CHAPTER SIX

The Party Starts Before You Think: "Predrinking," or "Pregaming," among Mexican Youth

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Alcohol is the most commonly consumed drug worldwide; for many, it begins before age 15. According to 2018 data from the World Health Organization, 43% of the world's population over 15 (2.35 million people) had used alcohol during the previous 12 months (current drinkers, see Note 1), a slight reduction from 2010 (45.5%). The regions with the highest proportion of drinkers were Europe (59.9%), the Americas (54.1%), and the Western Pacific (53.8%). Annual per capita alcohol consumption (see Note 2) worldwide was 15.1 litres, equivalent to 32.8 grams of pure alcohol daily. Mixed drinks were most preferred (44.8%), followed by beer (34.3%). The data also showed that 39.5% of current drinkers had engaged in binge drinking (see Note 3) at least once in the past month. Among young people, 26.5% of those aged 15–19 were current drinkers, and 45.7% had used alcohol excessively, while for those aged 20–24, 40.7% were current drinkers and 48.5% had drank excessively (WHO, 2018).

In Latin America, the prevalence of alcohol use in the previous month among people aged 12–65 was highest in Argentina and Uruguay (52%), while the lowest rates were in El Salvador (9.5%) and Ecuador (13%). The 18–34 age group had the highest level of consumption, ranging from about 10% in El Salvador to as high as 60% in Venezuela, Argentina, Uruguay, and the U.S. (CICAD & OAS, 2019). In studies of students from grades 8 to 12, alcohol use in the previous

month ranged from 10% in El Salvador to 50% in Argentina, with similar rates for boys and girls. In this population, binge drinking in the past two weeks ranged from 48% in Argentina to almost 70% in Belize and Uruguay—and these rates were greater in boys. Notably, alcohol consumption in this population was higher for older students (CICAD & OAS, 2019).

Alcohol Use in Mexico

There have been two recent national studies on substance use in Mexico. The National Survey of Drug, Alcohol, and Tobacco Use (ENCODAT; Villatoro-Velázquez et al., 2017) was carried out at the household level in 2016 with persons aged 12 to 65, and the National Survey of Drug Use in Students (ENCODE; Villatoro-Velázquez et al., 2015) was carried out in 2014. According to the ENCODAT, the prevalence of alcohol use in the past year was 49.1%, of which 40.3% had engaged in binge drinking in the previous month, with a per capita use equivalent to 4.9 litres of pure alcohol. This same study showed no significant changes in prior-year alcohol use between 2011 and 2016: the incidence decreased slightly from 30% to 28% in adolescents (12 to 17) and 55.7% to 53.3% in adults (18 to 65). However, binge drinking in the previous month increased significantly among current drinkers in 2016, doubling from 14.3% to 29.6% in adolescents and increasing from 25% to 41.5% in adults (Reséndiz et al., 2018). According to the ENCODE, 35.5% of students (7º to 12ª grade) reported using alcohol in the previous year, and 40.8% reported binge drinking in the past two weeks. The data also showed older students were more likely to be current drinkers: 13.4% of those 12 and under, but 68.5% of those 18+, more than a fivefold increase. Meanwhile, binge drinking in the past month among current drinkers was 29.9% for those 12 and under and 55% for those 18+ (Villatoro-Velázquez et al., 2015; Villatoro et al., 2016).

These studies show that in Mexico, as in other countries, the two main factors influencing alcohol use in adolescents are the perception of its risks and social tolerance of it from family and friends. However, young people's drinking doesn't only happen at parties, gatherings, or concerts—a common practice of drinking before going to these events or drinking afterwards in someone's home has been documented in recent years. These new behaviours could significantly affect young people's health and safety. The current study focuses on the first practice called "predrinking" or "pregaming".

Predrinking in Young People and Adolescents

Predrinking (also known as pre-partying, preloading, front-loading, predrinking, tailgating, and pregaming) is a form of alcohol use that occurs mainly among young people and adolescents, where one drinks in advance of going to a bar, club, party, sports event, or social event where it is likely that drinking will continue (Pedersen & LaBrie, 2007). It is mainly done to prepare for socializing at a party, to avoid barriers to alcohol use (such as age restrictions), as a way of coping with or regulating negative emotions, and to save money at bars. Much of the literature has focused on this phenomenon within the high school and college populations, where predrinking, including to excess, is common. (Barnett et al., 2013; DeJong et al., 2010; Haas et al., 2012; Kenney et al., 2010; Read et al., 2010; Rutledge et al.,2016; Zamboanga et al., 2011).

What is the Extent of Predrinking Among Young People?

Studies of predrinking have found prevalence estimates in the range of 30% to 80%, depending on the interval observed (lifetime, past year, past month, or past two weeks). Studies

that have measured blood alcohol levels have found concentrations over 0.15 g/dl, which clinically indicates loss of motor coordination and judgment (Borsari et al., 2007; Read et al., 2010).

Haas et al. (2012) said that 65% of high school students reported predrinking at least once during the school term, consuming as many as three drinks in 27 minutes. More than 87% of these continued drinking at a party or bar, with as many as 3.5 additional beverages. Other studies have found students to have as many as seven drinks in 3.5 hours (the duration of a predrinking event) and that boys drink more than girls (10.5 vs 8.5 drinks; Read et al., 2010). Young people who predrink also reach higher blood alcohol levels as a result (Zamboanga et al., 2011; Barnett et al., 2013; Yurasek et al., 2016).

In a follow-up study with students, Haas et al. (2016) evaluated alcohol use three times over a school year: fall, winter, and spring. In the fall baseline, 70% reported predrinking in the previous three months, with 63.7% drinking later at an after-party (see Note 4) and 16.6% experiencing memory blackouts. These figures increased over the year, reaching 91% for predrinking -81.3% for drinking at an after-party, and 39.7% for blackouts in the spring term.

Chaney et al. (2019) visited bars and restaurants to ask a general population of customers aged 18 and older about their alcohol use before and afterwards to assess the relationship between predrinking and binge drinking. 74.5% of the participants were 18 to 22 years old, 58.8% were classified as binge drinkers, and 47% presented breath alcohol levels of .08% or more. Seventy-nine per cent also practised predrinking. Of these, 19% had three or four predrinks, while 11.6% had ten or more. These findings indicated that predrinking behaviour is significantly associated with binge drinking and high blood alcohol levels.

Although predrinking is a generalized practice among young people, age differences exist. The youngest among them do it more often, while the older ones practice predrinking two to three

times a month, the youngest do so up to six times or more per month and drink more on each occasion (Borsari et al., 2007; DeJong et al., 2010; Read et al., 2010; Rutledge et al., 2016; Yurasek et al., 2016; Pilatti et al., 2018). Young people most commonly prefer Fridays and Saturdays for when they predrink (Barnett et al., 2013; Pilatti et al., 2018), and regularly drink with friends and in mixed groups, and to a lesser extent alone, suggesting it is more of a social practice (Pedersen et al., 2007; Keough et al., 2016; Pilatti et al., 2020). Furthering the social aspect, it often involves games encouraging participants to consume more drinks in short periods, which, along with other forms of peer pressure, increases the risks of negative consequences (Pedersen et al., 2007; DeJong et al., 2010; Zamboanga et al., 2011).

Why do Young People Practice Predrinking?

Various studies on the reasons behind the practice of predrinking indicate that it seems to revolve around its normalization in the social circles of young people, positive beliefs related to the practice, and its use as a form of coping with and regulating negative emotions. Merrill et al. (2016) describes a process of normalization in which young people's belief that many of their peers engage in predrinking is significantly associated with the probability of their doing so as well. Socializing with peers who practice predrinking or binge drinking is also related to a low perception of the risks of drinking alcohol, which increases the probability of repeating it in the future (LaBrie et al., 2016).

Positive beliefs about predrinking—such as the idea that it make a party more fun, make you happier when you go out, make you more sociable when first arrive, help you meet a potential romantic interest, or even that it will improve your sexual performance—are important factors encouraging the practice to continue (DeJong et al., 2010; Read et al., 2010; Haas et al., 2012;

Napper et al., 2015; Norberg et al., 2016). Other reasons have to do with situational control, such as helping to avoid/reduce drinking at the event location or saving money (by spending less at the bar), or with barriers to drinking at the location due to being a minor —the most frequent reason given for predrinking (Read et al., 2010; Napper et al., 2015).

Emotional distress and anxiety play an essential role in predrinking and in binge drinking. Some studies have also found predrinking to be a way for young people to cope with and regulate negative emotions like anxiety (Read et al., 2010; Keough et al., 2016; Norberg et al., 2016). Radomski et al. (2016) conducted a comparative study with three groups of young people: those with post-traumatic stress disorder (PTSD) symptoms, those with trauma experiences but no PTSD symptoms, and those who had not experienced trauma (control). Those with PTSD symptoms showed more problematic involvement with alcohol and were more likely to practice predrinking and experience more negative consequences when they did so than both other groups.

What Are the Possible Consequences of Predrinking?

The consequences of predrinking are the same as those associated with binge drinking since the former often leads to the latter. For example, blackouts (loss of memory) are three times more likely to occur with predrinking (Haas et al., 2012; Haas et al., 2016). Predrinking has also been associated with physical illness and disease, increased physical or sexual aggression, tendency to falls, alcohol poisoning, traffic accidents, hurting others, and a probability 2.5 times greater of getting involved in fights (Hummer et al., 2013; Keough et al., 2016; Rutledge et al., 2016). LaBrie et al. (2016) report that young people who were predrinking present 45.7% more negative consequences from alcohol use, such as getting into fights or arguments or missing school or work. Other effects include problems with the law, poor self-care, risky sexual practices, sadness or

depression, more frequent drinking, mixing alcohol with energy drinks, and social issues with friends or family. Aggressiveness strongly predicts daily alcohol use and alcohol dependence among young people (Barnett et al., 2013; Merril et al., 2013; Foster & Ferguson, 2014; LaBrie et al., 2016; Rutledge et al., 2016). There is thus an accumulative effect: the more frequent the predrinking, the more negative consequences there are, which leads to even more drinking, etc. (Napper et al., 2015; LaBire et al., 2016). Studies also report that when young people play drinking games during predrinking, they experience a more significant number of negative consequences than on days when they do not play such games (LaBrie et al., 2011; Kenney et al., 2010; Hummer et al., 2013).

With this overview in mind, the objective of the present study was to characterize various aspects of predrinking among young Mexican people aged 12 to 29, including prevalence, demographic factors (sex, age, educational and socioeconomic status), and psychosocial factors (perception of risk, social tolerance, and emotional distress). It also examined its possible consequences, such as excessive alcohol use and binge drinking, other drug use, antisocial behaviour, and suicide attempts.

Method

Participants

Data for this study were taken from the 2016-17 National Survey of Drug, Alcohol, and Tobacco Use, or ENCODAT (*Encuesta Nacional de Consumo de Drogas, Alcohol y Tabaco*), carried out with people aged 12 to 65 years in rural and urban homes. The survey is representative of the national, regional, and state levels, using a probabilistic, multistage, and stratified sampling

design. One adult (age 18-65) and one adolescent (age 12-17) were selected in each home, insofar as the household composition permitted, through random sampling in each age group. The total response rate (household + individual) on the national level was 73.6%, with a final sample of 56,877 complete interviews, 9,563 adolescents and 47,314 adults, of which 27,463 were male and 29,414 females.

The individuals analyzed in this study were young people aged 12-29 who had consumed 12 alcoholic drinks or more in the previous 12 months. This subsample included 5,562 people. Accounting for their adjusted selection probability, these represent 7,800 people, 2,787 females and 5,013 males, of whom 858 were aged 12-17, 4,161 were aged 18-24, and 2,781 aged 25-29 (Table 1).

Table 1

Sample Distribution

	Males		Females		Total	
	n unweighted	*n* weighted	*n* unweighted	*n* weighted	*n* unweighted	*n* weighted
Age						
12–17	645	486	428	371	1,073	858
18–24	1,590	2,752	1,074	1,410	2,664	4,161
25–29	1,127	1,775	788	1,006	1,915	2,781
Total	3,362	5,013	2,290	2,787	5,652	7,800

Measurements

Age: Participants were classified into three age groups: 12-17, 18-24, and 25-29

Socioeconomic index: An index was constructed based on the model of Díaz et al. (2015), which considered variables reflecting ownership of property (house, car, computer, DVD, and microwave) and access to services (internet, cable, and telephone). The index was classified into five levels according to percentile distributions: low, medium-low, medium, medium-high, and high.

Perception of risk of alcohol use: Indicates whether they perceived alcohol as dangerous or not (0 = "not dangerous", 1 = "very dangerous").

Social tolerance for alcohol use: Acceptance or rejection of alcohol use by family, friends, or partners (0 = "they would disapprove", 1 = "they would neither approve nor disapprove").

Predrinking: Defined as the practice of drinking alcoholic beverages before going to a party, bar, social event, or sporting event where drinking will probably continue. The scale used was that of Smith (2010), which included preferred drinks, frequency of predrinking, and reasons for doing so. Two predrinking measures were used: if the participant had ever engaged in predrinking and if the participant had done so in the four weeks before the interview (0 = "no", 1 = "yes").

Binge drinking: Defined as having consumed five or more drinks by men, or four or more by women, on at least one occasion during the 30 days before the interview ("yes" = 1, "no" = 0).

Suicide attempt: The indicator used was 1 for "yes" and 0 for "no" to the question: "Have you tried to commit suicide in the past twelve months?" (Borges et al., 2019).

Antisocial behaviour: Defined as behaviour that affects the social order or aggression toward others. A global indicator was defined using responses to five questions relative to actions in the previous 12 months: (1) "Have you taken money or valuables that do not belong to you?" (2) "Have you attacked someone using an object, such as a gun, a knife, or a club?" (3) "Have you sold drugs, such as marijuana or cocaine?" (4) "Have you taken part in arguments or fights?" (5) "Have you used a knife or gun to obtain an object from another person?) The global indicator was 1 if they answered "yes" to at least one of these five questions, and 0 if they answered "no" to all.

Emotional distress: Measured with Kessler's Psychological Distress Scale (K6; Kessler et al., 2002), validated in the Mexican population (Vargas et al., 2011) and has good psychometric properties. It uses six questions to evaluate feelings of nervousness, hopelessness, restlessness, depression, worthlessness, and the feeling that everything is an effort in the 30 days before the interview. A score of 12 or less indicated a lack of emotional distress and was assigned a value of 0; a score of 13 or more indicated the probable presence of emotional distress and was given a value of 1.

Ethical Considerations

The Research and Ethics Committees of the National Institute of Public Health and the Ramón de la Fuente Muñiz National Institute of Psychiatry evaluated and approved the survey protocol. All participants were read a statement of informed consent, and information was collected only from those who agreed to participate. Authorization was requested from the parents or guardians of minors, and if they agreed, they were asked to sign a statement of informed consent, as was the minor. The voluntary character of participation and the confidentiality of the information were emphasized.

Data Analysis

The analysis below is divided into three sections; each carried out separately for males and females.

a. Prevalence and characteristics of predrinking in young Mexican people.

b. Description of predrinking behaviour.

c. Analysis of the consequences associated with predrinking.

Each section presents its bivariate descriptive analyses with percentages and chi-square tests. For the associated factors and consequences sections, a multiple logistic regression analysis was carried out with prevalence ratios based on generalized linear models (GLM) with a link and binomial distribution, allowing for greater certainty in determining the best predictors while controlling for an important group of variables. The analysis was performed using the Stata statistical package (version 13.1; StataCorp, 2015).

Results

Extent and Characteristics of Predrinking

The results for the characteristics of predrinking are shown in Table 2. For females, 28.2% of those age 12-17, 29.5% of 18-24, and 22.7% of 25-29 had engaged in predrinking at least once in their lives—a significantly higher percentage for the 18-24 group versus the 25-29 group. Predrinking had been practised in the previous four weeks by 22.5%, 16.7%, and 9.5%, respectively—the highest percentage among the 12-17 group. The results for males in the same three age groups showed lifetime predrinking prevalence of 31.5%, 40.6%, and 33.7%, respectively, and 20.2%, 25.4%, and 17.4% for the previous four weeks. The percentages were highest for the 18-24 group in both categories.

Table 2

Descriptive Statistics of the Factors Associated with Predrinking in Adolescents and Young People

	Female						Male					
	Ever			Past 4 weeks			Ever			Past 4 weeks		
	n	%	χ^2	*n*	%	χ^2	*n*	%	χ^2	*n*	%	χ^2
Age												
12–17	128	28.2	14.57**	92	22.5	42.85***	231	31.5	29.66***	152	20.2	40.93***
18–24	311	29.5		174	16.7		626	40.6		385	25.4	
25–29	173	22.7		66	9.5		390	33.7		207	17.4	
Socioeconomic index												
Low	81	17.7	53.8***	39	10.6	36.18***	217	33.0	90.66***	122	16.7	99.96***
Medium-low	148	22.2		81	11.2		279	31.9		167	20.3	
Medium	137	26.7		62	12.8		275	34.4		158	18.7	
Medium-high	126	31.2		83	19.1		255	37.3		157	20.3	
High	120	35.8		67	20.6		215	49.9		136	33.5	
Perception of risk												
Low	392	28.2	3.85*	216	16.7	12.35***	859	38.1	2.49	521	22.8	2.94
Very dangerous	220	24.8		116	11.8		388	35.8		223	20.7	
Family tolerance of alcohol use												
Would disapprove	441	22.7	91.84***	232	11.8	78.62***	924	35.0	46.23***	556	20.6	25.85***
Would approve	170	42.4		100	26.3		318	46.4		186	27.9	
Best friend's tolerance of alcohol use												
Would disapprove	233	19.8	68.34***	112	7.7	107.23***	433	30.3	75.13***	263	17.8	39.08***
Would approve	372	33.8		219	21.9		804	42.4		476	25.3	
Emotional distress												
Absent	569	26.3	11.47**	305	14.2	20.12***	1203	36.7	26.70***	711	21.3	62.52***
Present	43	40.2		27	28.9		44	58.5		33	50.1	

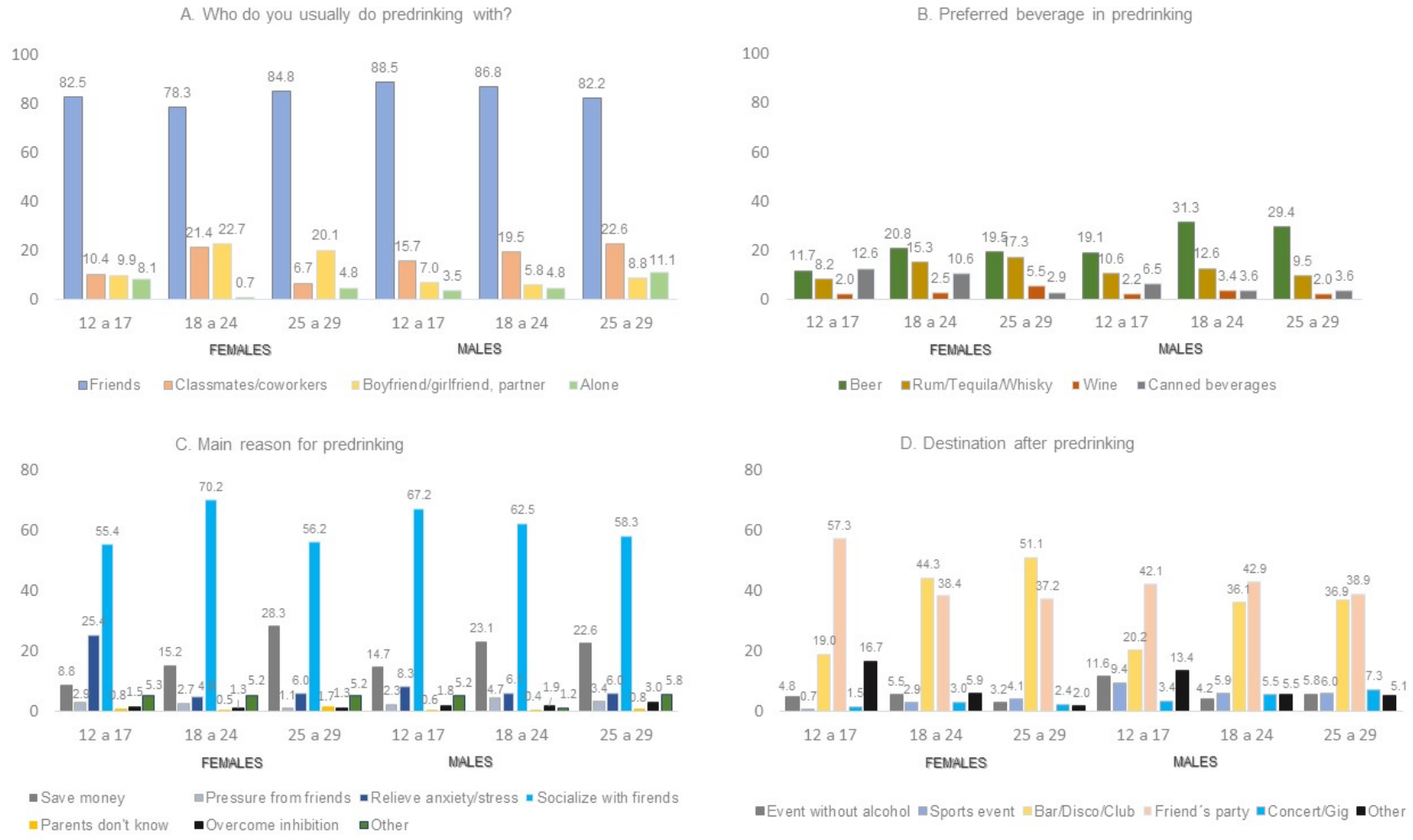
Significance values: *$p < .05$; **$p < .01$; ***$p < .001$.

n = Unweighted frequencies of the corresponding category; percentages calculated considering participants' selection probabilities.

Further analysis of the female respondents (Figure 1A, 1B) shows that they engaged in predrinking most often with friends (almost 80%) but also sometimes with coworkers (21.4%) or with their boyfriend/partner (22.7%), especially in the 18-24 group. Their preferred drink was beer, especially for those over 18 (approximately 20%). Preference for distilled spirits increased with age, from 8.2% in the 18-24 group to 17.3% in the 25-29 group. Minors had a greater preference for mixed drinks (12.6%).

Figure 1

Behavioural Characteristics of Predrinking by Sex and Age Group



Most female respondents said that their primary reason for predrinking was socialising with friends, especially those aged 18 to 24 (70.2%). Also noteworthy is that a quarter of those under 18 said that they did so to reduce anxiety or stress, a reason that hardly appears among those 18 or older (Figure 1C). Most of those under 18 (57.5%) also said that after predrinking, they went to parties with friends, significantly more than those 18 or over (almost 38%). Of the older group, 47% went to bars, compared with only 19% of the younger group (Figure 1D).

Male respondents said they practised predrinking with their friends (more than 80%), followed by friends from school or work (around 21% among those over 18; Figure 1A). Notably, the proportion of the 18 to 24 group who reported doing so with their partners was four times less than female respondents of the same age group (5.8% vs 22.7%). Predrinking alone was most common in males 25 to 29 group intersection, at 11.1%. Approximately 30% of men over 18 preferred to drink beer (as compared with 20% of women), and 11% chose distilled spirits (as compared with 16% of women; Figure 1B). Their reasons for predrinking included socializing with friends (approximately 63% overall, 67.2% for those under 18) and saving money (highest for those 18 and over at 22.5%; Figure 1C). The most common destination after predrinking was a party (~40%), followed by a bar (~ 35%; Figure 1D).

Factors Associated with Predrinking

The association of various factors with predrinking was analyzed first with univariate chi-square comparisons, as shown in Table 2. The analysis of the socioeconomic index found a greater incidence of predrinking in medium-high and high socioeconomic levels for both males and females. Female respondents who perceived low risk from frequent drinking showed a greater prevalence of predrinking than those who perceived high risk, but for males, the prevalence did not differ according to their perception of risk. Greater social tolerance of alcohol use among family and friends was associated with a significantly greater prevalence of predrinking for both genders. Among those with probable emotional distress, the prevalence of predrinking was almost double that of those without emotional distress.

A prevalence ratio regression was also carried out to assess the impact of each predictor, controlling for the others rather than independently. The results (Table 3) showed that for females, the predictors of any predrinking were high socioeconomic index ($PR = 1.74$, $p < .05$), tolerance of alcohol use from family ($PR = 1.52$, $p < .001$) or friends ($PR = 1.38$, $p < .05$), and emotional distress ($PR = 1.71$, $p < .05$). Male respondents showed similar results: high socioeconomic index ($PR = 1.43$, $p < .01$), tolerance of frequent alcohol use from friends ($PR = 1.26$, $p < .05$), and emotional distress ($PR = 1.65$, $p < .01$).

Table 3

Analysis of Prevalence Ratios for the Factors Associated with Predrinking in Adolescents and Young People

	Female				Male			
	Ever		Past 4 weeks		Ever		Past 4 weeks	
	PR	95% CI	*PR*	95% CI	*PR*	95% CI	*PR*	95% CI
Age								
12–17	1.00		1.00		1.00		1.00	
18–24	1.07	[0.79, 1.44]	0.78	[0.57, 1.09]	1.21	[0.99, 1.49]	1.16	[0.91, 1.49]
25–29	0.85	[0.60, 1.20]	0.48	[0.29, 0.81]**	1.07	[0.85, 1.35]	0.86	[0.63, 1.19]
Socioeconomic index								
Low	1.00		1.00		1.00		1.00	
Medium-low	1.14	[0.73, 1.78]	1.04	[0.52, 2.08]	1.01	[0.78, 1.31]	1.26	[0.87, 1.83]
Medium	1.35	[0.87, 2.10]	1.11	[0.52, 2.37]	1.07	[0.84, 1.35]	1.17	[0.84, 1.64]
Medium-high	1.48	[0.95, 2.31]	1.45	[0.77, 2.75]	1.11	[0.86, 1.42]	1.16	[0.82, 1.64]
High	1.74	[1.11, 2.73]*	1.68	[0.86, 3.27]	1.43	[1.11, 1.86]**	1.97	[1.40, 2.75]***
Perception of risk								
Low	1.00		1.00		1.00		1.00	
Very dangerous	0.98	[0.77, 1.25]	0.84	[0.58, 1.21]	0.96	[0.80, 1.15]	0.92	[0.71, 1.21]
Family tolerance of alcohol use								
Would disapprove	1.00		1.00		1.00		1.00	
Would approve	1.52	[1.18, 1.97] **	1.54	[1.09, 2.18]*	1.13	[0.95, 1.36]	1.16	[0.88, 1.52]
Best friend's tolerance of alcohol use								
Would disapprove	1.00		1.00		1.00		1.00	
Would approve	1.38	[1.06, 1.79]*	2.16	[1.47, 3.20]***	1.26	[1.06, 1.50]*	1.23	[0.95, 1.58]
Emotional distress								
Absent	1.00		1.00		1.00		1.00	
Present	1.71	[1.09, 2.66]*	2.07	[1.35, 3.18]**	1.65	[1.17, 2.32]**	2.50	[1.58, 3.96]***

PR: Prevalence ratio. The estimation was $n = 7800$. *$p < .05$; **$p < .01$; ***$p < .001$.

For female respondents, the risk of having practised predrinking in the previous four weeks was greater for those under 18 than for those 25 to 29 ($PR = .48$, $p < .01$) whose family or friends tolerated frequent alcohol use ($PR = 1.54$, $p < .05$, $PR = 2.16$, $p < .001$, respectively), and in those with emotional distress ($PR = 2.07$, $p < .001$). For males, this risk was greater in those with a high socioeconomic index ($PR = 1.97$, $p < .001$) and in those with emotional distress ($PR = 2.50$, $p < .001$).

Consequences Associated with Predrinking

Table 4 shows the univariate descriptive results of the analysis of predrinking consequences (suicide attempts, antisocial behaviour, drug use, and binge drinking) for males and females.

For female respondents, all consequences showed significant relationships except socioeconomic index with antisocial behaviour. Those who engaged in predrinking were younger, more emotionally distressed, and more likely to experience all four consequences. Suicide attempts were more strongly associated with a lower socioeconomic index, while drug use was more prevalent in the medium and medium-high index, and binge drinking was more common in the medium-low index than the others.

Table 4

Descriptive Results for the Consequences Associated with Predrinking in Adolescents and Young People

	Suicide attempt			Antisocial behaviour			Ever used drugs			Binge Drinking		
FEMALES	*n*	%	χ^2	*n*	%	χ^2	*n*	%	χ^2	*n*	%	χ^2
Ever practised predrinking												
Yes	31	4.1	13.10**	53	9.9	24.32**	179	32.9	48.21**	405	69.6	114.05**
No	43	1.8		102	4.8		307	20.3		808	46.8	
Age												
12-17	40	8.0	59.51**	73	12.4	34.58**	129	35.9	72.01**	230	55.6	8.86*
18-24	21	1.8		58	6.3		243	26.3		577	54.9	
25-29	13	1.2		24	3.8		114	15.6		406	49.2	
Socioeconomic index												
Low	20	4.4	13.45**	23	7.4	5.55	98	20.8	20.54**	228	54.9	17.51**
Medium-low	19	2.0		52	7.2		128	23.4		315	45.7	
Medium	15	2.4		37	6.5		127	29.6		275	54.0	
Medium-high	12	2.6		25	5.2		75	24.7		234	55.5	
High	8	1.0		18	4.7		58	19.1		160	56.0	
Emotional distress												
Absent	49	1.6	144.17**	125	5.2	91.70**	441	22.2	78.97**	1149	52.5	3.92*
Present	25	18.7		30	26.1		45	56.5		64	61.7	
MALES												
Ever practised predrinking												
Yes	15	1.4	11.00**	264	22.1	117.99**	510	39.2	49.23**	877	72.6	87.51**
No	24	0.5		269	10.8		650	29.5		1247	59.4	
Age												
12-17	10	0.8	0.41	170	23.4	32.85**	213	31.6	51.06**	378	54.7	25.80**
18-24	18	0.9		239	14.8		597	37.3		1041	66.5	
25-29	11	0.7		124	13.0		350	27.1		705	63.5	
Socioeconomic index												
Low	13	1.7	17.98**	106	15.7	15.59**	242	33.6	7.06	395	59.4	57.50**
Medium-low	11	1.1		149	13.8		315	34.3		552	60.7	
Medium	8	1.1		104	12.6		245	29.9		469	61.0	
Medium-high	2	0.1		99	18.5		197	33.1		383	68.1	
High	5	0.3		71	15.0		157	34.6		320	72.9	
Emotional distress												

Absent	23	0.5	226.58**	488	14.5	29.45**	1093	32.7	18.33**	2056	64.1	5.47*
Present	16	12.5		45	31.6		67	50.2		68	73.9	

*$p < .05$; **$p < .01$; ***$p < .001$.

n = Unweighted frequencies in the corresponding category; percentages calculated considering the selection probability of the participants.

For male respondents, age was not significantly associated with suicide attempts, and the socioeconomic index was not associated with drug use. The other consequences were more common in males who had practised predrinking. Younger age was associated with both antisocial conduct and drug use, but it was reversed for binge drinking, which was greater in the older male respondents. Antisocial behaviour and binge drinking were more common in those of higher socioeconomic status, while drug use was less common at the medium level. As with female respondents, possible emotional distress was associated with an increase in the consequences analyzed.

As with the analysis of associations, these variables were included and controlled in a prevalence ratio regression with multiple predictors to analyze, more precisely, the predictors of various problematic behaviours (Table 5).

For females, predrinking was a significant predictor of drug use ($PR = 1.41$, $p < .05$) and binge drinking ($PR = 2.78$, $p < .001$) but not of suicide attempts or antisocial behaviour. The risk of suicide attempts was less for both medium-low and high socioeconomic index ($PR = 0.41$, $p < .05$; $PR = 0.24$, $p < .01$) and greater for those with emotional distress ($PR = 7.37$, $p < .001$). The only significant predictor for antisocial behaviour was emotional distress ($PR = 3.47$, $p < .01$). The risk for drug use was lower for the 25-29 age group ($PR = .54$, $p < .01$) and higher for those with emotional distress ($PR = 2.00$, $p < .001$). Females aged 25-29 had less risk of binge drinking ($PR = 0.68$, $p < .05$), but for those with emotional distress, the risk was greater ($PR = 1.27$, $p < .05$).

Table 5

Analysis of Prevalence Rations for Consequences Associated with Predrinking in Adolescents and Young People

	Suicide attempt		Antisocial behaviour		Ever used drugs		Binge Drinking	
FEMALES	*PR*	95% CI	*PR*	95% CI	*PR*	95% CI	*PR*	95% CI
Ever practised predrinking								
No	1.00		1.00		1.00		1.00	
Yes	1.30	[0.49, 3.43]	2.25	[0.87, 5.84]	1.41	[1.06, 1.86]*	2.78	[2.26, 3.43]***
Age								
12-17	1.00		1.00		1.00		1.00	
18-24	0.41	[0.15, 1.09]	0.76	[0.45, 1.31]	0.87	[0.62, 1.23]	0.86	[0.70, 1.06]
25-29	0.27	[0.08, 0.89]*	0.49	[0.17, 1.44]	0.54	[0.34, 0.85]**	0.68	[0.50, 0.92]*
Socioeconomic index								
Low	1.00		1.00		1.00		1.00	
Medium-low	0.41	[0.18, 0.95]*	1.00	[0.37, 2.67]	1.04	[0.72, 1.50]	1.09	[0.78, 1.52]
Medium	0.37	[0.13, 1.08]	0.66	[0.22, 1.98]	1.37	[0.99, 1.91]	1.13	[0.81, 1.59]
Medium-high	0.58	[0.22, 1.51]	0.66	[0.21, 2.08]	1.09	[0.70, 1.69]	1.22	[0.85, 1.75]
High	0.24	[0.09, 0.67]**	0.59	[0.18, 1.91]	0.86	[0.55, 1.35]	1.07	[0.75, 1.52]
Emotional distress								
Absent	1.00		1.00		1.00		1.00	
Present	7.37	[2.79, 19.45]***	3.47	[1.72, 6.99]**	2.00	[1.46, 2.75]***	1.27	[1.01, 1.60]*
MALES								
Ever practised predrinking								
No	1.00		1.00		1.00		1.00	
Yes	3.05	[1.00, 9.29]*	2.30	[1.76, 3.01]***	1.39	[1.17, 1.66]***	1.78	[1.57, 2.02]***
Age								
12-17	1.00		1.00		1.00		1.00	
18-24	1.57	[0.48, 5.17]	0.62	[0.47, 0.81]***	1.15	[0.94, 1.41]	1.11	[0.93, 1.32]
25-29	0.80	[0.17, 3.75]	0.57	[0.41, 0.78]**	0.84	[0.66, 1.07]	1.12	[0.94, 1.35]
Socioeconomic index								
Low	1.00		1.00		1.00		1.00	
Medium-low	0.46	[0.11, 1.93]	0.84	[0.58, 1.21]	0.98	[0.77, 1.25]	0.85	[0.69, 1.05]
Medium	0.80	[0.21, 3.07]	0.84	[0.57, 1.24]	0.91	[0.73, 1.14]	0.89	[0.73, 1.10]
Medium-high	0.04	[0.01, 0.27]**	1.20	[0.79, 1.81]	0.99	[0.78, 1.26]	1.17	[0.97, 1.42]
High	0.20	[0.04, 1.03]	0.90	[0.57, 1.41]	0.97	[0.75, 1.26]	0.97	[0.78, 1.21]
Emotional distress								

Absent	1.00		1.00		1.00		1.00	
Present	16.40	[4.46, 60.27]***	1.72	[1.00, 2.95]*	1.49	[0.92, 2.44]	0.86	[0.49, 1.51]

PR: Prevalence ratio. The estimation was $n = 7800$. * $p < .05$; ** $p < .01$; *** $p < .001$.

For males, predrinking was a significant predictor of suicide attempts (*PR* = 3.05, $p < .05$), antisocial behaviour (*PR* = 2.30, $p < .001$), drug use (*PR* = 1.39, $p < .001$), and binge drinking (*PR* = 1.78, $p < .001$). For drug use and binge drinking, predrinking was the only predictor. Suicide attempts were lower in the medium-high socioeconomic index than in the low index (*PR* = 0.04, $p = .001$) and greater in those with emotional distress (*PR* = 16.40, $p < .001$). The risk of antisocial conduct was less in the two older age groups than in the 12-17 group (*PR* = 0.62 and .57, $p < .01$). Emotional distress was also a predictor of antisocial behaviour (*PR* = 1.72, $p < .05$).

Discussion

This study showed that nearly 20% of the young people surveyed had engaged in predrinking in the previous four weeks, and slightly more among those under 18. These findings are consistent with those reported for other countries (Borsari et al., 2007; DeJong et al., 2010; Read et al., 2010; Rutledge et al., 2016; Yurasek et al., 2016; Pilatti et al., 2018). It is mainly done with friends, though women often reported predrinking with their partners, and a significant proportion of men aged 25-29 reported predrinking alone. Beer and rum were the preferred pre-drinks reported.

The primary reason for predrinking was to socialize with friends, although nearly a quarter of girls under 18 did so to alleviate anxiety or stress. For those under 18, predrinking typically serves as a prelude to going to a party, while for adults, it is usually before going out to a bar or club. However, despite Mexican law prohibiting the sale of alcohol to minors under 18, some respondents under 18 reported predrinking before going to bars or clubs.

Concerning associated factors, it is striking that among female respondents, predrinking was more prevalent among those under 18, which could be related to permissive social tolerance of alcohol use among their family and friends. This finding coincides with previous studies of alcohol use in women showing the critical role family plays in social control that protects against substance use and abuse (Vázquez et al., 2019). Importantly, the permissiveness of family was not important for males—although tolerance of friends was, as has been found in other studies (Merrill et al., 2016).

Emotional distress was an important factor across genders, predicting a greater prevalence of predrinking and its consequences. Various studies have demonstrated that in the presence of emotional distress, predrinking (and alcohol use in general) can have adverse effects for young people (Read et al., 2010; Keough et al., 2016; Radomski et al., 2016; Norberg et al., 2016). This indicator underlines the importance of mental health in making appropriate choices that do not put young people's physical health at risk. It should be emphasized that female and male respondents with a high socioeconomic index were those who showed the highest levels of predrinking, suggesting it may be more fashionable in this group or that it is more available to them due to their financial resources (González-Bautista et al., 2019; Humensky, 2010; Katikireddi et al., 2017; Obrador-Rial et al., 2014).

For both women and men, the consequences of predrinking were drug use and binge drinking, while men also had a greater probability of suicide attempts and antisocial behaviour. Emotional distress again stands out as an important predictive factor here, causing a greater prevalence of the behaviours analyzed in both men and women.

Predrinking is practised by a quarter of young people who have used alcohol, and the results of this study suggest significant consequences for their physical and mental health. Although, like

other countries, Mexico has a legal drinking age of 18 years, the results show that a substantial number of minors consume alcohol in predrinking situations. This suggests the importance of working with families and those close to young people to increase their perception of risk and limit the normalization of drinking in social groups. It is well-known that alcohol use has a cultural component, where drinking is seen as an everyday reality, so it is available for consumption at celebrations, social occasions, and sporting events. Young people of legal drinking age often buy alcohol for younger members of their group when they believe it is morally acceptable or that they are in a safe place to drink (Lam et al., 2020). These patterns serve as a model for younger generations who, lacking personal and intellectual maturity, see drinking as something natural and do not believe it will affect their development. Preventive interventions should be directed at those closest to young people—parents, friends, and the community—to change the permissive attitude towards drinking, as described by Lam et al. (2020).

A central issue in this discussion is government action to prevent minors from accessing alcohol due to the risks its current accessibility causes for this population. Evidence shows that public policy designed to limit access to alcohol through taxes, regulating the operating hours of bars and clubs, and banning certain forms of marketing are the most cost-effective measures for reducing alcohol use and its adverse effects (WHO, 2017). It is also essential to strengthen enforcement of the existing laws regulating alcohol, which various studies have shown effectively reduce sales and consumption by minors (Flewelling et al., 2013; Gosselt et al., 2011), and the negative consequences related to its use (Hernández-Llanes et al., 2020).

These actions must also be accompanied by social education, like that achieved with tobacco products, where mechanisms have been developed to prohibit access to young people. They could also include clear and visible messages directed at young people that drinking can

damage their health, putting drinkers and those around them at risk. Given the current problem of alcohol use and the increased levels of anxiety and stress reported by young people, the network of mental health services in response to the COVID-19 pandemic in Mexico could be a valuable source of support. Together with improved opportunities for recreation supported by the government and the population, these could more effectively reduce the use of alcohol and other substances.

Limitations

While this study was based on a nationally representative sample of the Mexican population, the associations between the variables of interest do not imply causal relationships because it is a cross-sectional study. In addition, the data comes from a household survey, which by its methodology may have undercounted predrinking among those under 18 years of age, so the true extent among the population aged 12 o 17 could be greater than that found here.

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Note 1: Current drinkers" refers to those who report having consumed alcoholic beverages in the previous 12-month period.

Note 2: All mentions to per capita alcohol consumption refers to an annual period

Note 3: Binge drinking" is defined as four or more drink for women, or five or more for men, within a period of two hours at least once in the 30 days prior to being surveyed (WHO 2018; NIAAA 2004).

Note 4: Drinking at an after party or postparty, or postdrinking, is the use of alcohol after an event (Haas et al., 2016).