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Sexual Aggression in Brazilian Nightclubs: Associations with Patron's Characteristics, Drug Use, and Environmental Factors

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Abstract

Bars and nightclubs are main locations for sexual assault outcomes such as rape, attempted rape, stalking, and other forms of sexual harassment. Alcohol use is strongly associated with violence in nightlife settings. The present study aimed to identify individual and environmental factors, such as different types of nightclubs, music styles, and physical environment associated with nightclub patron's report of being victims of sexual aggression inside nightclubs in São Paulo, Brazil. Two levels of data were collected: observational data inside nightclubs and individual-level survey data of 2422 patrons at the entrance and 1822 patrons (1111 men; 711 women) at the exit of 31 nightclubs. Among patrons, 11.5% (95% CI 7.9–16.2%) reported being a victim of sexual aggression inside the venues in the night of the survey. Groping and forced kissing were the most prevalent forms of sexual aggression (9.8%; [7.2–13.1%]), which was more strongly associated with environmental factors such as crowding (OR = 2.9 [1.6–5.2%]), entrance consumption fee (OR = 4.2 [2.5–7.0%]), and music style than with individual-level factors. In funk (OR = 3.3 [1.6–6.9%]), electronic (OR = 3.2 [1.8–5.8%]), and pop dance (OR = 7.9 [2.2–29.1%]) nightclubs, patrons had higher chances of being a victim of sexual aggression compared to those ones at the eclectic nightclubs. Presence of reserved areas for sex increased the chances of reporting sexual aggression (OR = 1.8 [1.2–2.8%]). No significant gender differences for sexual aggression were detected. Results suggest a requirement of security improvement where environmental characteristics are potential predictors of victimization.

Keywords Sexual violence · Nightlife settings · Alcohol consumption · Brazil

Introduction

Drinking environments have been described as hot spots for violence in developed countries (Bellis, Hughes, & Anderson, 2005; Hughes et al., 2008; Krug, Mercy, Dahlberg, & Zwi, 2002; Norström, 2000). Excessive alcohol consumption is strongly associated with violence in nightlife settings (Felson & Burchfield, 2004; Graham, 2003; Hughes et al., 2008; Macdonald et al., 2005). Harmful alcohol use directly affects brain chemistry by altering levels of neurotransmitters that control behaviors and emotions. Cognitive and physical functioning are affected, reducing self-control and the ability to process information, increasing impulsiveness and making people more likely to engage in violent behavior (Graham, 2003; Peterson, Rothfleisch, Zelazo, & Pihl, 1990).

Violence in nightlife settings and alcohol intoxication has become an important issue for public health (Bellis et al., 2005; Finney, 2004; Hughes et al., 2008; Krug, Mercy, Dahlberg, & Zwi, 2002; Norström, 2000). Calafat et al. (2011) identified pubs, bars, and nightclubs as the main places in which excessive alcohol and other drugs use happen and several studies point to these environments as places of risk for involvement in physical fights and sexual assaults. Thus, many countries are trying to create measures aimed to reduce violence, traffic accidents, and other risks associated with nightlife (Jones, Hughes, Atkinson, & Bellis, 2011) such as improving strategies in policing (e.g., tests through the breathalyzer or enforce consequences such as traffic tickets), security and surveillance in nightclubs and bars (Graham & Homel, 2008; Graham et al., 2014c; Hughes & Bellis, 2007).

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Published evidence on nightlife violence usually focuses on physical fights (Hesse, Tutenges, Schliewe, & Reinholdt, 2008; Hughes et al., 2008, 2011b). However, in addition to physical fights, there is a growing literature indicating that bars and nightclubs are leading locations for sexual assault outcomes such as rape, attempted rape, stalking, and other forms of sexual assault and harassment (Anderson, Hughes, & Bellis, 2007; Bersamin, Paschall, Saltz, & Zamboanga, 2012; Buddie & Parks, 2003; Fox & Sobol, 2000; Graham & Wells, 2001; Graham, West, & Wells, 2000; Parks, 2000; Parks, Miller, Collins, & Zetes-Zanatta, 1998).

Effective preventive approaches to reduce sexual violence in nightlife settings involve an understanding of the individual behaviors within these settings, the structure of the nightlife environment, and the way in which behaviors, environment, and peers interact (Calafat, Fernández Gómez, Juan, & Becoña, 2007. Although in many circumstances peers can be a protective factor for clubbing victimization, greater group familiarity might sometimes be associated with less concern for safety, reduced vigilance, and an increase in negative experiences (Johnson, Voas, Miller, Bourdeau, & Byrnes, 2015).

A Brazilian study conducted among nightlife patrons in Sao Paulo showed that both men and women are exposed to greater risks due to the influence of alcohol intoxication. For example, in this same study alcohol influenced more aggressive sexual behavior among women compared to men, i.e., the abuse of alcohol consumption seemed to be associated with women acting as a possible aggressor inside nightclubs, where they were actively seeking a sexual interaction (Santos, Paes, Sanudo, Andreoni, & Sanchez, 2015). The same study pointed to the existence of reserved areas for sexual relationship called dark rooms in São Paulo dance clubs (Sanchez, Carlini, & Andreoni, 2015). Moreover, in some funk music nightclubs, sexual simulation dance choreographs and hard sexual connotation music lyrics may suggest that sexual violence is acceptable (Sanchez, Carlini, Sanudo, & Wagner, 2016).

It is important to note that most of these studies come from wealthier countries (Hughes et al., 2011b). However, São Paulo, Brazil, is the most populous city in the Southern Hemisphere (IBGE, 2014) and features the most important nightclub market of Latin America, leading to a strong growth and foreign franchises attraction to the Brazilian nightlife (Muniz, Silva, & Maffezzolli, 2014). Thus, the purpose of the present study was to identify individual and environmental factors associated with patron's reports of having been victims of sexual, aggression (i.e., forced kissing, being groped, intention, and execution of rape) in nightclubs in São Paulo, Brazil.

Method

A mixed-methods study was carried out using quantitative and qualitative data in the following three different stages of data collection: (1) nightclub patrons entrance interviews; (2) nightclub patrons exit interviews; (3) environmental data collected inside nightclubs (on the same night of patrons' interviews).

Sampling

This study was a two-stage cluster sampling portal survey among nightclub patrons interviewed at the entrance and exit of nightclubs and the following day. The first stage consisted of a systematic sampling of nightclubs with a selection probability proportional to the nightclub's maximum capacity. The second stage was a systematic sampling of every third person in the entrance line of the nightclubs. Data were collected from January to July 2013 in the city of São Paulo, Brazil.

For the selection of the venues, nightclubs were defined as leisure venues that sell alcoholic beverages, have one or more dance floors, and offer individual control of patron entry and exit through the payment of an entrance fee. To guarantee that we would have at least 30 nightclubs participating in the survey, we contacted the originally 40 selected nightclubs and 7 replacements, resulting in an acceptance rate of 66% (31/47). A non-response adjustment factor was used by weighting the 31 nightclubs to make them equivalent to the 40 selected nightclubs. Details of nightclub selection were presented in Santos et al. (2015) and Sanchez et al. (2015). The adjustments were estimated by a logistic regression model with agreement to participate in the study as the dependent variable and establishment size as the explanatory variable. The nightclub (clusters) weights were equal to the inverse selection probability multiplied by the non-response adjustment factor.

A sample size of 1600 patrons was calculated so that the prevalence of alcohol intoxication could be estimated to within 5 percentage points (absolute precision) of the true value set to 50% (maximum variance) with 95% confidence with two stages of cluster sampling and a design effect of 2 (Lwanga & Lemeshow, 1991). Considering a refusal rate of 30% and a maximum follow-up loss of 40% from patron entrance to patron exit, which was based on previous studies by Clapp et al. (2007), it was determined that 2912 patrons should be initially approached. The adopted inclusion criteria were the intention to enter the nightclub and being at least 18 years old. A total of 3063 patrons were recruited to answer questions in an entrance and exit portal survey. Of these, 2422 entrance interviews and 1822 exit interviews were carried out.

Measures

Patrons Instrument

Patrons answered an entrance questionnaire on sociodemographic variables, practice of pre-drinking, alcohol use patterns, drug use, and other risk behaviors in nightclubs in the

past 12 months prior to the interview. All patrons also had their breath alcohol concentrations (BrAC) measured at the time of the interview by means of a breathalyzer (calibrated Draguer Alcoltest 7410 plus RS), and each patron received a bracelet with a unique numeric code for identification at the time of nightclub exit. At the nightclub exit, the same participating patrons were approached once more and invited to answer another questionnaire regarding use of alcohol, illicit drugs, and other behaviors inside the nightclub, such as suffered and practiced violence (sexual, physical, and verbal aggression). At the end of the exit interview, breath alcohol concentration was measured once again.

Nightclub Instruments

For the observational research that generated environmental data, we used a structured questionnaire based on the KAReN (Kit for Assessment of Recreational Nightlife) venue questionnaire (Calafat et al., 2007b) and the "Safer Bars" study (Graham, 2002). The questionnaire was completed by two highly trained researchers over a total of 305 h of observational study.

Outcome Variable

The outcome variable was being a victim of sexual aggression inside the nightclub (groping or forced kissing; rape attempted; rape executed). The questions that were used to generate this outcome were: Did someone kiss you/touch you in a sexual way without your permission? Did someone try to have a sexual relationship with you against your will? If so, did you have it against your will? The responses options were binary, and it was questioned if the event was committed by someone known or unknown.

Main Covariates

The sociodemographic explanatory variables included the following: gender (male, female); age (used as continuous variable); marital status (married, single, other); highest level of education (elementary/middle to post-baccalaureate); ethnicity (white, mulatto, black, and other), and socioeconomic status, which was obtained according to the Brazilian Population Studies Association score (A.B.E.P., 2012) and classified into A, B, and C/D/E (where class A is the highest).

BrAC is presented as continuous variable as milligram of ethanol by liter of exhaled breath air (mg/L). Marijuana, cocaine, ecstasy, inhalants, ketamine, tranquilizers, and hallucinogens were evaluated through self-report by a binary answer (no/yes) about use inside the nightclub during the study.

The aspects of the nightclubs that were evaluated as explanatory variables were divided into the following six blocks:

1. *Type of Alcohol Sale* "all-you-can-drink-service," where patrons pay a fixed price at the entrance, allowing them unrestricted alcohol consumption inside the establishment; alcohol discounts (such as buy one take 2); and entrance consumption fee (payment of a fixed price in advance to be used inside to drink alcoholic beverages). All were binary variables (no/yes).
2. *Type of Nightclub* LGBT (lesbian, gay, bisexual, and transgender) nightclub (no/yes).
3. *Physical Environment* reserved areas for sexual relationships: some clubs host a dark room that patrons can use for casual sex; three or more bars; two or more dance floors (no/yes).
4. *Music Style* Nightclubs were categorized according to their music style: country, funk, electronic, pop dance, rock, hip hop, forro/zouk, eclectic (several types of music).
5. *Health Conditions* crowding, i.e., considering the spaces in the venue (No: crowded and almost impossible or impossible to move; crowded and difficult to move; Yes: enough space or a bit crowded but easy to move; crowded and almost impossible or impossible to move); cleanliness (No: sticky floor, filled wastebaskets or tables or seats or very dirty floor due to vomit, broken glass or spilled drinks; Yes: very clean, maintained clean, and moderately clean).
6. *Venue Security* Presence of bouncers: Complete coverage (no/yes).

Statistical Analyses

Descriptive and inferential statistics of the sampled patrons and nightclubs were computed using survey weight estimates. Weights for nightclubs, patrons within a nightclub, and overall patron weights were calculated using the study design and the population counts under study. Post-stratification adjustments were made using information about the sex of all customers present at each nightclub. Non-participation adjustment rates for the nightclub weights were also computed to adjust for their probability of selection. Details on the sampling weights calculated from non-response and post-stratification are described in the supplementary file of Carlini et al. (2014).

Weighted data were analyzed through multilevel logistic regression models with sociodemographic factors, drug use inside the venue, and general venue characteristics as explanatory variables. First, models that examined the crude association between each characteristic and drug use category were fitted. Then, models that examined the association between the outcome and all predictor variables of each block were fitted. Characteristics with $p < .20$ in the models by block were used to build a final model. Explanatory variables with $p < .05$ composed the final model. Coefficients are presented in terms of odds ratio (OR), adjusted odds ratio (aOR), and their 95%

confidence intervals (95% CI) to facilitate interpretation. Models were estimated using the STATA 13 software.

Results

A great portion of patrons were men (60.7%; 95% CI 48.3–71.9%); mean age 25 (SD = 0.9). Table 1 shows the prevalence of violence victimization in São Paulo's nightclubs. Verbal aggression was the most prevalent type reported by patrons (13.7%; 95% CI 10.0–8.5%) followed by sexual aggression (11.5%; 95% CI 7.9–16.2%). Among the diverse types of sexual aggression, groping and forced kissing were the most prevalent (9.8%; 95% CI 7.2–13.1%), while rape was reported by a very small number of subjects ($N = 8$). Physical aggression was a low prevalence event in the nightclubs (1.7%; 95% CI 0.9–3.1%). A person that was not known by the interviewee practiced most of the aggression inside the nightclub. No significant gender differences were found for general sexual and physical aggression. However, being a victim of verbal aggression was more prevalent among women ($p = .015$). Among the 8 reported rapes, 6 occurred in LGBT venues with dark rooms (data not shown in table).

Table 2 shows the nightclub environmental characteristics. The most prevalent alcoholic beverage sale pattern was the entrance consumption fee, found at 52.3% (31.9–72.0%) of the nightclubs. Most of the nightclubs were clean (69.0%; 95% CI 48.1–84.2%) and presented bouncers in several points of the venue (94.1%; 95% CI 77.3–98.7%). Most of the venues played eclectic (varied) music (32.7%; 95% CI 14.9–57.3%) or electronic (22.7% 95% CI 10.6–42.1%). A reserved area for sexual interaction, also called "dark rooms," was found in almost 10% of the nightclubs.

The characterization of patrons considering their victimization for any sexual abuse inside the nightclub (from groping to rape) is shown in Tables 3 and 4. Age and cocaine use were the only individual variables associated with sexual aggression on the bivariate analysis. The mean age of the patrons that reported sexual aggression was lower (23.3 ± 1.0) than the mean age of the non-cases (25.2 ± 0.9). Cocaine use in the nightclub was reported by 5.2% (1.7–14.7%) of the victimized patrons and by 1.9% (0.9–4.0%) of the patrons that did not report sexual aggression.

Multilevel logistic regression models for the association between individual and environmental characteristics of sexual violence are shown in Table 5. The final model shows that with each additional age year there was a decrease in 6% (OR = 0.94; 95% CI 0.91–0.98%) the odds of reporting sexual violence in nightclubs. Moreover, the alcohol consumption fee paid at the entrance of the nightclub increased by four times the odds of reporting sexual aggression (OR = 4.18; 95% CI 2.48–7.04). Having a reserved area for sexual aggression and crowding was also positively associated with sexual aggression (OR = 1.82;

Table 1 Distribution of victim of aggression in São Paulo nightclubs ($N = 1822$)

	Total		Women		Men		p	By a known person		By an unknown person	
	N	wgt% (95% CI)	N	wgt% (95% CI)	N	wgt% (95% CI)		N	wgt% (95% CI)	N	wgt% (95% CI)
Verbal aggression	206	13.7 (10.0–18.5)	88	17.5 (13.7–22.2)	118	11.2 (7.5–16.3)	.015	31	2.0 (1.3–3.1)	175	11.7 (8.2–16.5)
Physical aggression	32	1.7 (0.9–3.1)	15	2.2 (0.9–5.1)	17	1.4 (0.7–2.6)	.264	6	0.5 (0.1–1.6)	26	1.2 (0.6–2.5)
Sexual aggression	177	11.5 (7.9–16.2)	77	11.1 (7.5–16.2)	100	11.7 (6.7–19.6)	.894	33	2.2 (1.2–4.2)	144	9.2 (6.6–12.7)
Groping or forced kissing	143	9.8 (7.2–13.1)	66	9.9 (6.8–14.3)	77	9.7 (5.9–15.3)	.944	25	1.8 (0.9–3.2)	118	8.0 (6.1–10.5)
Rape attempt but not executed	25	1.1 (0.6–2.2)	8	0.7 (0.3–1.8)	17	1.4 (0.7–3.1)	.226	6	0.3 (0.1–0.8)	19	0.9 (0.4–2.0)
Rape attempt and executed	8	0.6 (0.2–2.5)	3	0.6 (0.2–2.2)	5	0.6 (0.2–3.5)	.988	2	0.2 (0.0–1.7)	6	0.4 (0.1–1.3)

wgt% weighted percent

Table 2 Environmental characteristics observed in the 31 nightclubs randomly selected in São Paulo

Nightclubs	Variable	*N*	wgt%	95% CI
Beverages	Entrance consumption fee[a]	15	52.3	31.9–72.0
	"All-you-can-drink-service"	4	10.0	3.4–25.7
	Alcohol discounts	10	37.2	19.4–59.3
Type of nightclub[b]	LGBT[d]	9	29.3	14.1–51.2
Physical environment[b]	Reserved area for sexual relations[c]	4	8.9	3.0–23.6
	Three or more bars	12	29.5	15.3–49.3
	Two or more dance floors	9	31.8	14.6–56.1
Musical style	Eclectic	7	32.7	14.9–57.3
	Country	3	5.8	1.7–18.1
	Funk	2	4.2	0.9–17.0
	Electronic	9	22.7	10.6–42.1
	Pop dance	3	10.4	3.0–30.4
	Rock	3	8.8	2.6–26.0
	Hip hop	2	4.9	1.1–19.8
	Forro/zouk	2	5.5	2.4–35.5
Health conditions[b]	Crowding	16	46.6	27.2–67.2
	Cleanliness	20	69.0	48.1–84.2
Venue security	Presence of bouncers	29	94.1	77.3–98.7

wgt%: weighted percent

[a]Patrons pay a more expensive entrance fee and then consume the total amount of money spent at the entrance in beverages. Once the total amount is paid any money not consumed through beverages will not be refunded

[b]Yes category

[c]Specific area for sexual relationships (dark rooms that patrons can use for casual sex)

[d]Lesbian, gay, bisexual, transsexual

Table 3 Sociodemographic characteristics and drug use of patrons interviewed at nightclub exit according to suffering sexual violence ($N=1822$ patrons), São Paulo. Brazil

	Victim of sexual aggression								
	Yes ($N=177$)			No ($N=1645$)			OR	95% CI	*p*
	N	wgt%	95% CI	*N*	wgt%	95% CI			
Sociodemographic characteristics									
Sex									
Male	100	61.8	39.6–79.9	1011	60.6	48.2–71.7	1.00		
Female	77	38.2	20.1–60.3	634	39.4	28.3–51.8	0.95	0.45–2.01	.893
Age (mean ± SD)	23.3 ± 1.0		21.3–25.3	25.2 ± 0.9		23.4–27.1	0.95	0.92–0.99	.013
Education									
Elementary/middle	6	4.2	1.6–10.4	83	7.2	4.2–12.0	0.64	0.16–2.53	.526
High school	110	73.5	63.6–82.1	882	59.0	51.5–66.0	1.37	0.62–3.02	.428
College/baccalaureate	44	15.9	10.0–24.4	509	26.8	20.3–34.4	0.66	0.29–1.49	.316
Post-baccalaureate	15	6.4	3.3–12.2	151	7.1	4.4–11.1	1.00		
Social class[a]									
A	48	23.4	12.0–40.8	434	26.2	19.0–35.0	1.00		
B	88	53.1	39.9–65.8	925	52.3	48.3–53.3	1.13	0.57–2.24	.718
C/D/E	41	23.5	15.4–34.1	286	21.4	13.9–31.4	1.23	0.53–2.81	.628

wgt%: weighted percent

[a]ABEP scale

Table 4 Alcohol and drug use patterns of patrons interviewed at nightclub exit according to suffering sexual violence ($N=1822$ patrons), São Paulo. Brazil

	Victim of sexual aggression						OR	95% CI	*p*
	Yes ($N=177$)			No ($N=1645$)					
	N	wgt%	95% CI	*N*	wgt%	95% CI			
Alcohol and drugs									
BrAC[a] entrance (mean ± SD)	0.10 ± 0.02		0.06–015	0.09 ± 0.01		0.06–0.12	1.31	0.42–4.10	.647
BrAC exit (mean ± SD)	0.25 ± 0.04		0.17–0.33	0.24 ± 0.02		0.20–0.28	1.08	0.45–2.56	.868
Marijuana	19	10.8	4.4–24.1	167	9.9	5.2–18.1	1.09	0.64–1.86	.743
Cocaine	9	5.2	1.7–14.7	34	1.9	0.9–4.0	2.84	0.97–8.28	.056
Ecstasy	7	5.6	1.0–24.8	65	4.8	2.0–11.0	1.17	0.39–3.51	.772
Inhalant	6	5.3	2.3–11.7	38	2.7	0.9–7.4	2.04	0.75–5.57	.163
Ketamine	5	4.0	0.8–18.3	28	2.8	0.7–10.7	1.44	0.78–2.67	.241
Amphetamine	1	0.5	0.1–4.6	13	0.8	0.4–1.8	0.66	0.10–4.15	.656
Tranquilizers	1	0.2	0.0–1.9	12	0.6	0.2–1.7	0.38	0.04–3.24	.373
Hallucinogens	3	2.5	0.7–8.2	38	2.0	0.9–4.1	1.25	0.32–4.86	.747
Any illicit drug	32	19.9	10.2–35.2	246	16.0	8.7–27.6	1.30	0.83–2.05	.256

wgt% weighted percent

[a]Breath alcohol concentration

Table 5 Multilevel regression models for the association between individual, environmental nightclub characteristics, and sexual violence suffered ($N=1822$ interviewees in 31 nightclubs)

Variables	Initial multivariate model			Final multivariate model		
	OR	95% CI	*p*	aOR	95% CI	*p*
Female[a]	1.22	0.6–2.49	.575	1.25	0.63–2.49	.525
Age (years)	0.94	0.90–0.97	.001	0.94	0.91–0.98	.002
Cocaine at the day	2.60	0.52–12.93	.243	–	–	–
Inhalant at the day	1.89	0.81–4.45	.142	–	–	–
Consumption fee	4.69	2.43–8.70	< .001	4.18	2.48–7.04	< .001
All-you-can-drink service	0.58	0.30–1.15	.118	–	–	–
LGBT[b]	0.79	0.34–1.86	.597	–	–	–
Reserved area for sex	1.97	1.04–3.73	.037	1.82	1.18–2.82	.007
Crowding	2.95	1.58–5.52	.001	2.90	1.61–5.24	< .001
Musical style						
Eclectic	1.00			1.00		
Country	2.04	0.99–4.21	.054	1.97	0.94–4.10	.071
Funk	3.79	1.78–8.07	.001	3.29	1.57–6.90	.002
Electronic	3.42	1.42–8.25	.006	3.18	1.75–5.80	< .001
Pop dance	8.92	1.81–43.88	.007	7.93	2.16–29.10	.002
Rock	1.70	0.55–5.23	.354	1.91	0.59–6.20	.283
Hip hop	1.36	0.93–1.98	.107	1.43	0.85–2.40	.182
Forro/zouk	2.46	1.15–5.28	.021	2.36	1.13–4.93	.022

[a]Gender is included in the final model as a control variable, considering that sexual violence occurs different for men and women

[b]Lesbian, gay, bisexual, transsexual

95% CI 1.18–2.82%; OR = 2.90; 95% CI 1.61–5.24%, respectively). When taking eclectic nightclubs as the reference, funk, electronic, pop dance, and forro/zouk were also potential risk environments. In pop dance nightclubs, the odds of a sexual aggression were eight times higher that in eclectic nightclubs (OR = 7.93; 95% CI 2.16–29.10%). There were no significant gender differences for sexual violence.

Discussion

The main findings of this study were: (1) sexual aggression within nightclubs was mainly associated with environmental factors of the venue rather than with individual-level factors or drug use; (2) in funk, forro/zouk, electronic, and pop dance nightclubs patrons had a higher chance of being a victim of sexual aggression (from grope or forced kiss to rape) compared to those at the eclectic nightclubs; (3) entrance consumption fee, crowding, and having a reserved area for sex were environmental factors that increase the chances of reporting sexual aggression at São Paulo nightclubs; (4) younger patrons were more exposed to sexual violence in nightclubs; (5) no significant gender differences were found for the prevalence of sexual violence.

It is important to note that nightclubs are often visited by people with similar sociocultural profiles, and thus, this odds difference found according to the musical style of the nightclub can reflect patrons' behavior (Forsyth, 2009). According to Rentfrow and Gosling (2007), there is a link between music preferences and personality: athletic individuals enjoy styles of music that are intense and stimulating and extraverted individuals prefer styles of music that are upbeat, energetic, and have lots of vocals. It suggests an association between music preferences and behavior. That can be reinforced by the media, since music performers disseminate the image associated with a particular style of music and indirectly suggest acceptable behaviors for their fans. In our study, those who were interviewed at nightclubs playing electronic and pop dance music reported higher prevalence of being victim of sexual aggression. According to Lozon and Bensimon (2014), partying at electronic music events was associated with opposing authority and violent behavior that can be associated with the psychological profile of the patrons of those venues. In our study, we are not able to infer on psychological profiles of the patrons, since we did not collect such data.

Another important aspect is the fact that some nightclub/bar-goers interpret body signals and clothing style as some sort of sexual intent (Koukounas, Dimitriadis, & Miller, 2017). Considering that nightclub/bar-goers tend to dress similarly in each one of those establishments, this could justify higher odds of suffering sexual aggression in some venues than in others, i.e., this would reflect how the sexual intentions of that specific dancing and dressing style group are interpreted by their peers.

Entrance consumption fee fits into one of the alcohol promotions category to stimulate alcohol consumption. Notice that there was no significant association between BrAC's victim and sexual violence. However, despite not being evaluated, the facility of alcoholic beverage purchase might help to reduce the aggressor's perception, so venues with a lot of cheap alcohol could encourage this behavior. A study conducted in Canada showed that higher levels of alcohol consumption encouraged sexual aggression among nightlife patrons (Graham, Bernards, Abbey, Dumas, & Wells, 2014a). In other words, intoxication plays a role in this behavior, i.e., intoxicated aggressors may be less sensitive to body language, communication, and unwelcome gestures by their victims (Abbey, McAuslan, & Thomson, 1998; Norris, Davis, George, Martell, & Heiman, 2002).

Our study also showed that "crowding" was one of the environmental factors associated with sexual aggression. Remembering that the most prevalent type of sexual aggression found in this study was "groping or forced kissing," which supposes that crowed places can encourage this kind of behavior by the aggressors. Luke et al. (2002) conducted a study focused on emergency medical attendance arising from Liverpool nightlife events and showed an association with overcrowding and alcohol promotions as a risk factor for disturbance in nightlife settings, suggesting more "crowding" control by the authorities on those venues, a kind of control that does not occur in Brazil.

In this study, it was observed the existence of reserved areas for sexual interactions inside of some nightclubs. But those are not usually discussed in the international literature. It can be assumed that those nightclubs in which they exist can be perceived as more permissive to sexual behaviors and it could facilitate sexual abuse. This study showed that 6 of the 8 reported rapes occurred in LGBT nightclubs that had these reserved areas for sexual intercourse and were almost exclusively frequented by men. This scenario emphasis that rape and sexual abuse are not one type of violence restricted only to women, so preventive interventions must be applied to those LGBT nightclubs' scene focusing on the existence of these reserved areas (dark rooms) for sex. However, it is important to note that the survey did not include a question on patrons' sexual orientation and no inference on that could be carried out.

Among nightclub/bar-goers, older age seems to protect them from this risk, suggesting that aggressors may be seeking younger victims to their intents or that older nightclub/bar-goers have different kind of behaviors that inhibit sexual victimization; for example, they are more perceptive and alert to the environment (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001, 2004; Graham & Wells, 2001; Wells, Kelly, Golub, Grov, & Parsons, 2010). However, it is important to note that the actual reason for the association between younger ages and sexual aggression could not be confirmed by our study design and would depend upon qualitative interviews with the sexual aggressors.

Several studies show high occurrence of sexual aggression (unwanted sexual contact and/or persistence advances) against female nightclub/bar-goers (de Crespigny, Vincent, & Ask, 1999; Fox & Sobol, 2000; Garland, Hughes, & Marquart, 2004; Graham et al., 2014b; Parks, 2000; Parks & Miller, 1997; Ronen, 2010) associated with women's level of intoxication (Kelley-Baker et al., 2008; Parks et al., 2008) and their drinking patterns (Kelley-Baker et al., 2008; Pino & Johnson-Johns, 2009; Schwartz & Pitts, 1995). A nightlife survey conducted in Canada among 114 female bar-goers, aged 19–29, showed that in the exit survey 28.9% reported sexual advances

that were persistent despite their clear refusals; 5.3% reported unwanted sexual touching; 18.4% reported experiencing both, and 47.4% reported neither. This suggests that female bargoers are at high risk of experiencing sexual aggression in the form of persistent and unwanted sexual touching, with over 50% of respondents reporting such aggression on the night of the study (Graham et al., 2014a). However, in our study, there were no significant gender differences in the proportion of patrons reporting being a victim of sexual aggression. This finding could be related to the fact that women are less prone to report sexual aggression than men.

The victims' alcohol and other drug consumptions lost significance in the final statistical model, which suggests that environmental factors are stronger in sexual victimization compared to drug use. However, some studies point to the influence of alcohol and illicit drugs in the victimization of physical violence (Graham, 2003), even if it is unintentional (Hughes et al., 2011a), and sexual aggression, where it appears that a substantial proportion of incapacitated rape occur as a direct result of the victim's heavy drinking (Testa & Livingston, 2009). In the case of sexual violence, what could have occurred is that this association might exist for the aggressors but not for their victims, i.e., drugs could reduce the perception of social inadequacy of abuse among aggressors and be a risk factor for the sexual violence. In this case, where the victims were investigated, the context is supposed to have more influence than the individual drug use on sexual victimization, or even that intoxicated victims did not consider their "event" as a sexual assault so they did not report it at the exit of the nightclub.

The WHO (2006) describes a series of initiatives that should be considered to reduce alcohol-related violence in and around nightlife premises, including price increases (higher taxes on drinks), regulation of alcohol sales (alcohol feasibility), restrictions for minors, modification of the contexts in which drinking takes place (poorly managed premises are associated with higher levels of violence), law enforcement for those with inappropriate behavior under the effects of alcohol or other types of restriction on consumption, measures regarding to public's access to good and safe transport at night, better street lighting, and closed-circuit television systems.

According to Graham and Homel (2008), though nightlife scenario attracts young people's interest in leisure and entertainment, it also increases the risks of violence and aggression within these settings. As such, the nightlife environment has become a target for prevention activities on reducing crime and antisocial behaviors, which can be associated with physical characteristics of venues, such as lack of seating, crowding, lack of food options, and the provocative behavior of security staff (Homel & Clarke, 1994; Wortley, 2008). Situational crime prevention emerged as a strategy to reduce such opportunities for crimes based on the premise that all behavior is the result of an interaction between the person and the environment (Cornish & Clarke, 2008). It can include measures and initiatives such as controlling access to facilities (e.g., CCTV and doormen) (Roberts, 2009) and codes of conduct and dress codes through sign-posting instruction (Cozens & Grieve, 2014). Consistent with Wortley and Smallbone (2006), examining behaviors, opportunities, and other external environmental conditions can help identify factors that encourage or permit sexual violence. Much of the nightlife environmental research on preventing violent behavior has been done inside the venues (Fox & Sobol, 2000; Graham et al., 2006; Graham & Homel, 2008; Graham & Wells, 2001). Only a few focused on analyzing the external environmental/situation factors of the entrances to the venues that could predict such violent behaviors (Hughes et al., 2012).

Some limitations of the present study should be acknowledged. The fact that there was a loss of nearly 25% of the sample from the entry interview to the exit interview related to the number of patrons recruited at the entrance. Moreover, the most intoxicated respondents were exempted from the exit survey. Finally, face-to-face interviews about violence can be biased, since some subjects feel embarrassed exposing their victimization. Moreover, in cross-sectional surveys, it is very difficult to establish the temporal order of exposure and outcome, which limits interpretation of causal inference from our results. Despite limitations, this study had several strengths such as a large sample, with two levels of sampling drawing on the largest city from the southern hemisphere, advancing the discussions about nightlife settings in Latin America countries.

Our study highlights the occurrence of sexual aggression inside nightclubs and calls stakeholders' attention to the need of local intervention on those high-risk venues. The risk of this type of violence depends more on the environment characteristics than on individual predictors, which suggests a requirement of control and security improvement where environmental characteristics are potential predictors of victimization.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in this study were in accordance with the ethical standards of the institutional and/or international, national research committee.

Ethical Considerations The Research Ethics Committee of the Universidade Federal de São Paulo (protocol 21477) approved this study. No interviews were conducted with patrons showing signs of severe

intoxication, following the guidelines for screening described in Perham, Moore, Shepherd, and Cusens (2007).

Human and Animal Rights This study was performed according to the international, national, and institutional rules regarding human experiments and that all of the listed authors have read and approved the submitted manuscript.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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