1.4	4.3	25 (3.4)	
Problem drinker	20 (5.4)	5.2	12.9	3.2	2.4	11 (2.9)	2.0	3.5	4.2	2.8	31 (4.2)	
Total (%)	372 (50.3)	115 (30.9)	70 (18.8)	63 (16.9)	124 (33.3)	368 (49.7)	99 (26.9)	57 (15.5)	71 (19.3)	141 (38.3)	740	
p for gender in Botucatu: n.s.												
Rubião Jr.												
Abstainers	94 (48.5)	44.6	44.4	50.0	69.6	265 (80.3)	76.3	77.6	87.8	97.8	359 (68.3)	
Light	56 (28.9)	24.4	28.6	38.3	30.4	51 (15.4)	17.1	18.4	12.2	3.2	107 (20.3)	
Moderate	1 (0.5)	1.4	0	0	0	0	0	0	0	0	1 (0.2)	
Heavy	42 (21.7)	29.7	25.4	11.8	0	14 (4.2)	6.7	4.1	0	0	56 (10.7)	
Problem drinker	1 (0.5)	0	1.6	0	0	0 (0)	0	0	0	0	1 (0.2)	
Total (%)	194	74 (38.1)	63 (32.5)	34 (17.5)	23 (11.9)	330	152 (46.1)	98 (29.7)	49 (14.6)	31 (9.4)	324	
p for gender in Rubião Jr: < 0.0001												
p for group												< 0.0001

Botucatu is located, this sample fares better (9.1% and 8.4%, respectively). Rubião Junior rates are more similar to the southeast region (6.3% and 9.7%, respectively). A slum has been recently set in Rubião Jr., with migration from northeast Brazil. In this area, people are mostly illiterate and, unlike IBGE São Paulo data, are between 18 and 64 years old (8.6%).

Carmo et al.¹⁹ discussed this epidemiological transition in developing countries, such as Brazil. Compared to developed countries, where decreases in infectious and parasitic diseases and increases in chronic-degenerative diseases, accidents, and violence-related health events are due to improvements in social and economic conditions, both trends are present in Brazil. They occur in a context of extreme complexity and social inequality. Brazil presents a paradoxical situation, where economic indicators (15th in the world economy in 2004) are incompatible with social indicators. As a whole, all Brazilian regions are improving, but at drastically different levels, rates, and velocity. Botucatu is an example of this phenomenon: it is a relatively small university town that has all its indicators (water supply, sewage, health system, educational achievement, employment, and salaries, including good jobs for women, among others) well above regional and national levels. Rubião Junior, only 6 kilometers away from Botucatu, has a much greater internal migration, a larger Mulatto population with lower socioeconomic and educational levels, and fewer women with paid work. This may be seen as a limitation to this study. However, it was conducted over 1 year, stratified by neighborhood, and representative of the socioeconomic-educational levels of those communities. Botucatu should be seen as the end of the socioeconomic continuum in a country undergoing major social and economical transitions, which shows that when sociocultural factors change and social roles merge, drinking differences between the genders tend to disappear. Rubião Jr., on the other hand, is more representative of what can be expected in a developing country, with men and women having more traditional roles: women staying at home as housewives and presenting with high rates of alcohol abstinence, and men having low paid jobs, high unemployment rates (up to 10%) and presenting with more binge drinking among the younger age groups. These conclusions are in accordance with those described in the literature in Brazil and in other similar societies.^{6,20}

This study also examined differences in drinking levels between women and men. The same amount of alcohol consumed by a woman and a man of the same weight will produce a higher blood alcohol concentration in women.²¹ In general, levels of drinking, quantity and frequency were similar between the genders in Botucatu. In Rubião Jr., the situation was quite different: the abstinence rates among women were up to 80.3%, and men, particularly younger ones, tended to binge drink. There was no report of heavy or problem drinking among the elderly people, for both sexes in Rubião Jr., and the number of problem drinkers decreased with age in both communities. In fact, no woman over 65 years old from Rubião Jr. drank at all. Laranjeira et al., in a national survey, also found very high abstinence rates over a 12 month period in Brazil, a fact that needs to be better understood.⁷

In general, and according to study hypotheses, women from Botucatu could be seen as less conservative and traditional than the ones from Rubião Jr. As a result, their drinking patterns were more equivalent to men, as were their social roles. In Rubião Jr. sample, it was different: they were basically abstainers or had a binge drinking pattern.

Similar changes in drinking and sexual behavior, recently found in the literature, are also related to new social roles for women.

In Botucatu, women had higher rates of employment and income compared to women in Rubião Jr., and reported less abstinence, easier access to alcohol and higher rates of drinking. Women's drinking has often been more socially restricted than men's by fear that it may more adversely affect women's social behavior and responsibilities.²² Other authors have found that women's intoxication reduces social control of their sexuality, making them either more sexually disinhibited or more sexually vulnerable.²³ Traditionally, women's drinking has also been discouraged or concealed because it was incompatible with domestic roles, and might interfere with social control over family relationships and public behavior.^{3,9,22}

If gender differences in alcohol use have a sociocultural basis, as women's roles become similar to male roles, women and men's drinking behaviors would be expected to converge. Some evidence of this has been reported in the past decade.²⁴⁻²⁶ Nevertheless, other researches have found persistence of gender differences, both in general adult populations,^{27,28} as well as in university students and young adult samples.²⁹ This is a critical area of study that requires further investigation.

Contrary to study hypotheses, having a heavy drinking partner was associated with being a drinker only among women in Botucatu, but not in Rubião Jr. In another study in the same Brazilian region,² having a heavy drinking partner was found in about 50% of women under treatment for alcohol problems, who became

heavy drinkers with their partners, a fact rarely seen in men with alcohol dependence. Gomberg³⁰ said that: "we know that the social contagion of alcoholism goes from husband to wife significantly more frequently than it goes in the other direction." Although some studies have found contradictory findings,³¹ a recent studying sample of newlyweds with respect to their alcohol use confirmed Gomberg's findings.³² In this study, husbands' alcohol use in the year before marriage was a risk factor for wives' drinking in the first year of marriage. However, wives' drinking was not found as a risk factor for husbands' subsequent drinking. Having friends with problems related to alcohol was associated with alcohol consumption among men in both communities. Similar findings are frequent in the literature.³³

Another common finding in epidemiological studies on alcohol is that youths drink more than seniors.⁴ In Rubião, this finding was confirmed among younger women, increasing the risk of drinking. This study analyzed just drinking (compared to not drinking), including, therefore, several levels of drinkers. Most of them did not drink excessively, which explains an association between low SRQ scores in those who drank and what could be an indicative of good mental health.

By contrast, our data showed that the elderly drank much less, especially among women in Rubião Jr. Presumably, the same conclusion would hold for many other regions of the country. In fact, meta-analyses of international longitudinal surveys¹ found

Table 3 - Estimates of the odds ratio obtained by the logistic regression analysis of drinking versus abstinence in Botucatu vs. Rubião Jr. by gender

Variable	Region	ODDS (CI 95%)	
		Female	Male
Region	Botucatu	n. s.	0.02 (0.00-0.42)
	Rubião Jr.	-	-
Age	Botucatu	n. s.	n. s.
	Rubião Jr.	0.96 (0.94-0.99)	n. s.
Tobacco use	Yes	Botucatu	n. s.
	Yes	Rubião Jr.	2.12 (1.20-3.74)
Partner heavy drinker	No	Botucatu	3.08 (1.54-6.16)
	No	Rubião Jr.	6.57 (2.96-14.58)
Marital status	Married	Botucatu	0.40 (0.16-0.97)
	Common law	Botucatu	n. s.
	Divorced	Botucatu	n. s.
	Single	Botucatu	n. s.
	Married	Rubião Jr.	2.37 (1.02-5.50)
	Common law	Rubião Jr.	3.59 (1.24-10.39)
	Divorced	Rubião Jr.	n. s.
	Single	Rubião Jr.	n. s.
Family income	≥ 7 min wages	Botucatu	n. s.
	3-6 min wages	Botucatu	n. s.
	≤ 2 min wages	Botucatu	-
	≥ 7 min wages	Rubião Jr.	3.41 (1.05-11.14)
	3-6 min wages	Rubião Jr.	n. s.
	≤ 2 min wages	Rubião Jr.	-
Education	Up to 7 years	Botucatu	3.57 (1.61-7.91)
	8 to 11 years	Botucatu	2.55 (1.45-4.50)
	12 years or more	Botucatu	-
	Up to 7 years	Rubião Jr.	7.16 (2.75-18.65)
	8 to 11 years	Rubião Jr.	2.56 (1.44-4.53)
	12 years or more	Rubião Jr.	-
SRQ	Low	Botucatu	10.44 (2.52-43.24)
	Low	Rubião Jr.	n. s.
Family history of alcohol abuse	No	Botucatu	2.36 (1.12-4.96)
	No	Rubião Jr.	2.86 (1.50-5.45)
Friends' drinking problems	Yes	Botucatu	2.26 (1.27-4.02)
	Yes	Rubião Jr.	n. s.
	Yes	Botucatu	3.31 (1.46-7.52)
	Yes	Rubião Jr.	1.14 (0.55-2.38)

¹ Age entered in the model as continuous variable

that, consistently across cultures, aging reduced both women and men's drinking. Although the elderly, generally defined as persons older than 65, consume less alcohol and have fewer alcohol-related problems than younger persons, some surveys suggest that a person's drinking pattern remains relatively stable with age, perhaps reflecting societal norms that prevailed when the person began drinking.³⁴ This factor also may explain the differences between genders seen in both communities. Contrary to studies of the general population, surveys conducted in health care settings have found an increasing prevalence of alcoholism among the older population.³⁵

Most studies in Brazil that included social variables associated with heavy drinking, or alcohol abuse or dependence, found them to be associated negatively with socioeconomic status, education and income.³⁶⁻³⁸ On the other hand, studies that included social variables associated with light alcohol consumption or use, found them to be positively associated with socioeconomic status, education and income, primarily among student populations.^{6,39,40} This study corroborates these data, showing a relation between alcohol consumption and higher social class and education. Possible interpretations for this phenomenon could include easier access to alcohol or fewer social constraints.

Another sociodemographic variable that has been found to be associated with high risk drinking in some Brazilian studies is marital status, primarily among married men.^{6,36} In a recent study carried out in Brazil, the association between marital status and heavy episodic drinking among men was not found, but the study did find an association among women who were not married.²⁰ International

studies have well established that married people tend to drink less and to show less problems related to alcohol consumption than people who are single or divorced.⁴¹ Marital status is certainly a variable, as well as other sociodemographic variables, related to alcohol consumption that has not been studied extensively in Latin American countries, including Brazil. In the present study, this factor remains unexplored because only people over 18 years old were studied, and those in student housing were not selected.

Tobacco use was associated with alcohol consumption, as expected and frequently found in the literature.^{36,42-44} Bobo and Husten reported that 37% of adults who were drinkers were also smokers, compared with 13% of abstainers.⁴⁵ Dawson found that the prevalence of tobacco use during the past year was the lowest among lifetime abstainers (23%) and increased to 31%, 39%, and 53% among light, moderate, and heavy drinkers, respectively.⁴⁶

Conclusion

The results lead to the conclusion that women and men showed very similar drinking patterns in the Botucatu sample, but very different ones in Rubião Jr., where most were abstinent and, when they did drink, tended to binge. It may represent the fact that the population in Botucatu is already showing changes in their sociocultural roles compared to a more traditional community with fewer opportunities for women. As women's social roles became more similar to men's, so did their drinking patterns. More studies are necessary to address the complexities and interplay among sociocultural variables and gender differences in drinking patterns in countries with rapidly changing social and economic environments.

Disclosures

Writing group member	Employment	Research grant ¹	Other research grant or medical continuous education ²	Speakear's honoraria	Ownership interest	Consultant/ Advisory board	Other ³
Florence Kerr-Corrêa	UNESP	FAPESP	---	---	---	---	---
Adriana Marcassa Tucci	UNIFESP	---	---	---	---	---	---
Andrea Hegedus	Northrop Grumman	---	---	---	---	---	---
Luzia Aparecida Trinca	UNESP	FAPESP	---	---	---	---	---
Janaina Barbosa de Oliveira	USP	FAPESP	---	---	---	---	---
Trícia Maria Feitosa Floripes	UNESP Secretaria da Saúde da Prefeitura de Botucatu	---	---	---	---	---	---
Ligia Regina Franco Sansigolo Kerr	UFC	CAPES CNPq Ministério da Saúde	---	---	---	---	---

* Modest

** Significant

*** Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.

Note: UNIFESP = Universidade Federal de São Paulo; UNESP = Universidade Estadual Paulista; USP = Universidade de São Paulo; UFC = Universidade Federal do Ceará; FAPESP = Fundação de Amparo à Pesquisa do Estado de São Paulo; CAPES = Coordenação de Aperfeiçoamento de Pessoal de Nível Superior; CNPq = Conselho Nacional de Desenvolvimento Científico e Tecnológico.

For more information, see Instructions for authors.

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