



ORIGINAL ARTICLE

Contributions of parenting styles and parental drunkenness to adolescent drinking

Carla R. Zuquette, Emérita S. Opaleye, Marianne R. Feijó, Tatiana C. Amato,  Cleusa P. Ferri, Ana R. Noto 

Núcleo de Pesquisa em Saúde e Uso de Substâncias (NEPSIS), Departamento de Psicobiologia, Universidade Federal de São Paulo (UNIFESP), São Paulo, SP, Brazil.

Objective: To estimate the association of parental drunkenness and parenting style with alcohol consumption among adolescents and the contributions of parental drunkenness and parenting style to the prevalence of binge drinking among adolescents.

Method: Cross-sectional survey of a representative sample of secondary students aged 13 to 18 from 27 Brazilian state capitals (n=17,028). Private and public schools were included. A self-report questionnaire collected data on adolescents' alcohol drinking behavior, parenting styles, and parenting and peer models of drunkenness.

Results: Non-authoritative parenting style and parental drunkenness are associated with binge drinking among adolescents. Authoritarian, indulgent, and negligent parenting styles were associated with 1.50-, 2.51-, and 2.82-fold increases in prevalence of adolescent binge drinking, and parental drunkenness, with a 1.99-fold increase. The non-authoritative parenting style made a larger contribution than parental drunkenness to adolescent binge drinking.

Conclusions: Non-authoritative parenting style and parental drunkenness seem to play an important role in adolescents' binge drinking behavior. At the population level, parenting style appears associated with a greater contribution to this behavior among adolescents. Prevention strategies targeting parental drunkenness may be bolstered if a broader approach including parenting styles is in place.

Keywords: Binge drinking; parenting styles; population attributable prevalence fractions; adolescence; alcohol

Introduction

Alcohol is the most widely used psychoactive substance by all age groups, including adolescents.^{1,2} European studies show that nine in 10 adolescents have already consumed alcohol by the age of 17 to 18 years,³ while in the United States, about five in 10 adolescents reported alcohol consumption by this age.⁴ Brazil has intermediate figures, with eight in 10 adolescents reporting consumption of alcohol by the age of 16 to 18 years.²

Because of its serious immediate and long-term consequences, binge drinking (five or more standard drinks on one occasion) is a major public health concern, especially among adolescents.⁵ In Europe, 38% of girls and 43% of boys aged 15-16 have reported binge drinking.³ In Brazil, a similar proportion (32%) reported this behavior in the month before the survey.⁶ Binge drinking is associated with road injuries and deaths, being a victim of or perpetrating violence, engaging in early or unsafe sexual activity, and delinquency. Moreover, adolescents who drink alcohol are more likely to have alcohol-use disorders when they become adults.^{7,8}

Studies have shown that parental disapproval of alcohol consumption, as well as a good parent-child relationship, are associated with lower levels of alcohol consumption in later adolescence.⁹ Good communication between parent and child, not only alcohol-specific but also about other issues, also seems to be associated with lower levels of alcohol consumption in adolescence.¹⁰

Parenting styles are a classification of parent's behavior according to their demandingness and responsiveness. A four-style classification (authoritative, authoritarian, indulgent, and negligent) has been derived from these two dimensions.¹¹ Authoritative parents, in this context, are those who are able to provide both nurturance and limit-setting. Although there are no standard parental behavior measures,¹⁰ the scale used in this study measures nurturance looking at the adolescent's perception of emotional support and parental attachment, while demandingness is mainly measured by the adolescent's perception of monitoring and control.¹¹ Parental monitoring seems to be a protective factor against binge drinking.¹⁰ Parental support also has an important role in delaying the age of onset of drinking, lowering levels of drinking in older

age, and preventing binge drinking. Parenting styles that feature lack of monitoring or support can increase the odds of binge drinking by adolescents.¹²

Parental drinking correlates with adolescent drinking behavior. It is associated with both early alcohol initiation and levels of consumption in later adolescence.^{10,13} One possible explanation is that adolescents imitate their parents' drinking behavior.¹⁴ Parents who drink might also be more permissive regarding levels of consumption and expectations about adolescents' drinking.¹⁵

Despite a vast literature on factors associated with adolescent drinking, it is not yet known which of the aforementioned factors contributes more to adolescent binge drinking. In this study, we aimed to assess the contribution of non-authoritative parenting styles and parental drunkenness to adolescent binge drinking in a large sample of Brazilian students.

Methods

Study design and participants

This is a secondary analysis of data from a survey about drug consumption among Brazilian students, conducted by Centro Brasileiro de Informações sobre Drogas Psicotrópicas (CEBRID) and Secretaria Nacional de Políticas sobre Drogas (SENAD).²

The sample was designed to be representative of high school students aged 10 to 18 from 27 Brazilian state capitals. Based on a national register of all educational institutions, we obtained a list of all public and private schools for each of the 27 state capitals. The sample was stratified according to levels: schools that taught only middle school; schools that taught only high school; and schools that taught both levels. A proportional sample was allocated to each of them, according to the number of students (based on the number of classes in each school). Then, we randomized by stratum, school, and class. A detailed description of the methods has been published elsewhere.¹⁶

The school response rate was 86%. A total of 789 schools (512 public and 277 private) participated in the study. The student response rate was 79.2%; 20.5% of the students were absent on the day of the survey and 0.3% refused to participate. The final sample size was 50,890 middle- and high schoolers.

High schoolers completed 19,230 questionnaires; those in which respondents answered in the affirmative on an item regarding a fictitious drug were excluded from the analysis. We also excluded questionnaires of students who did not report their gender, did not complete the parenting styles section, or did not answer the question about parental drunkenness. This study is limited to high school adolescents aged 13 to 18 years ($n=17,028$).

Data collection procedures

Data were collected through an anonymous, self-report, standardized paper-and-pencil questionnaire. A specialized company, experienced in national surveys, conducted the data collection under the supervision of 27 regional managers. The questionnaires were applied in groups, in

the classroom, without the presence of a teacher, after a brief explanation about the procedures. The questionnaire took around 40 minutes to complete. To avoid contamination, the survey was conducted in a single visit to each school. To ensure that all procedures were standardized and applied in the same way in each schools, the team received detailed training from CEBRID investigators.

Ethics

The Universidade Federal de São Paulo (UNIFESP) research ethics committee approved the study (protocol 1652/11).

Schools were first contacted by telephone by the regional supervisors of the survey. Then, a letter of presentation signed by CEBRID was sent, along with letters of support from the Brazilian Ministry of Education, SENAD, and the state and municipal departments of education. Consent was then obtained from school principals. On the day of the survey, students were informed that they could refuse to participate and, in order to do so, should leave the questionnaire blank. Thus, participation was voluntary. Students were assured that they could refuse to participate and that, if they chose to participate, all information would be anonymous and used for research purposes only.

Measures

The questionnaire was based on a World Health Organization (WHO) survey model, adapted to Brazil and used in five previous surveys.¹⁷

Dependent variable

Adolescent drinking behavior. The sample was divided into three groups according to consumption of alcohol in the previous 12 months: students who reported not having consumed alcohol (non-drinkers); students who reported having consumed alcohol, but not five or more drinks on the same occasion (non-binge drinkers); and students who reported having consumed five or more drinks on the same occasion (binge drinkers).

Independent variables

Parenting style. We used the Parenting Styles Scales developed by Lamborn et al.,¹¹ adapted for Brazil by Costa et al.¹⁸ The scale is composed of two subscales: responsiveness and demandingness. The responsiveness subscale assesses the level of parental emotional support perceived by the adolescent (e.g., whether parents encourage them to take decisions or consider their autonomy), while the demandingness scale assesses the level of parental control (e.g., whether parents know who their closest friends are; whether parents know what they do after school). The scores on each scale define the parenting style. The scale had a Cronbach's alpha of 0.60 for this sample, which may be considered moderate. Student scores above the sample median indicated high demandingness/responsiveness, while those below the sample median indicated low demandingness/responsiveness. Students that scored on the median in any scales were

defined as missing values and were not considered in further analyses. The parenting style is defined as authoritative when the respondent refers high demandingness and high responsiveness. A non-authoritative parenting style is characterized by authoritarian, indulgent, or negligent parenting. Authoritarian parents are those with high demandingness but low responsiveness. Very responsive but undemanding parents are considered indulgent. Those parents who have low levels of both responsiveness and demandingness are considered negligent.

Reported parental drunkenness. The drug use models were assessed on a matrix, where students had to score family and close friends' use of alcohol/tobacco/other drugs. In our analyses, we categorized this according to student's reports of parental drunkenness. We categorized this as: a) none: if the student did not report any parental drunkenness; of b) paternal and/or maternal drunkenness: if the student reported paternal and/or maternal drunkenness.

Potential confounders

Information was obtained on age, gender, and who the students lived with – both parents, father only, mother only, or non-parents (e.g., brothers/sisters, grandparents, uncle/aunt). The students were also asked whether they had seen close friends or siblings drunk.

Finally, with regard to school type, the Brazilian education system includes a private and a public system. Both systems were included in this survey.

Statistical analysis

Statistical analyses were performed in Stata version 11. We used expansion weight to correct for unequal probabilities of selection in the sample.

We first described the sample using weighted proportions and averages for the whole sample and for males and females separately. To estimate the association of the independent variables (parenting style and parental drunkenness) with adolescent alcohol use, we used multinomial logistic regression. We adjusted the models for potential confounders (gender, age, peer drinking or drunkenness behavior, public vs. private school). We also tested whether these associations were modified by gender.

We estimated population attributable prevalence fractions (PAPF) for the association of parenting style and parental drunkenness with adolescent binge drinking behavior. PAPF is an indicator of the expected reduction in a population outcome if its risk factors are reduced or modified to an ideal scenario¹⁹ assuming causality. To perform this specific analysis, the main outcome must be a dichotomous variable; hence, we used authoritative vs. non-authoritative parenting style. In this case, we used PAPF to calculate the proportion of adolescents that would not engage in binge drinking behavior if their parents had an authoritative style of parenting.

Results

Table 1 describes the sample. It was composed of 17,028 students, of whom 55% were female (n=9,421) and 22%

studied in private schools. The average age was 15.9 years (standard error [SE] = 0.04). More than half of students (65.8%) lived with both parents, 22% lived only with their mothers, 3.5% lived only with their fathers, and 8.7% did not live with either parent. Drinking, but not binge drinking, in the previous 12 months was reported by 31.8% (95% confidence interval [95%CI] 30.7-32.9) of students, while a nearly equal percentage (31.7%, 95%CI 30.0-33.5) reported binge drinking in the same period. Girls were more likely to report drinking without binge drinking (35.4%, 95%CI 33.8-37.0), while boys were more likely to report binge drinking (36.4%, 95%CI 34.1-38.8) ($p < 0.001$).

Approximately one-third of the respondents perceived their parents as authoritative (33.4%, 95%CI 32.0-34.7); 11.9% (95%CI 11.0-12.8) perceived their parents as authoritarian; 15.7% (95%CI 14.6-16.8) perceived their parents as indulgent; and 39.1% (95%CI 37.5-40.7) perceived their parents as negligent. Girls were more likely to report authoritative parenting (38.8%, 95%CI 36.8-40.1) compared to boys (26.6%, 95%CI 24.6-28.8). One in five adolescents reported that at least one of their parents gets drunk (20.2%, 95%CI 19.2-21.3), and 14.8% (95%CI 13.6-16.2) reported the same behavior among their close friends.

We estimated the association between parental behaviors and adolescent drinking patterns adjusted by gender, age, type of school, who the adolescent lives with, and peer drunkenness. The estimates for the main variables are shown in Table 2. There was no gender modification ($p = 0.154$). Who the adolescent lives with was not significantly associated with drinking or binge drinking. Perceived parental drunkenness increased the likelihood of reporting both non-binge drinking (adjusted odds ratio [aOR] = 1.56; 95%CI 1.31-1.87) and binge drinking (aOR = 1.97; 95%CI 1.59-2.44). Likewise, perceiving parents as negligent increased the likelihood of both non-binge drinking (aOR = 1.75; 95%CI 1.49-2.04) and binge drinking (aOR = 2.82; 95%CI 2.33-3.41) in the 12 months preceding the survey. Also, perceiving the other two non-authoritative parenting styles increased the likelihood of binge drinking (authoritarian, aOR = 1.50, 95%CI 1.21-1.87; indulgent, aOR = 2.51, 95%CI 2.08-3.03).

We calculated PAPF from a logistic regression model. Non-authoritative parenting style made the largest contribution (25.5%; 95%CI 20.4-30.2) to binge-drinking behavior in the 12 months preceding the survey. Despite the small difference between the adjusted OR for the association of parental drunkenness and non-authoritative parenting style, parental drunkenness contributed only 5.2% (95%CI 3.2-7.1) to binge drinking among adolescents in the 12 months before the survey.

Discussion

Around one-third of our sample reported having drunk five or more standard drinks on a single occasion in the 12 months preceding the survey. Both non-authoritative parenting and parental drunkenness were associated with binge drinking, but non-authoritative parenting seems to make a strikingly larger contribution to this behavior among adolescents.

Table 1 Characteristics of the sample, overall and stratified by gender (n=17,028)

	Female (n=9,421)		Male (n=7,607)		Whole sample (n=17,028)	
	n	wgt% (95%CI)	n	wgt% (95%CI)	N	wgt% (95%CI)
Age, mean (standard error)	9,421	15.9 (0.03)	7,607	16.0 (0.04)	17,028	15.9 (0.03)
School status						
Public	5,689	79.8 (76.6-82.6)	4,229	75.6 (72.0-79.0)	9,918	77.9 (74.7-80.9)
Private	3,732	20.2 (17.4-23.4)	3,378	24.4 (21.1-28.0)	7,110	22.1 (19.1-25.4)
Lives with						
Both parents	6,033	65.1 (63.4-66.7)	5,107	66.7 (64.8-68.6)	11,140	65.8 (64.5-67.1)
Mother only	2,080	22.5 (21.1-23.8)	1,516	21.4 (20.0-22.9)	3,596	22.0 (21.0-23.0)
Father only	268	2.9 (2.4-3.4)	319	4.2 (3.6-5.0)	587	3.5 (3.1-3.9)
Other	1,008	9.6 (8.6-10.7)	608	7.6 (6.5-8.8)	1,616	8.7 (7.9-9.6)
Drinking pattern						
No drinking	3,567	36.7 (35.0-38.5)	2,774	36.4 (34.4-38.4)	6,341	36.6 (35.0-38.1)
No binge drinking	3,302	35.4 (33.8-37.0)	2,072	27.2 (25.8-28.8)	5,374	31.8 (30.7-32.9)
Binge drinking	2,552	27.9 (26.1-29.8)	2,761	36.4 (34.1-38.8)	5,313	31.7 (30.0-33.5)
Parenting style						
Authoritative	2,491	38.8 (36.8-40.1)	1,433	26.6 (24.6-28.8)	3,924	33.4 (32.0-34.7)
Authoritarian	876	12.5 (11.4-13.7)	618	11.1 (9.7-12.6)	1,494	11.9 (11.0-12.8)
Indulgent	918	14.1 (12.8-15.5)	957	17.6 (16.0-19.4)	1,875	15.7 (14.6-16.8)
Negligent	2,251	34.7 (32.8-36.7)	2,331	44.7 (42.4-46.9)	4,582	39.1 (37.5-40.7)
Parental drunkenness						
None	7,389	79.6 (78.4-80.8)	6,019	79.9 (78.3-81.4)	13,408	79.8 (78.7-80.8)
Father and/or mother	2,032	20.4 (19.2-21.6)	1,588	20.1 (18.6-21.7)	3,620	20.2 (19.2-21.3)
Peer drunkenness						
Friends	1,365	13.2 (12.1-14.5)	1,428	16.8 (14.9-18.9)	2,793	14.8 (13.6-16.2)
Siblings	791	7.1 (6.4-7.8)	660	7.3 (6.3-8.5)	1,451	7.2 (6.6-7.8)

Drinking pattern refers to the preceding year.

wgt% = weighted proportions; 95%CI = 95% confidence interval.

This study analyzed data from a large, representative sample in Brazil. To our knowledge, it is the first time that the influence of parenting style and other behaviors on adolescent binge drinking has been estimated in Brazil at the representative population level. However, some limitations need to be acknowledged. First, population-attributable fractions are calculated from relative risks for incident health outcomes and assume a causal relationship between the studied factors.¹⁹ Our finding on these estimates demands caution and should be interpreted with the assumption that, if the relationship between parenting styles and alcohol related behavior and adolescent binge drinking were causal, that would be the contribution of those factors at the population level. Moreover, our data may be affected by information bias, as both parenting styles and parental drunkenness were measured based on adolescents' perception.

About one in three students from our sample reported binge drinking in the previous 12 months. Advancing age was associated with higher risk of this behavior, and private school students were at particular risk for drinking and binge drinking, corroborating findings from studies conducted in a similar population.²⁰ This risk of binge drinking in the upper classes might also be a trend in other countries with strong alcohol culture and low average family income.²⁰ Compared to other patterns of

Table 2 Adjusted odds ratio for parental behaviors and drinking patterns compared to no drinking

	Non-binge drinking	Binge drinking
Age	1.00 (0.94-1.07)	1.35 (1.25-1.46)
Gender		
Male	0.73 (0.64-0.84)	1.05 (0.92-1.20)
Type of school		
Private	1.53 (1.30-1.81)	1.81 (1.47-2.23)
Lives with		
Both parents	-	-
Only mother	1.21 (0.88-1.67)	0.89 (0.65-1.22)
Only father	1.14 (0.97-1.33)	1.20 (0.99-1.47)
Other	1.08 (0.83-1.41)	0.96 (0.74-1.25)
Parenting style		
Authoritative	-	-
Authoritarian	1.17 (0.95-1.45)	1.50 (1.21-1.87)
Indulgent	1.17 (0.94-1.46)	2.51 (2.08-3.03)
Negligent	1.75 (1.49-2.04)	2.82 (2.33-3.41)
Parental drunkenness	1.56 (1.31-1.87)	1.97 (1.59-2.44)
Friends' drunkenness	1.82 (1.39-2.38)	4.91 (4.03-5.98)
Siblings' drunkenness	1.01 (0.76-1.31)	1.62 (1.27-2.07)

Data presented as adjusted odds ratio (95% confidence interval).

consumption, binge drinking is associated with high-risk behaviors such as fights, unsafe sex, violence, and car accidents.^{8,21} This highlights the need for efforts to minimize risks associated with binge drinking among adolescents.

Previous studies have shown an association of binge drinking with parental behavior, such as acceptance of adolescent drinking, aggression derived from conflicts, poor communication, and parental drinking.^{9,12,22} Around 60% of the sample reported perceiving their parents as non-authoritative. The positive association between non-authoritative parenting and binge drinking found in this study is consistent with previous investigations.^{23,24} Regarding risk factors, Donovan pointed out that family variables implicated in adolescent drinking initiation were composed of three general categories: family composition, acceptance and model of drinking by parents or siblings, and relationship between parents and children.²⁵ Therefore, multiple factors mediate influence on adolescent drinking. Despite the gender difference in the prevalence of non-authoritative parenting styles and in the prevalence of binge drinking, our study did not show any gender difference in the association between them. Although there is evidence of gender-specific association between some parenting behaviors and adolescent drinking,^{26,27} this difference seems to lose importance when the parent-child relationship is observed from a comprehensive standpoint, as the classification of parenting styles does.²⁸ In this way, according to previous evidence and to the PAPF analyses of the present study, parenting styles seem more influential on adolescent drinking than any isolated parenting behavior.

In our sample, one in five adolescents had seen at least one of their parents drunk, and this increased the likelihood of adolescent binge drinking. Previous studies have shown that parental drinking is related to early initiation of drinking and higher levels of consumption in late adolescence.^{29,30} However, this association could depend on family attitudes to parental drunkenness and on the factors associated with it. Parental style and lack of parental social skills can influence children's behavior, making them more vulnerable to alcohol use, either by peer pressure or by following a cultural trend. Such ideas are in line with studies by Bolsoni-Silva et al. that pointed to the family as both a protective and risk factor for the use of alcohol by young people, and the repertoire of social skills as one of the variables that interfere with use of alcohol by adolescents.³¹

Our results show that, at the population level, parenting styles make a greater contribution to adolescent binge drinking than parental drunkenness.²⁸ One possible explanation for this is that parental influence on adolescent behavior through their parenting style is stronger than the influence of any specific parental behavior.

The potential greater contribution of parenting style to binge drinking among adolescents highlights the importance of this broader approach, including family counseling, for the development of programs to prevent adolescent drinking. However, adolescent drinking is also influenced by factors other than parental behavior, e.g., access to and advertising of alcoholic beverages, peer

behavior, access to leisure-time activities, and lack of life goals or projects.^{20,32,33} In this sense, the effectiveness of prevention programs should be evaluated not only regarding alcohol consumption by adolescents, but also considering improvements in parent-child relationship, building competencies to solve family conflicts less aggressively, and reductions in high-risk behavior associated with drinking.³⁴⁻³⁶ Focusing on families and spouses, as well as encouraging the development of social skills, has a relevant role to play in changing parental drinking patterns. Parents and children need to make good use of assertive social coping skills to establish dialogue, express themselves, develop good relationships with each other, cope with conflicts, and face other daily challenges. Empathetic social skills and skills in expressing feelings are also necessary for both, but for parents, educational skills are especially relevant.^{31,37}

It is important to investigate which aspects of adult drinking are more important in relation to adolescent drinking. Moreover, some controversies remain regarding the link between parenting styles and parental behavior. Another aspect that remains little examined is the relationship between parenting styles and alcohol-specific socialization. Information on this could help develop more effective parent-based adolescent drinking prevention programs.

In conclusion, non-authoritative parenting styles and parental drunkenness are associated with both binge and non-binge drinking by adolescents. Although the effect size of these two factors was similar, their contribution to the prevalence of binge drinking among adolescents at the population level was very different. Non-authoritative parenting styles made a greater contribution to adolescent binge drinking than parental drunkenness. This could be related to the fact that parenting styles are connected with a broader set of behaviors regarding the parent-child relationship.

Studies on family relationships are based on the idea that communication and relationship are connected processes and that the relationship shapes communication: what is conveyed by parents and children will always be influenced by the relationship between them.³⁸ Modifying non-authoritative parenting patterns requires strengthening the parental unit, the relationship between both parents, and their relationship with their children. In this scenario, the development of social skills – hence, of assertive communication – and, possibly, the approximation of an authoritative parental style will be more visible. However, when parents are overloaded by tasks and responsibilities and when one parent is weakened (whether through separation or by loss in general), experiencing stigma, or other forms of exacerbated suffering and vulnerability, support and strengthening should be prioritized.^{38,39} Furthermore, when one or both parents do not have their basic rights guaranteed and cannot guarantee the survival and quality of life of their children, these demands must also be met as a priority.⁴⁰ However, in situations where the basic rights of families are ensured and the occupational status, income, and emotional condition of the parents allow them to balance family life and work, psychotherapeutic practices aimed at increasing quality of life and the relationship

between spouses and family members tend to promote the development of parental styles that are more participatory and attentive, in which monitoring, emotional support, dialogue, and demand are balanced.^{37,38}

Improvement in relationships leads to improvement in families, and vice versa. In the context of better relationships and better understanding, functions and roles – which include care, legitimation, affirmation of rules and limits, and encouragement of development, autonomy, and responsibility – can be better developed by parents.^{37,38}

Acknowledgements

The authors wish to thank CEBRID, which has provided the database for analyses. Funding for this study was provided by SENAD, Associação Fundo de Incentivo à Pesquisa (AFIP), Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), and Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq). The funding agencies had no further role in the study design, collection, analysis and interpretation of data, the writing of the report, or in the decision to submit the paper for publication.

CRZ and ARN are recipients of Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) scholarships. CPF is the recipient of a FAPESP professorship (12/00354-4) and is currently supported by AFIP.

Disclosure

The authors report no conflicts of interest.

References

- World Health Organization (WHO). Global status report on alcohol and health. Geneva: World Health Organization, 2011 [Internet]. 2011 [cited 2018 Oct 25]. www.who.int/substance_abuse/publications/alcohol_2011/en/
- Carlini EA, Noto AR, Sanchez ZM, Carlini CMA, Locatelli DP, Abeid LR, et al. VI Levantamento nacional sobre o consumo de drogas psicotrópicas entre estudantes do ensino fundamental e médio das redes pública e privada de ensino nas 27 capitais brasileiras São Paulo: Centro Brasileiro de Informações sobre Drogas Psicotrópicas (CEBRID) 2010.
- Hibell B, Guttormsson U, Ahlström S, Balakireva O, Bjarnason T, Kokkevi A, et al. The 2011 ESPAD Report - substance use among students in 36 European countries [Internet]. 2012 [cited 2018 Oct 25]. www.espad.org/sites/espad.org/files/The_2011_ESPAD_Report_FULL_2012_10_29.pdf.
- Johnston LD, O'Malley PM, Bachman JG, Schulenberg JE. Monitoring the future national results on drug use: 2012: overview, key findings on adolescent drug use [Internet]. 2013 [cited 2018 Oct 25]. www.monitoringthefuture.org/pubs/monographs/mtf-overview2012.pdf.
- Wechsler H, Nelson TF. Binge drinking and the American college student: what's five drinks? *Psychol Addict Behav.* 2001;15:287-91.
- Sanchez ZM, Martins SS, Opaleye ES, Moura YG, Locatelli DP, Noto AR. Social factors associated to binge drinking: a cross-sectional survey among Brazilian students in private high schools. *BMC Public Health.* 2013;11:201.
- Brewer RD, Swahn MH. Binge drinking and violence. *JAMA.* 2005; 294:616-8.
- Miller JW, Naimi TS, Brewer RD, Jones SE. Binge drinking and associated health risk behaviors among high school students. *Pediatrics.* 2007;119:76-85.
- Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. *Psychol Bull.* 1992; 112:64-105.
- Ryan SM, Jorm AF, Lubman DI. Parenting factors associated with reduced adolescent alcohol use: a systematic review of longitudinal studies. *Aust N Z J Psychiatry.* 2010;44:774-83.
- Lamborn SD, Mounts NS, Steinberg L, Dornbusch SM. Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Dev.* 1991; 62:1049-65.
- Moore GF, Rothwell H, Segrott J. An exploratory study of the relationship between parental attitudes and behaviour and young people's consumption of alcohol. *Subst Abuse Treat Prev Policy.* 2010; 5:6.
- Donaldson CD, Handren LM, Crano WD. The enduring impact of parents' monitoring, warmth, expectancies, and alcohol use on their children's future binge drinking and arrests: a longitudinal analysis. *Prev Sci.* 2016;17:606-14.
- Bandura A. *Social learning theory.* Englewood Cliffs: Prentice-Hall, 1977.
- van der Zwaluw CS, Scholte RH, Vermulst AA, Buitelaar JK, Verkes RJ, Engels RC. Parental problem drinking, parenting, and adolescent alcohol use. *J Behav Med.* 2008;31:189-200.
- Bedendo A, Opaleye ES, Andrade AL, Noto AR. Heavy episodic drinking and soccer practice among high school students in Brazil: the contextual aspects of this relationship. *BMC Public Health.* 2013;13:247.
- Galduroz JC, Noto AR, Nappo SA, Carlini EA. Trends in drug use among students in Brazil: analysis of four surveys in 1987, 1989, 1993 and 1997. *Braz J Med Biol Res.* 2004;37:523-31.
- Costa FTd, Teixeira MAP, Gomes WB. Responsividade e exigência: duas escalas para avaliar estilos parentais. *Psicol Reflex Crit.* 2000; 13:465-73.
- Laaksonen MA, Harkanen T, Knekt P, Virtala E, Oja H. Estimation of population attributable fraction (PAF) for disease occurrence in a cohort study design. *Stat Med.* 2010;29:860-74.
- Locatelli D, Sanchez Z, Opaleye E, Carlini C, Noto A. Socioeconomic influences on alcohol use patterns among private school students in São Paulo. *Braz J Psychiatry.* 2012;34:193-200.
- Gomes K, Santos EL, Bedendo A, Faria ARN, Amato TC. Problemas associados ao binge drinking entre estudantes das capitais brasileiras. *Cien Saude Colet [Internet].* 2017 [cited 2018 Oct 25]. <http://www.cienciaesaudecoletiva.com.br/artigos/problemas-associados-ao-binge-drinking-entre-estudantes-das-capitais-brasileiras/16224>.
- Piko BF, Kovacs E. Do parents and school matter? Protective factors for adolescent substance use. *Addict Behav.* 2010;35:53-6.
- Valente JY, Cogo-Moreira H, Sanchez ZM. Gradient of association between parenting styles and patterns of drug use in adolescence: a latent class analysis. *Drug Alcohol Depend.* 2017;180:272-8.
- Paiva FS, Bastos RR, Ronzani TM. Parenting styles and alcohol consumption among Brazilian adolescents. *J Health Psychol.* 2012;17:1011-21.
- Donovan JE. Adolescent alcohol initiation: a review of psychosocial risk factors. *J Adolesc Health.* 2004;35:529.e7-18.
- Schulte MT, Ramo D, Brown SA. Gender differences in factors influencing alcohol use and drinking progression among adolescents. *Clin Psychol Rev.* 2009;29:535-47.
- Sen B. The relationship between frequency of family dinner and adolescent problem behaviors after adjusting for other family characteristics. *J Adolesc.* 2010;33:187-96.
- Barnes GM, Reifman AS, Farrell MP, Dintcheff BA. The effects of parenting on the development of adolescent alcohol misuse: a six-wave latent growth model. *J Marriage Fam.* 2000;62:175-86.
- Alati R, Najman JM, Kinner SA, Mamun AA, Williams GM, O'Callaghan M, et al. Early predictors of adult drinking: a birth cohort study. *Am J Epidemiol.* 2005;162:1098-107.
- Sejamo S, Aromaa M, Koivusilta L, Rautava P, Sourander A, Helenius H, et al. Alcohol use in families: a 15-year prospective follow-up study. *Addiction.* 2006;101:984-92.
- Bolsoni-Silva AT, Loureiro SR, Rocha JF, Orti NP. Habilidades sociais e variáveis contextuais em universitários usuários de álcool: um estudo descritivo comparativo. In: Soares AB, Mourão L, Mota MM, editores. *O estudante universitário brasileiro: características cognitivas, habilidades relacionais e transição para o mercado de trabalho* Curitiba: Appris; 2016. p. 199-215.

- 32 Vendrame A, Pinsky I, Faria R, Silva R. [Brazilian teenagers and beer advertising: relationship between exposure, positive response, and alcohol consumption]. *Cad Saude Publica*. 2009;25:359-65.
- 33 Fielder L, Donovan RJ, Ouschan R. Exposure of children and adolescents to alcohol advertising on Australian metropolitan free-to-air television. *Addiction*. 2009;104:1157-65.
- 34 Foxcroft DR, Ireland D, Lister-Sharp DJ, Lowe G, Breen R. Longer-term primary prevention for alcohol misuse in young people: a systematic review. *Addiction*. 2003;98:397-411.
- 35 McBride N, Farrington F, Midford R, Meuleners L, Phillips M. Harm minimization in school drug education: final results of the School Health and Alcohol Harm Reduction Project (SHAHRP). *Addiction*. 2004;99:278-91.
- 36 Midford R. Drug prevention programmes for young people: where have we been and where should we be going? *Addiction*. 2010; 105:1688-95.
- 37 Feijó M, Valério N, Chaves U. Terapia sistêmica em diálogo com os adolescentes. In: Payá R editor. *Intercâmbios das psicoterapias: como cada abordagem psicoterapêutica compreende os transtornos psiquiátricos*. Rio de Janeiro: Roca; 2017. p. 701-8.
- 38 Tondowski CS, Feijó MR, Silva EA, Gebara CFP, Sanchez ZM, Noto AR. Padrões Intergeracionais de violência familiar associada ao abuso de bebidas alcoólicas: um estudo baseado em genogramas. *Psicol Reflex Crit*. 2014;27:806-14.
- 39 Rapizo R. Possíveis conexões entre a ocorrência do divórcio e o uso de drogas por adolescentes nas famílias: uma reflexão inicial. In: Silva E, De Micheli D, editores. *Adolescência, uso e abuso de drogas: uma visão integrativa*. São Paulo: FAP-UNIFESP; 2011. p. 25-45.
- 40 Schenker M, Cavalcante FG. Vulnerabilidade, família, abuso, dependência de drogas e violência. In: Silva E, Moura Y, Zugman D, editores. *Vulnerabilidades, resiliência, redes – uso, abuso e dependência de drogas*. São Paulo: Red; 2015. p. 23-35.