Social Psychology and Population's Health

Psicologia: Teoria e Prática, 27(3), ePTPSP17183. São Paulo, SP, 2025.
ISSN 1516-3687 (print), ISSN 1980-6906 (electronic version). **Evaluation system:** double-blind review.
https://doi.org.10.5935/1980-6906/ePTPSP17183.en
Universidade Presbiteriana Mackenzie

Original research articles based on limited empirical data

Prevalence of Alcohol Consumption Among Adolescent Students and Associated Factors

Verônica Isabel Veloso Fonseca Antunes[1], Rene Ferreira da Silva Junior[1], Joanilva Ribeiro Soares[1], Sélen Jaqueline Souza Ruas[1], Clara de Cássia Versiani[1], Victor Hugo Dantas Guimarães[1], Carla Silvana de Oliveira e Silva[1]

[1] Montes Claros State University, Department of Nursing, Graduate Program in Health Sciences, Montes Claros, Minas Gerais, Brazil

Received: June 21, 2024.
Accepted: September 03, 2025.
Section Editor: Marina Xavier Carpena.

Author Note

Verônica I. V. F. Antunes https://orcid.org/0000-0003-4192-7112
Rene F. Silva-Junior https://orcid.org/0000-0002-3462-3930
Joanilva R. Soares https://orcid.org/0000-0003-1214-678X
Sélen J. S Ruas https://orcid.org/0000-0003-2965-1977
Clara de C. Versiani https://orcid.org/0000-0001-9075-6781
Victor. H. D. Guimarães https://orcid.org/0000-0002-4424-8142
Carla S. O. e Silva https://orcid.org/0000-0002-0658-9990

Correspondence concerning this article should be addressed to Rene Ferreira da Silva Junior, Rua Ivo Sandry, nº230, Poços de Caldas, Minas Gerais, Brazil, Zip-Code: 37701332. Email: renejunior_deny@hotmail.com

Conflict of Interest: None declared.

Abstract

The objective of this study was to estimate the prevalence of alcohol consumption among adolescent students and to identify associated factors. A cross-sectional study was conducted with 634 adolescents in the city of Montes Claros, in the state of Minas Gerais, Brazil. A self-administered questionnaire was used for sociodemographic characterization, evaluation of diet, quality of life and body satisfaction, and also the measurement of anthropometric data. Pearson's chi-square test and Poisson regression were used for analysis. The prevalence of alcohol consumption by schoolchildren was 17.9%, showing a significant association with the increase of age (16 years old PR 4.06; 1.64- 10.05), smoking (PR 2.18; 1.18-4.03), body satisfaction (PR 1.42; 1.04-2.02), if the adolescent has not been having fun (PR 3.27; 1.76-6.10), and with family income (RP 0.65; 0.44-0.95). The prevalence of alcohol use in adolescence in the study group was lower than that found in this population in Brazil. The results obtained through this study can foster the implementation of health policies that encourage prevention and promotion of adolescent health.

Keywords: adolescent, underage alcohol consumption, prevalence, adolescent health, students

PREVALÊNCIA DO CONSUMO DE ÁLCOOL ENTRE ADOLESCENTES ESCOLARES E FATORES ASSOCIADOS

Prevalência do Consumo de Álcool Entre Adolescentes

Resumo

Objetivou-se estimar a prevalência do consumo de álcool em adolescentes escolares e identificar fatores associados. Conduziu-se um estudo transversal, realizado com 634 adolescentes, em Montes Claros, Minas Gerais, Brasil. Foi utilizado um questionário autoaplicado para a caracterização sociodemográfica, avaliação da alimentação, da qualidade de vida e da satisfação corporal, além da aferição de dados antropométricos. Para análise utilizou-se o teste o teste do qui-quadrado de pearson e a regressão de Poisson. A prevalência do consumo de bebidas alcoólicas pelos escolares foi de 17,9% mostrando associação significativa com a progressão da idade (16 anos RP 4,06; 1,64- 10,05), tabagismo (RP 2,18; 1,18-4,03), satisfação corporal (RP 1,42; 1,04-2,02), se o adolescente não tem se divertido (RP 3,27; 1,76-6,10) e com a renda familiar (RP 0,65; 0,44-0,95), que foi um fator de proteção. A prevalência do uso de álcool na adolescência no grupo pesquisado foi menor do que a encontrada nesta população no Brasil. Os resultados obtidos por meio deste estudo podem fomentar a implantação de políticas de saúde que incentivem prevenção e a promoção da saúde dos adolescentes.

Palavras-chave: adolescente, consumo de álcool, prevalência, saúde do adolescente, estudantes

PREVALENCIA DEL CONSUMO DE ALCOHOL EN ESTUDIANTES ADOLESCENTES Y FACTORES ASOCIADOS

Prevalencia del consumo de alcohol en adolescentes

Resumen

El objetivo de este estudio fue estimar la prevalencia de consumo del alcohol entre los estudiantes adolescentes e identificar los factores asociados. Se realizó un estudio transversal con 634 adolescentes de Montes Claros, Estado de Minas Gerais, Brasil. Se utilizó un cuestionario autoadministrado para la caracterización sociodemográfica, la evaluación de la dieta, la calidad de vida y la satisfacción corporal, así como la medición de datos antropométricos. Para el análisis se utilizó la prueba de chi-cuadrado de Pearson y la regresión de Poisson. La prevalencia de consumo de alcohol por escolares fue de 17,9%, mostrando asociación significativa con la edad, (16 años, RP 4,06; 1,64-10,05), el tabaquismo (RP 2,18; 1,18-4,03), la satisfacción corporal (RP 1,42; 1,04-2,02), si el adolescente no se ha estado divirtiendo (RP 3,27; 1,76-6,10) y con la renta familiar (RP 0,65; 0,44-0,95). La prevalencia de consumo del alcohol en la adolescencia en el grupo de estudio fue menor que la encontrada en esa población en Brasil. Los resultados obtenidos a través de este estudio pueden fomentar la implementación de políticas de salud que fomenten la prevención y promoción de la salud de los adolescentes.

Palabras-clave: adolescente, consumo de alcohol, prevalencia, salud del adolescente, estudiantes

Adolescence is the stage of life that marks the transition between childhood and adulthood, encompassing the age range of 10 to 24 years (Sawyer et al., 2018). It is a formative period of human development, characterized by physical, cognitive, social, and emotional changes that require special attention from public policies. The health and well-being of adolescents are key drivers of change that foster the development of healthier and more sustainable societies (OPAS, 2018).

During this period, often marked by conflicts, alcohol emerges as a substance of increasing presence, and its consumption can cause immediate as well as medium- and long-term health harms (Aiken et al., 2018; OPAS, 2018). National surveys highlight the magnitude of this phenomenon: according to PeNSE (2019), 63.3% of Brazilian adolescents aged 13 to 17 had already tried alcoholic beverages, with 34.6% initiating consumption before the age of 14 (IBGE, 2019).

Levels and patterns of alcohol consumption, as well as alcohol-related problems, are shaped by a wide range of individual and social factors. Sociodemographic characteristics, lifestyle, family functioning, and indicators of well-being can all influence this behavior (Cardoza et al., 2020; Paiva et al., 2018; Peuker et al., 2020). Conversely, elements such as family support and participation in cultural and educational activities have been identified as protective factors against excessive alcohol use among adolescents (Scholze et al., 2020).

A systematic review conducted by Grigsby et al. (2016) indicated that early alcohol use is associated with an increased occurrence of negative outcomes, including those affecting psychological, physical, interpersonal, and social aspects. Adolescents who consumed alcohol were more likely to engage in risk situations such as car accidents, reduced ability to resist other drug use, unsafe sexual practices, as well as other risk behaviors (Ferreira et al., 2022; OPAS, 2018).

Despite the existing scientific literature on the topic, gaps remain in understanding the determinants of alcohol use among adolescents in specific regional contexts. In the State of Minas Gerais, recent data indicate high prevalence rates of alcohol consumption among school students (Neves et al., 2021; Almeida et al., 2021). However, there is a scarcity of studies focusing on smaller inland cities, such as Montes Claros, a major urban center in the northern part of the State, with unique sociocultural characteristics that may influence youth behavior patterns. Understanding these specificities is essential for designing public policies that are both more effective and sensitive to local realities.

Evidence indicates that modifications in health-related behaviors, as well as the adoption of risk behaviors during adolescence, tend to persist into adulthood (Aiken et al., 2018; Silva et al., 2021). Exposure to risk factors during this stage highlights the need to expand knowledge on both influential and protective factors for adolescents. Therefore, conducting further research with diverse samples and settings is essential to better understand the characteristics of alcohol use and to inform improvements in public policies (Almeida et al., 2021).

In this context, the present study aimed to estimate the prevalence of alcohol consumption among adolescent students in Montes Claros and to identify factors associated with this behavior. It is also expected that variables such as sociodemographic characteristics, lifestyle habits, and well-being indicators are related to alcohol use, contributing to the development of more targeted preventive strategies.

Method

This is a cross-sectional, analytical, and epidemiological study.

Participants

The study population consisted of adolescents of both sexes, aged 10 to 16, enrolled in morning and afternoon shifts of public schools in Montes Claros, northern Minas Gerais, Brazil.

Montes Claros is located in the northern part of Minas Gerais and is characterized by its geographic features (a transition zone between *cerrado* and *caatinga* biomes) and low socioeconomic indicators. The city serves as a regional hub for education, health, and commerce, among other sectors. With an estimated population of 410,000 inhabitants, the target population included 77,833 school students distributed across 63 public schools in the urban area of the city.

The sample size was determined based on an estimated prevalence of 0.50 for the outcome of interest, a 95% confidence level, and a 5% sampling error. To account for the design effect, a *deff* of 1.5 was adopted, and an additional 10% was added to compensate for potential losses. The calculations indicated that at least 634 individuals needed to be interviewed.

The sampling units were selected through two-stage cluster probability sampling. In the first stage, the population was selected using probability proportional to size (PPS) in schools representing the four regions of Montes Claros: North, South, East, and West. The study included public state schools offering elementary and high school education in Montes Claros, Minas Gerais. In the second stage, students were selected within each school through a random draw based on enrollment number, sex, and age stratification, applying simple random sampling. In cases of refusal to participate, the subsequent name on the enrollment list was chosen as a replacement.

Study Variables

Independent variables

A self-administered questionnaire was used for sociodemographic characterization, evaluation of diet, quality of life and body satisfaction. The sociodemographic variables investigated in this study included sex, age, family income, race/skin color, and parental marital status. Participants also answered questions about tobacco use. These variables were assessed through a form developed by the researchers themselves.

Dietary assessment was conducted using an adapted Food Frequency Questionnaire (FFQ), "Dietary and Nutrition Assessment – How is your diet?" from the Brazilian Ministry of Health, which includes the following categories: consumption of cereals, vegetables, fruits,

legumes, dairy products, meat and eggs, sugars, oils, water intake, and alcohol consumption (Brazil, 2013). In this study, only the questions of interest were used, covering aspects related to alcohol consumption, fruit consumption, and intake of fried/ultra-processed foods.

To investigate the variables associated with health-related quality of life, the validated KIDSCREEN-27 instrument was used (Farias Júnior et al., 2017). It comprises 27 items distributed across five domains: (1) physical health and well-being (5 items); (2) psychological well-being (7 items); (3) autonomy and relationship with parents (7 items); (4) social support and peers (4 items); and (5) school environment (4 items). All items are based on a Likert scale (never = 1, rarely = 2, often = 3, always = 4) (Farias et al., 2017). The variables were dichotomized into yes and no, with "never" responses categorized as "no", and the others (rarely, sometimes, often, and always) categorized as "yes". Body satisfaction was assessed with the following question: Do you like your body?

Dependent variable

The dependent variable selected for the study was alcohol consumption, which assessed whether the adolescent consumed alcohol or not. Thus, alcohol use among adolescents was defined as having consumed an alcoholic beverage at least once in their lifetime, regardless of frequency or quantity.

Statistical analysis

Data collection was conducted in loco at the schools by a trained and calibrated multidisciplinary team. All students selected by random draw were invited to participate. Students who were not present in the classroom at the time of the questionnaire administration, as well as those who did not provide a duly signed Informed Assent Form (IAF) and Informed Consent Form (ICF), were excluded from the study. A self-administered questionnaire was used for sociodemographic characterization, evaluation of diet, quality of life and body satisfaction.

The sociodemographic variables investigated in this study included sex, age, family income, race/skin color, and parental marital status. Participants also answered questions about tobacco use. These variables were assessed through a form developed by the researchers themselves.

Data were organized, audited, and analyzed using the Statistical Package for the Social Sciences (SPSS®), version 22.0. Simple frequencies and prevalence of variables related to alcohol consumption were presented. For the independent variables, bivariate analyses were performed using Pearson's chi-square test or Fisher's exact test. Poisson regression with robust variance was used to estimate crude prevalence ratios (PR) and 95% confidence intervals (95% CI). Only variables with a p-value ≤ 0.20 were initially selected for inclusion in the multiple Poisson regression model. The magnitude of associations was estimated using adjusted PR, 95% CI, and a significance level of 5% ($\alpha \leq 0.05$). Model quality was assessed using the Deviance test. Only variables that were significant in the bivariate analysis were included in the model, using the backward elimination method.

Ethical aspects

The study complied with the ethical requirements of Resolution 466/2012 of the National Health Council and was approved by the Research Ethics Committee (CEP/Unimontes, No. 1,503,680/ CAAE: 51040315.3.0000.5146). All study participants received and signed the Informed Assent and Informed Consent Forms (IAF and ICF).

Results

A total of 635 adolescents from the state public school system participated in the study, with a mean age of 13.82 (SD = 1.72). Most participants were female (60.2%), self-identified as brown/mixed race (57.5%), had a family income of up to three minimum wages (83.7%), identified as Catholic (54.4%), and were attending elementary school (60.0%) (Table 1).

Table 1

Characteristics of adolescents in the state public school system.

Variable	N	%
Age	(13.82 ± 1,72)	
10–11	87	13.7
12–13	174	27.4
14–15	259	40.8
16	115	18.1
Gender		
Male	253	39.8
Female	382	60.2
Skin color		
White	118	18.6
Brown	364	57.5
Yellow/Asian	21	3.3
Indigenous	20	3.2
Black	110	17.4
Family income		
Up to 3 minimum wages	517	83.7
3–10 minimum wages	76	12.3
10–20 minimum wages	12	1.9
More than 20 minimum wages	13	2.1
School grade		
Elementary	376	60.0
High School	251	40.0
Religion		
Not declared	39	6.2
Catholic	345	54.8
Evangelical	237	37.6
No religion	7	1.1
Mormon	1	0.2
Indigenous	1	0.2
Alcohol consumption		
No	515	82.1
Yes	112	17.9
Smoker		
No	623	98.4
Yes	9	1.4

The prevalence of alcohol consumption was 17.9% (95% CI: 14.9%–21.3%). Consumption was associated with age (higher among older adolescents), tobacco use (9.8% reported smoking), body dissatisfaction, lower frequency of leisure activities, and family income—the latter acting as a protective factor (Table 2).

Table 2

Bivariate analysis of alcohol use among adolescents and associated factors.

Variables	Drinks alcohol		PR_{Crude} (95% CI)	p-value
	No	Yes		
	n(%)	n(%)		
Gender				
Female	308(81.3)	71(18.7)	1	0.482
Male	207(83.5)	41(16.5)	0.88(0.62–1.25)	
Age				
10–11	80(94.1)	5(5.9)	1	**0.000**
12–13	155(91.2)	15(8.8)	1.5(0.56–3.98)	
14–15	196(76.3)	61(23.7)	4.03(1.67–9.71)	
16	84(73.0)	31(27.0)	4.58(1.85–11.29)	
Family income				
>3 minimum wages	76(76.0)	24(24.0)	1	0.077
Up to 3 minimum wages	427(83.4)	85(16.6)	0.69(0.46–1.03)	
Religion				
Yes	510(82.5)	108(7.5)	1	0.111
No	4(57.1)	3(42.9)	2.45(1.02–5.86)	
Parents' marital status				
Married or stable union	328(82.8)	68(17.2)	1	0.871
Single	68(791)	18(20.9)	1.21(0.76–1.93)	
Separated or divorced	96(82.1)	21(17.9)	1.04(0.67–1.62)	
Widowed	21(80.8)	5(19.2)	1.12(0.49–2.53)	
BMI				
Eutrophic	420(81.4)	96(18.6)	1	0.310
Overweight/obese	89(85.6)	15(14.4)	0.77(0.46–1.28)	
School grade				
Elementary	327(87.7)	46(12.3)	1	**0.000**
Medium	184(73.6)	66(26.4)	2.14(1.52–3.01)	
Smoker				
No	512(82.8)	106(17.2)	1	
Yes	3(33.3)	6(66.7)	3.88(2.37–6.36)	**0.002**
Are you doing well at school?				
Yes	503(82.6)	106(17.4)	1	**0.039**
No	10(62.5)	6(37.5)	2.15(1.11–4.15)	
Body satisfaction				
Yes	392(83.8)	76(16.2)	1	0.059
No	121(77.1)	36(22.9)	1.41(0.99–2.01)	

(continue)

Table 2

Bivariate analysis of alcohol use among adolescents and associated factors. (Continued)

Variables	Drinks alcohol		PR_{Crude} (95% CI)	p-value
	No	Yes		
	n(%)	n(%)		
Has your life been enjoyable?				
Yes	499(82.5)	106(28.6)	1	0.194
No	15(71.4)	6(28.6)	1.63(0.81–3.27)	
Do you have enough money?				
Yes	178(86.0)	29(14.0)	1	0.084
No	336(80.4)	82(19.6)	1.40(0.94–2.06)	
Have you felt lonely?				
No	233(84.7)	42(15.3)	1	0.130
Yes	281(80.1)	70(19.9)	1.30(0.92–1.85)	
Have you had fun?				
Yes	508(82.7)	106(17.3)	1	**0.001**
No	5(45.5)	6(54.5)	3.16(1.79–5.56)	
Do you eat fried/ultra-processed foods?				
No	225(85.2)	39(14.8)	1	0.079
Yes	288(79.8)	73(20.2)	1.36(0.96–1.95)	
Do you eat fruit?				
Yes	443(82.6)	93(17.4)	1	
No	71(78.9)	19(21.1)	1.12(0.78–1.88)	0.389
Do your parents have time for you?				
Yes	245(85.7)	41(14.3)	1	**0.040**
No	269(79.4)	70(20.6)	1.44(1.01–2.04)	

The results of the multivariate analysis, presented in Table 3, show that, with respect to age, the prevalence ratio for alcohol use increased from 1.5 among those aged 12–13 to 4.58 among those aged 16. Regarding tobacco use, the prevalence ratio was twice as high among smokers compared with non-smokers. Among adolescents dissatisfied with their bodies, the prevalence ratio was 1.42 times higher than among those satisfied with their body image. In addition, adolescents who reported not having fun showed a prevalence ratio 3.27 times higher than those who reported engaging in leisure activities. Finally, adolescents whose families reported a monthly income of up to three minimum wages had a 35% lower probability of consuming alcohol.

Table 3.

Adjusted prevalence ratios (PR) for alcohol consumption and associated factors.

Variables	$PR_{Adjusted}$ (95% CI)	p-value
Age		
10–11	1	**0.000**
12–13	1.28(0.48–3.39)	
14–15	3.48(1.44–8.40)	
16	4.06(1.64–10.05)	
Family income		
>3 minimum wages	1	**0.034**
Up to 3 minimum wages	0.65(0.44–0.95)	
Do you smoke?		
No	1	**0.013**
Yes	2.18(1.18–4.03)	
Body satisfaction		
Yes	1	**0.047**
No	1.42(1.04–2.02)	
Have you had fun?		
Yes	1	**0.000**
No	3.27(1,76–6,10)	

Discussion

This study examined the risk and protective factors associated with alcohol use among adolescents, identifying a prevalence of 18%. Among the risk factors, alcohol use was found to increase with age and was more frequent among adolescents who smoked, reported body dissatisfaction, and did not engage in leisure activities. Conversely, a protective factor identified was family income, with a lower prevalence of alcohol use among adolescents whose families earned up to three minimum wages.

A study conducted in Mexico reported an alcohol prevalence of 38% among adolescents aged 13 to 19 in secondary education (Villa-Rivas et al., 2021); while Deodato *et al*. (2017) found a prevalence of 19.5% in Lisbon among children and adolescents aged 9 to 13, similar to what was observed in the present study.

Youth alcohol use has become a growing concern in several countries, and both Portugal and Mexico have implemented public policies focused on preventing and reducing alcohol consumption among adolescents.

In Portugal, a significant example of intervention is the IVDP+Educa project, developed by the *Instituto dos Vinhos do Douro e do Porto* (IVDP) in collaboration with the Ministries of Agriculture and Education. Launched in 2023, the project aims to promote responsible alcohol consumption among high school students, using wine culture as an educational tool. This strategy has proven effective in reducing risk behaviors and was recognized with the National Bioethics Award, highlighting its innovation and impact on the prevention of youth alcoholism (Health News, 2023).

In the Mexican context, the "Para vivir sin adicciones" program, implemented by the *Centros de Integración Juvenil* (CIJ), stands out as a relevant public policy. The intervention is based on a hierarchical approach with actions at three levels—universal, selective, and indicated—each

tailored to the conditions and characteristics of the youth population. In addition, fiscal policies such as increasing the price of alcohol and restricting advertising have been adopted, in line with recommendations from the Organisation for Economic Co-operation and Development (OECD), aiming to reduce alcohol consumption among adolescents (Publico, 2023).

Both initiatives demonstrate a commitment to the implementation of integrated and multidimensional strategies to combat youth alcoholism, aligning with international best practices and reinforcing the need for innovative public policies to address this public health issue.

At the national level, a study conducted in Pernambuco with 643 adolescents aged 12 to 18 years enrolled in public schools found a prevalence of alcohol consumption similar to that of the present study, at 16.5% (Beserra et al., 2019). However, higher results have been observed in other investigations, such as the study by Ferreira et al. (2022), which identified a prevalence of 47.5% among adolescents aged 14 to 19 attending public high schools in Paraíba; and the study by Santos et al. (2021), which found a rate of 44.1% among adolescents aged 11 to 19 enrolled in municipal schools in rural areas of Pelotas/SC. These variations may be related to the methodology used for measurement, the region where the study was conducted, and, most importantly, the profile of the population investigated (Vieira et al., 2019).

The findings indicate that the variable most strongly associated with alcohol use among adolescents was age, which is consistent with the literature (Bezerra et al., 2021; Cardoza et al., 2020; Silva et al., 2021). Alcohol consumption among adolescents tends to increase with advancing age.

Studies have shown that the older the adolescent, the higher the prevalence of alcohol use for both sexes, which may indicate the persistence of consumption among those who began drinking early, as well as the initiation of new users over time (Coutinho et al., 2016). According to Santos *et al*. (2021), as adolescents grow older, the adoption and accumulation of unhealthy habits may be explained by the reduced social boundaries imposed by parents/guardians, increased autonomy, and the influence exerted by the media and the environment in which they are embedded.

In Brazil, a national survey conducted in 2019 found that 63.3% of students aged 13 to 17 had tried alcoholic beverages, ranging from 55.9% among students aged 13 to 15 to 76.8% among students aged 16 and 17 (IBGE, 2019). These data suggest that most students begin trying alcoholic beverages before the age of 18, even though their sale and consumption are illegal in Brazil (Vieira et al., 2019).

The results of this study identified an association between alcohol and tobacco use, with tobacco consumption doubling the likelihood of alcohol use, corroborating the findings of Cardoza *et al*. (2020) and Bowden *et al*. (2017). The literature describes the simultaneous exposure to risk behaviors, such as the concurrent use of alcohol and tobacco, indicating that when adolescents begin using one substance, the risk of initiating another increases (Bowden et al., 2017; Cardoza et al., 2020).

Furthermore, a positive relationship exists between alcohol and tobacco, suggesting that alcohol consumption may encourage tobacco use (Rocha & Velasquez-Melendez, 2019). The consumption of these substances during adolescence is strongly influenced by the social environment in which young people are embedded, often driven by the pursuit of social approval and by attempts to cope with the conflicts typical of this stage of life (Silva et al., 2021).

In the present study, an association was observed between alcohol use and family income. Adolescents from families earning up to three minimum wages showed a lower prevalence of alcohol use. However, the literature does not present a consensus regarding the relationship between socioeconomic status and alcohol consumption among adolescents. Some studies have linked consumption to higher socioeconomic conditions (Wendt et al., 2021), others to lower socioeconomic levels (Jorge et al.,2017), and still others have found no association at all (Reis & Oliveira, 2015).

This study also found that adolescents who reported dissatisfaction with their bodies were more likely to consume alcohol. Dissatisfaction with body weight is common during adolescence and may be associated with alcohol use. International studies indicate that this association occurs only among girls (Jones et al., 2018; Xie et al., 2006). However, other studies did not find statistically significant associations between alcohol consumption and body image dissatisfaction (Guimarães et al., 2019; Rocha et al., 2022).

Engaging in leisure activities positively influences adolescents' quality of life and well-being by fostering positive feelings and healthy lifestyle habits, which serve as protective factors. However, participation in leisure activities among adolescents remains low. A study conducted with high school students in Mato Grosso do Sul found that more than half of the adolescents did not engage in leisure activities, and such practices were associated with higher quality of life, greater subjective well-being, and lower depression scores (Marcino et al., 2022). In the present study, it was noted that adolescents who reported not having fun showed a higher prevalence ratio of alcohol use.

Alcohol consumption during adolescence represents a public health concern, with implications for physical, emotional, educational, and family development. The prevalence of alcohol use among the adolescents in this study was lower than that observed in the Brazilian population overall. It is important to highlight the lack of standardization in the literature on this topic, particularly regarding the age groups studied and the type and pattern of consumption among adolescents, which complicates data comparison.

This study has some limitations that should be considered when interpreting the results. First, the cross-sectional design allows the observation of associations between the variables investigated but does not permit inference of causality between the outcome variable and the independent variables. In addition, the dependent variable, "alcohol consumption at least once in a lifetime," does not allow differentiation between occasional experimentation and harmful patterns of consumption, such as abusive or recurrent use. Furthermore, the study included only adolescents from the public state school system, which limits the generalizability of the findings

to adolescents from private schools, other types of education, or those outside the school environment. Self-reporting also represents a limitation, as it is subject to social desirability bias and recall bias. Finally, there may have been underrepresentation of adolescents who were absent on the day of data collection. Despite these limitations, the study benefits from a large, probabilistic, and representative sample and provides relevant and up-to-date data that can inform public policies and interventions aimed at promoting adolescent health.

The dissemination of the information obtained is expected to encourage reflection among families, teachers, and administrators who work with adolescents. Additionally, it is important to emphasize the need for further research within the scientific community to investigate alcohol prevalence and its associated factors in this unique age group. This study also highlights the importance of preventive interventions with adolescents, promoting healthy habit changes and the adoption of a healthy lifestyle that will have long-term benefits for their future.

References

Almeida, C. S. D., Abreu, M. N. S., Andrade, S. N., & Lana, F. C. F. (2021). Fatores associados ao uso de álcool por adolescentes. *Texto & Contexto-Enfermagem*, *30*(1), 100-110. https://doi.org/10.1590/1980-265X-TCE-2019-0008

Aiken, A., Clare, P. J., Wadolowski, M., Hutchinson, D., Najman, J. M., Slade, T., ... & Mattick, R. P. (2018). Age of alcohol initiation and progression to binge drinking in adolescence: a prospective cohort study. *Alcoholism: clinical and experimental research*, *42*(1), 100-110. https://doi.org/10.1111/acer.13525

Beserra, M. A., Carlos, D. M., Leitão, M. N. D. C., & Ferriani, M. D. G. C. (2019). Prevalence of school violence and use of alcohol and other drugs in adolescents. *Revista Latino-Americana de Enfermagem*, *27*(1), 10-15. https://doi.org/10.1590/1518-8345.2124.3110

Bowden, J. A., Delfabbro, P., Room, R., Miller, C. L., & Wilson, C. (2017). Prevalence, perceptions and predictors of alcohol consumption and abstinence among South Australian school students: a cross-sectional analysis. *BMC public health*, *17*(1), 1-11. https://doi.org/10.1186/s12889-017-4475-5

Bezerra, M. K. D. A., Carvalho, E. F. D., Oliveira, J. S., Cesse, E. Â. P., Lira, P. I. C. D., Cavalcante, J. G. T., & Santos, M. P. (2021). Estilo de vida de adolescentes estudantes de escolas públicas e privadas em Recife: ERICA. *Ciência & Saúde Coletiva*, *26*(1), 221-232. https://doi.org/10.1590/1413-1232020261.34622018

Cardoza, L. S., Machado, C. O., Santos, C. T. D., & Höfelmann, D. A. (2020). Disponibilidade de locais de venda de álcool na vizinhança de escolas e consumo de álcool entre adolescentes. *Cadernos de Saúde Pública*, *36*(12), 90-98. https://doi.org/10.1590/0102-311X00062919

Coutinho, E. S. F., França-Santos, D., Magliano, E. D. S., Bloch, K. V., Barufaldi, L. A., Cunha, C. D. F., ... & Szklo, M. (2016). ERICA: patterns of alcohol consumption in Brazilian adolescents. *Revista de Saúde Pública*, *50*(12), 80-89. https://doi.org/10.1590/S01518-8787.2016050006684

Deodato, S., Nunes, E., Capelas, M., Seabra, P., Sarreira-Santos, A., & Medeiros-Garcia, L. (2017). Comportamentos de risco relacionado com o consumo de substâncias psicoativas em crianças e jovens da cidade de Lisboa. *Enfermería Global*, *30*(2), 1-12. https://doi.org/10.6018/eglobal.16.3.253011

Farias Júnior, J. C. D., Loch, M. R., Lima Neto, A. J. D., Sales, J. M., & Ferreira, F. E. L. D. L. (2017). Reprodutibilidade, consistência interna e validade de construto do KIDSCREEN-27 em adolescentes brasileiros. *Cadernos de Saúde Pública*, *33*(12), 100-110. https://doi.org/10.1590/0102-311X00131116

Ferreira, B. V. O., Souza, J. S., Chaves, L. C. M. R., Frazão, I. S., Brito, V. C. N. G., & França, V. V. (2022). Atitudes de adolescentes escolares sobre o consumo de álcool e outras drogas: estudo transversal. *Rev Baiana Enferm*, *36*(1), 1-12. https://doi.org/10.18471/rbe.v36.44908

Grigsby, T. J., Forster, M., Unger, J. B., & Sussman, S. (2016). Predictors of alcohol-related negative consequences in adolescents: A systematic review of the literature and implications for future research. *Journal of Adolescence*, *48*(1), 18-35. https://doi.org/10.1016/j.adolescence.2016.01.006

Guimarães, B. E. D. B., Aquino, R., Prado, N. M. D. B. L., & Rodrigues, P. V. A. (2019). O consumo excessivo de álcool e a insatisfação com a imagem corporal por adolescentes e jovens de um município baiano, Brasil. *Cadernos de Saúde Pública*, *36*(1), 100-112. https://doi.org/10.1590/0102-311X044919

HEALTH NEWS. Projeto de combate ao alcoolismo entre os mais jovens conquista Prémio Nacional de Bioética. HealthNews, 24 nov. 2023. Disponível em: https://healthnews.pt/2023/11/24/projeto-de-combate-ao-alcoolismo-entre-os-mais-jovens-conquista-premio-nacional-de-bioetica/. Acesso em: 2 maio 2025.

Instituto Brasileiro de Geografia e Estatística (2021). Coordenação de População e Indicadores Sociais. *Pesquisa nacional de saúde do escolar*: *2019*.

Jorge, K. O., Ferreira, R. C., Vale, M. P., Kawachi, I., & Zarzar, P. M. (2017). Binge drinking and associated factors among adolescents in a city in southeastern Brazil: a longitudinal study. *Cadernos de Saúde Pública*, *33*(1), 1-10. https://doi.org/10.1590/0102-311X00183115

Jones, A., Winter, V. R., Pekarek, E., & Walters, J. (2018). Binge drinking and cigarette smoking among teens: Does body image play a role?. *Children and Youth Services Review*, *91*(2), 232-236. https://doi.org/10.1186/s12889-021-10158-4

Marcino, L. F., Giacon-Arruda, B. C. C., Teston, E. F., Souza, A. S. D., Marcheti, P. M., Lima, H. D. P., ... & Aratani, N. (2022). Prática de lazer em adolescentes e fatores associados: implicações para o cuidado. *Acta Paulista de Enfermagem*, *35*(1), 1-10. https://doi.org/10.37689/acta-ape/2022AO02041

Ministério da Saúde (2013). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. *Guia Alimentar. Como ter uma alimentação saudável*.

Neves JVV da S, Carvalho LA de, Carvalho MA de, Silva ÉTC, Alves MLTS, Silveira MF, Silva RRV, Almeida MTC. Uso de álcool, conflitos familiares e supervisão parental entre estudantes do ensino médio. *Ciênc. saúde coletiva*. 2021;26(10):1-10. https://doi:10.1590/1413-812320212610.22392020.

Organização Organização Pan-Americana da Saúde (2018). *Ação Global Acelerada para a Saúde de Adolescentes (AA-HA!): guia de orientação para apoiar a implementação pelos países*.

Paiva HN, Silva CJP, Galo R, Zarzar PM, Paiva PCP. Association between use of licit and ilicit drugs, sex, and socioeconomic status among 12-years-old adolescents. Cad Saúde Colet [Internet]. 2018 [cited 2022 Jan 20];25(2):153-9. https://doi.org/10.1590/1414-462X201800020048

Peuker ACW, Caovilla JD, Costa CB, Mosmann CP. Uso de álcool e outras drogas por adolescentes: associações com funcionamento familiar. *Psicol Clín*. 2020;32(2):315–334. Disponível em: https://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S0103-56652020000200007

PÚBLICO. Políticas de preço e fim da publicidade podem ajudar a reduzir o consumo de álcool. Público, 15 jun. 2023. Disponível em: https://www.publico.pt/2023/06/15/sociedade/noticia/politicas-preco-fim-publicidade-podem-ajudar-reduzir-consumo-alcool-2053437. Acesso em: 2 maio 2025.

Reis, T. G. D., & Oliveira, L. C. M. D. (2015). Padrão de consumo de álcool e fatores associados entre adolescentes estudantes de escolas públicas em município do interior brasileiro. *Revista Brasileira de Epidemiologia*, *18*(1), 13-24. https://doi.org/10.1590/1980-5497201500010002

Rocha, F. L., & Velasquez-Melendez, G. (2019). Simultaneity and aggregation of risk factors for noncommunicable diseases among brazilian adolescents. *Escola Anna Nery*, *23*(1), 100-110. https://doi.org/10.1590/2177-9465-EAN-2018-0320

Rocha, R. P., Galvão, P. P. D. O., Sanchez, Z. V. D. M., Rebouças, L. N., Castro Júnior, A. R. D., Santos, L. E. S. D., ... & Gubert, F. D. A. (2022). Insatisfacción con la imagen corporal, uso de drogas y factores asociados entre adolescentes en tres ciudades brasileñas. *Revista Latino-Americana de Enfermagem*, *30*(1), 1-12. https://doi.org/10.1590/1518-8345.6163.3662

Santos, F. B. D., Schneider, B. C., Valença, M. S., Peter, N. B., & Muniz, L. C. (2021). Fatores de risco comportamentais para doenças cardiovasculares entre adolescentes da zona rural de um município do Sul do Brasil. *Cadernos de Saúde Pública*, *37*(9), 50-59. https://doi.org/10.1590/0102-311X00241119

Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D. & Patton, G. C. (2018). *The age of adolescence*. The Lancet Child & Adolescent Health, 2(3), 223–228.

Scholze AR, Martins JT, Galdino MJQ, Prezotto KH, Zanatta LF. Consumo de álcool entre jovens e adolescentes do Movimento Sem Terra. *J Nurs Health*. 2020;10(1):e20101007. Disponível em: https://periodicos.ufpel.edu.br/index.php/enfermagem/article/view/18107

Silva, M. P. D., Fantineli, E. R., Bacil, E. D. A., Piola, T. S., Malta Neto, N. A., & Campos, W. D. (2021). Modificações do consumo de cigarros e bebidas alcoólicas em adolescentes de Curitiba, Paraná: um estudo longitudinal. *Ciência & Saúde Coletiva*, *26*(1), 2365-2377. https://doi.org/10.1590/1413-812320212666.14552019

Vieira, I. S., Andrade, M. E. D., Torales, A., Oliveira, W. D., Silva, R. D., & Albuquerque, J. R. (2019). Fatores associados a experimentação do álcool entre adolescentes escolares. *Psicologia, Saúde & Doenças*, *20*(2), 414-423. https://doi.org/10.1590/1414-462X201600030037

Villa-Rivas, F., Castillo-Díaz, R., Velázquez-Hernández, N., & Montelongo-Lugo, J. D. (2021). Características resilientes y consumo de alcohol en adolescentes que viven en situación vulnerable/Resilient characteristics and alcohol consumption in adolescents living in a vulnerable situation/Características de resiliência e consumo de álcool em adolescentes em situação de vulnerabilidade. *Journal Health NPEPS*, *6*(1), 100-115. https://doi.org/10.30681/252610105017

Wendt, A., Costa, C. S., Costa, F. S., Malta, D. C., & Crochemore-Silva, I. (2021). Análise temporal da desigualdade em escolaridade no tabagismo e consumo abusivo de álcool nas capitais brasileiras. *Cadernos de Saúde Pública*, 37(1), 1-10. https://doi.org/10.1590/0102-311X00050120

Xie, B., Chou, C. P., Spruijt-Metz, D., Reynolds, K., Clark, F., Palmer, P. H., ... & Johnson, C. A. (2006). Weight perception and weight-related sociocultural and behavioral factors in Chinese adolescents. *Preventive medicine*, 42(3), 229-234. https://doi.org/10.1016/j.ypmed.2005.12.013

Contribution of each author to the work:

Verônica Isabel Veloso Fonseca Antunes: Conceptualization, Data Curation, Formal Analysis, Methodology, Project Administration, Writing - Original Draft Preparation, Review & Editing.

Rene Ferreira da Silva Junior: Project Administration, Writing - Original Draft Preparation, Review & Editing.

Joanilva Ribeiro Lopes: Project Administration, Writing - Original Draft Preparation, Review & Editing.

Sélen Jaqueline Souza Ruas: Project Administration, Writing - Original Draft Preparation, Review & Editing.

Clara de Cássia Versiani: Project Administration, Writing - Original Draft Preparation, Review & Editing.

Victor Hugo Dantas Guimarães: Project Administration, Writing - Original Draft Preparation, Review & Editing.

Carla Silvana de Oliveira e Silva: Project Administration, Writing - Original Draft Preparation, Review & Editing.