

# Alcohol and tobacco use in Portuguese adolescents: The relationship with social factors, future expectations, physical and psychological symptoms

Ana Cerqueira<sup>1,2,3</sup>  | Tania Gaspar<sup>1,3</sup> | Fábio Botelho Guedes<sup>1,2,3</sup> |  
Emmanuelle Godeau<sup>4,5</sup> | Margarida Gaspar de Matos<sup>1,6</sup>

<sup>1</sup>Institute of Environmental Health (ISAMB)/Aventura Social/Faculty of Medicine, University of Lisbon (FMUL), Lisbon, Portugal

<sup>2</sup>Faculty of Human Kinetics, University of Lisbon/FMH-UL, Lisbon, Portugal

<sup>3</sup>Lusiada Center for Research in Social Work and Social Intervention (CLISSIS), Lusiada University of Lisbon, Lisbon, Portugal

<sup>4</sup>French School of Public Health, EHESP, Rennes, France

<sup>5</sup>CERPOP, UMR 1295, unité mixte UMR INSERM, Université Toulouse III Paul Sabatier, Team SPHERE, Toulouse, France

<sup>6</sup>APPSYci, ISPA, University Institute, Lisbon, Portugal

## Correspondence

Ana Cerqueira, Institute of Environmental Health (ISAMB)/Aventura Social/Faculty of Medicine, University of Lisbon (FMUL), Lisbon, Portugal.  
Email: cerqueira.apm@gmail.com

## Abstract

The influence that social factors (relationship with teachers, peers and family support), future expectations, physical and psychological symptoms exert on the adolescents' tobacco and alcohol consumption is analyzed, and the differences between users and non-users are analyzed as well. This work is part of the HBSC study. The results show that substance use is associated with more physical and psychological symptoms, worse relationship with teachers and peers, less family support, and lower future expectations. It is important to intervene towards the construction of more positive future expectations and relationships and the promotion of physical and psychological well-being, as protective factors against substance use.

## KEYWORDS

adolescence, alcohol, family, future expectations, mental health, peers, school, tobacco

## INTRODUCTION

It is during adolescence that young people acquire new learnings, knowledge and skills that will allow them to have an adjusted and successful transition into adulthood and prepare them for the new challenges associated with it. Adolescents are inserted in a certain cultural, social and family context while they develop their own identity (Dahl et al., 2018).

There is evidence that this stage of development is more prone to the involvement in risk behaviours, such as alcohol and tobacco consumption (Balaguer et al., 2017; Duell & Steinberg, 2019; Knoll et al., 2015). In addition, the search for new experiences also tends to increase during this developmental stage, which can be associated with increased involvement in risk behaviors (Duell & Steinberg, 2019; Patrick & Schulenberg, 2014; Sznitman & Engel-Yeger, 2017).

The development of this type of risk behaviours has negative repercussions on the adolescents' health (Janáček et al., 2021; Lewis & Russel, 2014; MacArthur et al., 2016; Patterson et al., 2020), which appears to be associated with an increase in morbidity and mortality and constitutes a considerable challenge for the public health. Substance use (i.e., alcohol, tobacco and drugs) has physical, mental and social consequences. It has a considerable impact on the individual, the family and the community in general (Das et al., 2016; Sudhinaraset et al., 2016), and it contributes to a low school performance, injuries and violence, and sexual risk behaviours, among other adverse aspects (Sznitman & Engel-Yeger, 2017).

Alcohol and tobacco consumption during adolescence is a very relevant concern with regard to public health, and it remains a serious challenge even if it has been addressed by public policies and in general tends to decrease at least at a European level (Ansari-Moghaddam et al., 2016; ESPAD Group, 2020; Inchley et al., 2020).

It is essential for adolescents to develop the ability to adapt to all the changes and challenges that are common in this phase of development and to learn strategies to deal with adversity. During adolescence, there is a greater susceptibility to experimentation with alcohol and tobacco and coping mechanisms can influence the involvement in this type of behaviour. Evidence in the literature points to coping strategies as a protective factor against substance use (Gallupe, 2014; McConnell et al., 2014).

There are several risk factors with regard to substance use by adolescents, namely, (a) socio-demographic variables (e.g., gender, age, socioeconomic status), (b) family variables, (c) variables associated with the peer group, (d) personal characteristics and (e) behavioural variables (Guillén et al., 2015). Regarding the family context, the existence of a good relationship between members, cohesion, and proximity are protective factors regarding adversity (Fosco et al., 2012; Gordon et al., 2020; Guillén et al., 2015; van Ryzin et al., 2012). Parental monitoring and support appear to be a protective factor for alcohol and tobacco consumption in adolescents (Bahr & Hoffman, 2010; Chaplin et al., 2012; Gutman et al., 2011; Ryan et al., 2010; Sudhinaraset et al., 2016), even when the peer group is composed of users (Bahr & Hoffman, 2010). There is evidence that negative relationships with parents and peers tend to result in feelings of loneliness and unhappiness, which is reflected in a decrease in the adolescents' psychological well-being (Cerqueira et al., 2019; Tomé et al., 2015).

The relationship with the peer group is an aspect that gains special relevance during adolescence, and young people tend to spend more time with their peers than with their families (van Hoorn et al., 2016; Knoll et al., 2015). The influence that the peer group has on the adolescents can be positive or negative and can cause both protective and health risk behaviours (van Hoorn et al., 2016; Wang et al., 2017).

According to the theory of social learning (Bandura, 1986), the adolescents acquire social behaviour by observing the behaviour of peers and the rewards they receive for behaving in a certain way. In addition, the adolescents' perception of risk is also shaped by their friends' opinions. This influence became even more significant with the emergence of the social media and social networks, which can shape the ideas and opinions regarding the topic of health and lifestyle (Sawyer et al., 2018).

Adolescents move through different contexts in their daily lives and all of them can be a source of influence for their mental health and well-being. Some examples of these contexts are the family, the peer group and the school. On the one hand, the existence of a good relationship between all the actors present in these contexts is an aspect that can improve the adolescents' psychosocial development and emotional well-being (Choi, 2018; Gaspar et al., 2018; Tomé et al., 2012). On the other hand, the poor relationships between students and teachers, poor academic performance, and lack of interest and/or school motivation are some of the factors that are associated with substance use, in the same way as poor relationship with parents and the poor relation with friends, or association with friends who are consumers (Choi, 2018; Gaspar et al., 2018; Marschall-Lévesque et al., 2014; Sawyer et al., 2018; Tomé et al., 2012).

It is also during adolescence that the expectations and aspirations begin to consolidate, namely, in relation to the academic and professional path (Beal & Crockett, 2013). There is evidence in the literature that points to an association between future expectations and behavioural problems. Thus, adolescents with a more negative view of the future tend to be more susceptible regarding the involvement in risk behaviours, such as alcohol and tobacco consumption (Chen & Vazsonyi, 2013; McDade et al., 2011; Steiger et al., 2017).

Future expectations are an important component regarding the development of the adolescents' identity and can exert influence in terms of the behavioural change based on the assessment made when future results are considered (Johnson et al., 2014). These expectations can be influenced by disadvantaged situations (e.g., social, economic) experienced by the young people, which has repercussions in terms of how they face the future, health and risks and how they make decisions. There is evidence that points to the association between negative future expectations and involvement in risk behaviors. In addition, it appears that the relationship between substance use and a decrease in positive expectations is reciprocal, with a negative reinforcement cycle between these two variables (i.e., substance use during adolescence contributes to less positive future expectation which, in turn, reinforces the substance use) (Prince et al., 2016).

This study aims to analyze the influence that social factors (relationship with teachers, relationship with peers and family support), future expectations and physical and psychological symptoms have on tobacco and alcohol use among Portuguese adolescents. In addition, it also intends to explore the differences between adolescents with and without consumption of these substances with regard to these variables.

## METHOD

This work is linked to the study Health Behavior in School aged Children/HBSC (Inchley et al., 2016; Matos et al., 2018). The HBSC is a study developed in collaboration with the World Health Organization (WHO) and consists of a survey carried out every 4 years in 44 countries, following an international protocol (Inchley et al., 2020; Roberts et al., 2009). The HBSC aims to study the adolescents' behaviour in their life contexts and their influence on their health/well-being.

The protocol includes questions about demographic aspects, family, school, friends, health, well-being, sexuality, food, leisure, sleep, physical inactivity, physical activity, substance and medication use, violence, use of technologies, migration and social participation. HBSC has been held since 1982, with Portugal included since 1998 ([www.aventurasocial.com](http://www.aventurasocial.com)). In Portugal, the HBSC 2018 study was approved by the Ethics Committee and MIME (Monitoring of School Surveys). The study includes students from the 6th, 8th, 10th and 12th years, from the various school groups that agreed to participate. Informed consent was obtained from parents or legal guardians, and responses to the survey (online) were voluntary and anonymous.

## Participants

A total of 8215 students participated in this study, 4327 of whom were female (52.7%), aged between 10 and 22 years old and with an average age of 14.36 years ( $SD = 2.28$ ). The participants were randomly selected from the list of schools in the five regions of Portugal (North, Center, Lisbon and Tagus Valley, Alentejo and Algarve).

## Measures and variables

Considering the objective of this study, the variables present in Table 1 were considered.

## Data analysis

Data analysis was performed using SPSS (Statistical Package for the Social Sciences), version 24 for Windows. To explore the relationships between the variables in this study, the existing correlations were analyzed using Pearson's correlation coefficient. The correlations were analyzed considering the reference values of Cohen (1988). Then, through the analysis of variance (ANOVA), it was intended to verify whether there were differences between the adolescents with and without tobacco and alcohol use, with regard to physical and psychological symptoms, relationship with teachers and peers, family support and future expectations. Finally, the binary logistic regression model was used to explore which variables were related to the adolescents' tobacco and alcohol use.

## RESULTS

Regarding the correlations between the various variables under study (Table 2), a significant relationship between all variables can be observed. The strongest correlations occur between drunkenness and tobacco ( $r = 0.54$ ) and alcohol consumption ( $r = 0.48$ ). Tobacco also has a positive relationship with alcohol ( $r = 0.47$ ). There is a negative relationship between substance use (i.e., tobacco and alcohol) and physical symptoms, psychological symptoms (higher value, less symptoms), relationship with teachers, relationship with peers, family support and future expectations. Thus, the consumption of these substances is reflected in more physical and psychological symptoms, worse relationship with teachers, worse relationship with peers, less family support, and lower future expectations.

**TABLE 1** Measures and variables under study

Variables	Measure
Gender	1—Male; 2—Female.
Tobacco use	1—No; 2—Yes (Recoded variable: 1—Never; 2—From 1 to 30 or more days).
Alcohol use	1—No; 2—Yes (Recoded variable: 1—Never; 2—From 1 to 30 or more days).
Drunkenness	1—No; 2—Yes (Recoded variable: 1—No, never; 2—Yes, from 1 to more than 10 times).
Psychological symptoms	Scale with four items (nervousness, irritability or bad mood, sadness/feeling “low” and fear), on a five-point Likert scale (1—almost every day and 5—rarely or never). Minimum score of 4 and maximum of 20. Higher values reveal fewer psychological symptoms.
Physical symptoms	Scale with five items (back pain; neck pain, headache, dizziness and stomach pain), on a five-point Likert scale (1—almost every day and 5—rarely or never). Minimum score of 5 and maximum of 25. Higher values reveal fewer physical symptoms.
Future expectations	Scale adapted from Cantril (1965) consisting of 11 steps (Min. 0—Max. 10). Higher values show a good future expectation.
Relationship with teachers	Scale with 3 items, on a Likert scale of 5 points (1—strongly agree and 5—strongly disagree). A minimum score of 3 and a maximum of 15. Higher values reveal a better relationship with teachers.
Relationship with peers	Scale with 3 items, on a 5-point Likert scale, (1—strongly agree and 5—strongly disagree). A minimum score of 3 and a maximum of 15. Higher values reveal a better relationship with peers.
Family support	Scale with 4 items, on a 7-point Likert scale (1—Strongly disagree and 7—Strongly agree). Minimum score of 4 and maximum of 28. The higher the value, the greater the family support.

With regard to drunkenness, the highest correlations are with physical symptoms ( $r = 0.18$ ), psychological symptoms ( $r = 0.18$ ), relationship with teachers ( $r = 0.17$ ) and family support ( $r = 0.19$ ), although all correlations are low. All correlations are negative.

Physical symptoms have a strong and positive relationship with psychological symptoms ( $r = 0.54$ ) and the relationship with teachers have a moderate association with the relationship with peers ( $r = 0.36$ ). Future expectations present a low relationship with regard to psychological symptoms ( $r = 0.27$ ), relationship with teachers ( $r = 0.25$ ) and family support ( $r = 0.28$ ).

Regarding tobacco use, we found significant differences between groups in all the variables, with higher values among the adolescents who do not consume tobacco (Table 3). Thus, the students who do not smoke have better future expectations, greater family support, better relationships with peers and teachers, and less physical and psychological symptoms (higher value, less symptoms). The differences have a small effect size (ES) for future expectations and for the relationship with peers, while the other variables have a medium effect size.

Regarding alcohol use, we find significant differences between groups, in all variables (Table 4). As in the case of tobacco use, all variables also present higher values for students who do not consume alcohol. The differences have an effect size (ES) similar to smoking.

An adjusted logistic regression model was performed (Hosmer and Lemeshow  $\chi^2 = 37\ 704$  (8)  $p < .001$ ) (Table 5), and the regression equation explained 19.5% of the variance (Nagelkerke  $R^2 = 0.195$ ) in tobacco consumption of all the variables included to explain the tobacco use: only

TABLE 2 Descriptive statistics and correlations between study variables

	1	2	3	4	5	6	7	8	9
1. Tobacco	–								
2. Alcohol	0.47***	–							
3. Drunkenness	0.54***	0.48***	–						
4. Physical symptoms	–0.16***	–0.17***	–0.18***	–					
5. Psychological symptoms	–0.18***	–0.20***	–0.18***	0.54***	–				
6. Relationship with teachers	–0.19***	–0.22***	–0.17***	0.21***	0.27***	–			
7. Relationship with peers	–0.12***	–0.10***	–0.09***	0.17***	0.24***	0.36***	–		
8. Family support	–0.20***	–0.19***	–0.19***	0.28***	0.31***	0.25***	0.19***	–	
9. Future expectations	–0.13***	–0.16***	–0.12***	0.21***	0.27***	0.25***	0.16***	0.28***	–

Note: \*\*\* $p < .001$ ; \*\* $p < .01$

the future expectations and the relationship with peers did not show significant results. The model was controlled for age and gender.

Physical symptoms (OR = 0.87, 95% CI:0.79–0.97,  $p = .011$ ), psychological symptoms (OR = 0.88, 95% CI:0.81–0.96,  $p = 0.003$ ), family support (OR = 0.97, 95% CI:0.96–0.98,  $p < 0.001$ ) and the relationship with teachers (OR = 0.90, 95% CI: 0.88–0.93,  $p < .001$ ) are directly associated with tobacco consumption.

**TABLE 3** ANOVA—Differences in means between young people with and without tobacco use

	Tobacco use (no)		Tobacco use (yes)		<i>F</i>	<i>ES</i>
	<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>		
Future expectations	7.37	1.85	6.78	2.11	81.13***	0.14
Family support	24.45	6.01	21.11	7.62	307.98***	0.28
Relationship with peers	11.93	2.33	11.20	2.69	105.66***	0.16
Relationship with teachers	11.50	2.42	10.25	2.69	291.73***	0.27
Physical symptoms	4.35	0.74	4.02	0.93	203.88***	0.22
Psychological symptoms	3.90	1.00	3.40	1.13	265.41***	0.26

Note: \*\*\* $p < .001$ .

**TABLE 4** ANOVA—Differences in means between young people with and without alcohol use

	Alcohol use (no)		Alcohol use (yes)		<i>F</i>	<i>ES</i>
	<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>		
Future expectations	7.57	1.85	6.95	1.94	124.62***	0.18
Family support	24.89	5.89	22.43	6.91	278.31***	0.26
Relationship with peers	12.01	2.35	11.51	2.47	81.48***	0.14
Relationship with teachers	11.75	2.42	10.61	2.50	416.81***	0.32
Physical symptoms	4.41	0.72	4.13	0.84	239.78***	0.24
Psychological symptoms	3.99	0.98	3.56	1.08	334.60***	0.29

Note: \*\*\* $p < .001$ .

**TABLE 5** Logistic regression—Variables associated with the tobacco use (dependent variable)

	OR (95% CI)	<i>p</i>
Physical symptoms	0.87 (0.79–0.97)	.011
Psychological symptoms	0.88 (0.81–0.96)	.003
Future expectations	10.00 (0.97–10.04)	.816
Relationship with peers	0.97 (0.94–10.00)	.053
Family support	0.97 (0.96–0.98)	<.001
Relationship with teachers	0.90 (0.88–0.93)	<.001
Constant	0.02	<.001

Note: The results were adjusted for age and gender.

The variables were entered using the “enter” mode.

The second model of logistic regression performed (Hosmer and Lemeshow  $\chi^2 = 43\,489$  (8)  $p = .000$ ) (Table 6) explains 21.2% of the variance (Nagelkerke  $R^2 = 0.212$ ) in alcohol consumption. Of all the variables included in this explanatory model of the Portuguese adolescents' alcohol use, the only one that did not show significant results was the relationship with peers. The variables age and gender are variables of adjustment of the model.

Physical symptoms (OR = 0.87, 95% CI: 0.79–0.96,  $p = .005$ ), future expectations (OR = 0.95, 95% CI: 0.91–0.98,  $p = .003$ ), psychological symptoms (OR = 0.87, 95% CI: 0.80–0.94,  $p < .001$ ), family support (OR = 0.98, 95% CI: 0.97–0.99,  $p < .001$ ) and the relationship with teachers (OR = 0.91, 95% CI: 0.88–0.93,  $p < .001$ ) are directly associated with the adolescents' alcohol consumption.

## DISCUSSION

Through the results of this study, it was possible to verify the existence of a negative relationship between tobacco and alcohol use and physical symptoms, psychological symptoms (higher value, less symptoms), relationship with teachers, relationship with peers, family support and future expectations. This means that the consumption of these substances is associated with more physical and psychological symptoms, worse relationship with teachers and with peers, less family support and lower future expectations. A positive relationship between tobacco and alcohol was also observed.

The results showed that the adolescents who do not consume alcohol and tobacco have higher averages in all the variables mentioned, which translates into better future expectations, greater family support, better relationship with peers and with teachers, and fewer physical and psychological symptoms.

There are several factors that can influence adolescents' involvement in alcohol and tobacco use, namely, those related to the parents, peer groups, school and consumption of other substances (Patrick & Schulenberg, 2014). The literature points to the existence of a tendency towards a positive association between alcohol and tobacco consumption, since the involvement in one of the risk behaviors can lead to the exposure and experimentation with the other (DeRuiter et al., 2014; Janáček et al., 2021; McKee et al., 2007; Verplaetse & McKee, 2017).

Adolescents go through several events throughout their life cycle that can trigger situations of anxiety and stress. Some examples are aspects related to the school context (e.g., academic

**TABLE 6** Logistic regression—Variables associated with the alcohol consumption (dependent variable)

	OR (95% CI)	<i>p</i>
Physical symptoms	0.87 (0.79–0.96)	.005
Psychological symptoms	0.87 (0.80–0.94)	<.001
Future expectations	0.95 (0.91–0.98)	.003
Relationship with peers	10.01 (0.98–10.04)	.501
Family support	0.98 (0.97–0.99)	<.001
Relationship with teachers	0.91 (0.88–0.93)	<.001
Constant	0.05	<.001

Note: Dependent variable: tobacco use.

The results were adjusted for age and gender.



pressure, change of school, and bullying situations), the peer group, the family or significant life events (e.g., death of a family member, parents' divorce, etc.) (Choi, 2018). Alcohol and tobacco are often seen as a mean of reducing tension or increasing self-confidence, which tends to increase the use of these substances (Connor et al., 2016). In addition, emotional and psychosomatic problems tend to increase as alcohol consumption also increases (Hoel et al., 2004). Thus, it is important for adolescents to develop appropriate coping strategies as a protective factor against substance use (Gallupe, 2014; McConnell et al., 2014).

There are different contexts that influence adolescents' psychosocial well-being, namely, the family, the school context and the peer group. The quality of the relationships between the adolescents and their peers, parents and teachers is a relevant factor for a more positive and adjusted development, being associated to the prevention of substance use (Choi, 2018; Gaspar et al., 2018; Tomé et al., 2012).

Family cohesion and closeness (Guillén et al., 2015), parental monitoring and quality of family relationships can function as protective factors against the adolescents' involvement in risk behaviors (Fosco et al., 2012; Patrick & Schulenberg, 2014; van Ryzin et al., 2012). Parental/family monitoring and support also appear as protective factors against the tobacco and alcohol use (Bahr & Hoffman, 2010; Chaplin et al., 2012; Sudhinaraset et al., 2016), even when peers are users of these substances (Bahr & Hoffman, 2010). Thus, the relationship with parents is a relevant factor for the adolescents' lives, and they can play a protective and mitigating role with regard to the possible negative influence that may arise from peers. There is evidence that the existence of a negative relationships with parents and peers tends to result in feelings of loneliness and unhappiness, which is reflected in a decrease in the adolescents' psychological well-being (Cerqueira et al., 2019; Tomé et al., 2015).

A study by Gutman et al. (2011) demonstrated that negative family interactions are associated with an increase in the alcohol and tobacco consumption and that positive identification with parents is related to a decrease regarding substance use. Through a study by Ryan et al. (2010) that explored the impact of several parental variables on alcohol consumption, it was possible to observe that factors such as parental monitoring, quality of the relationship between parents and children, parental involvement/support and communication are reflected in a delayed alcohol initiation and subsequently a reduced alcohol-related problems. Thus, family support is a protective factor against the involvement in risk behaviours (Bailey et al., 2011; Fosco et al., 2012; Guillén et al., 2015; van Ryzin et al., 2012), which is in line with the results obtained in this study. It is therefore essential to promote positive and supportive relationships within the family environment in order to reduce the adolescents' probability of engaging in this type of behaviors (e.g., substance use) (Gordon et al., 2020; Moore et al., 2018).

In addition to the family context, the relationship with the peer group is also associated with an increase in the well-being and the adjustment of the adolescents, as well as with a decrease in the involvement in risk behaviours such as substance use (Camacho et al., 2013; Gaspar et al., 2018). Thus, positive relationships and support from peers are associated with a lower prevalence in relation to substance use, which means that they can act as a protective factor against the adolescents' involvement in this type of risk behaviour (Dunn et al., 2011).

Regarding the school context, the relationship established between students and teachers can be a protective or a risk factor, with regard to substance use (Marschall-Lévesque et al., 2014). In addition, the relationship between the adolescents and the school can act as a protective factor against the alcohol and tobacco consumption (Camacho et al., 2013; Gaspar et al., 2018).

Another protective factor regarding substance use is related to future aspirations (Dunn et al., 2011). The evidence points to a positive vision of the future as an aspect that reduces the

susceptibility to the involvement in risk behaviours, such as alcohol and tobacco consumption (Chen & Vazsonyi, 2013; McDade et al., 2011; Steiger et al., 2017).

Among the explanatory variables of tobacco consumption, the future expectations and the relationship with peers did not show significant results in this study. Regarding alcohol consumption, only the relationship with peers did not show a significant result. Thus, the physical and psychological symptoms, the family support and the relationship with teachers are associated with the tobacco consumption. On the other hand, the variables associated with alcohol consumption are the physical symptoms, future expectations, psychological symptoms, family support and the relationship with teachers. Future expectations are associated with alcohol consumption, but not tobacco, which is an interesting result of this study.

There are several reasons that can trigger alcohol consumption, namely, social aspects (e.g., for fun), enhancement (e.g., sensation seeking, to get high), coping (e.g., forgetting problems) and conformity (e.g., to fit in, be accepted) (Kuntsche et al., 2014; Kuntsche & Kuntsche, 2009; Patrick et al., 2011; Patterson et al., 2020; Terry-McElrath et al., 2017; Wicki et al., 2017). Alcohol consumption tends to be associated with a search for relief regarding stress symptoms and an increase in the experience of positive feelings (Kuntsche et al., 2014, 2015; Sayette, 2017; Simões et al., 2017).

The results of a study by Terry-McElrath et al. (2017) reinforce the existing evidence regarding the fact that the adolescents' alcohol consumption appears associated with aspects related to coping. Adolescents with high alcohol consumption can use this substance as a maladaptive strategy to deal with difficulties and adversities. Regardless of the reasons why adolescents need to use coping strategies, the consumption of greater amounts of alcohol tends to be associated with problems such as depression, anxiety and low self-esteem (Gallupe, 2014). All these factors can contribute to a more negative vision of the future, which can be a possible explanation for the fact that future expectations appear as an explanatory variable for alcohol consumption but not for tobacco.

Despite the influence that the peer group can have with regard to substance use (Camacho et al., 2013; Dunn et al., 2011; Gaspar et al., 2018; Trucco et al., 2011), in this study the relationship with peers in particular did not prove to be a predictor of alcohol and tobacco consumption. According to the ecological model of human development, the closer the individual's contexts are, the greater the influence they have on him, since it is in these contexts that there is a higher probability of developing more complex interactions and relationships (Bronfenbrenner & Morris, 2006). However, the degree of influence of the different relationships established in the same context may change over time (Steinberg & Silverberg, 1986). In this sense, this result may be due to the fact that the scale used refers specifically to the relationship with classmates, not covering the remaining relationships with other peers and friends, who may have a higher weight regarding substance use (as a protective or risk factor). There is evidence that some of the greatest influences with regard to alcohol consumption come from family and friends, who are the two groups with which the adolescents tend to spend more time (Sudhinaraset et al., 2016). However, it is suggested to explore this result in future studies.

The HBSC study protocol has limitations related to the self-report character and cross-sectional design. However, it is a large-scale study, with random, stratified and representative samples of the country under study, based on a rigorous methodology and which allows a comparison of data between the various years and the different countries involved.

## CONCLUSIONS AND KEY MESSAGES FOR CAREGIVERS, PROFESSIONALS AND PUBLIC POLICIES

The present study contributed to the increase of knowledge regarding the factors that are related to the consumption of alcohol and tobacco by adolescents. It reinforces the importance of the existence of a work directed towards.

1. the construction of more positive future expectations, either by means of developing serendipity competences and by increasing contextual opportunities and privileging public policies youth friendly;
2. the promotion of a positive and adjusted relationship among adolescents, family members, teachers and peers;
3. the promotion of physical and psychological well-being, namely, by means of developing health literacy, socio-emotional competences, and self-regulation strategies as protective factors against substance use.

It is important for teachers, educators, psychologists and those responsible for public policies to have data on factors that impact the psychosocial well-being of the adolescents and increase their involvement in risk behaviors, so that they can outline, implement and evaluate evidence-based strategies, practices and interventions adjusted to the needs of this population.

The identification of factors that can contribute to alcohol and tobacco use and the design of approaches aimed at reducing these behaviours is a fundamental objective for the public policies and for research (Sznitman & Engel-Yeger, 2017).

It should also be stressed that there is a need to strengthen the adolescents' competencies in a positive way and through the creation of alternatives, instead of focusing only on the reduction of risk behaviours (Matos & Ramiro, 2018). It is also important to include the participation of the adolescents in the definition of problematic situations and in the search for solutions (Branquinho et al., 2018, 2019; Kelly et al., 2020), and of course, in creating friendly environments and public policies that allow solution implementation and evaluation.

For future studies, it is suggested to explore the variable related to the relationship of peers and to deepen the future expectations as an explanatory variable of alcohol consumption, but not tobacco, checking as well if there is a different association whether peers are or are not consumers. It might be interesting to use mixed methods to better understand in depth meaning and the impact of future expectations on substance use.

This study highlights the importance of social networks and future expectations as variables that promote the adolescents' well-being, functioning as protective factors with regard to substance use. The need to promote the participation and involvement of the family members, the teachers and the peer group as agents that facilitate the adoption of health-promoting behaviors is emphasized. The intervention must be carried out in a preventive, interventional and integrational logic, acting in all contexts and including all actors of the adolescents' lives, in order to enhance the results obtained.

### CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## ORCID

Ana Cerqueira  <https://orcid.org/0000-0001-9883-0210>

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