

Consumo de alcohol, conducta antisocial e impulsividad en adolescentes españoles

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Resumen

La relación entre el consumo de alcohol y la conducta antisocial en adolescentes ha sido ampliamente reportada en investigaciones anteriores. El objetivo principal de este estudio es evaluar dicha relación, además de estudiar cómo influye en ella la impulsividad. Se utilizó la *Escala Rutgers Alcohol Problem Index* (RAPI) para evaluar el consumo de alcohol, la *Escala de Conducta Antisocial y Delictiva en Adolescentes*, y la *Escala de Impulsividad* de Barratt para la conducta antisocial. Se hizo un muestreo no probabilístico de tipo intencional que resultó en una muestra compuesta por 212 adolescentes con edades entre los 12 y los 18 años ($M = 14.1$, $DE = 1.48$). Los resultados mostraron que las variables que mejor predicen la conducta antisocial en adolescentes son el consumo de alcohol y la impulsividad cognitiva; y se comprobó que existen diferencias significativas en la conducta antisocial según el género, pero no en función del consumo de alcohol. Respecto al nivel de edad, se encontraron diferencias significativas entre todos los niveles de edad en el consumo de alcohol; así como diferencias en la conducta antisocial entre la adolescencia temprana y la adolescencia media, y entre la adolescencia temprana y la adolescencia tardía. Se discuten las posibles implicaciones de la vinculación entre el consumo de alcohol y el delito, en virtud de los resultados obtenidos.

Palabras clave: adolescencia, consumo de alcohol, conducta antisocial, impulsividad.

Alcohol consumption, antisocial behavior and impulsivity in Spanish adolescents

Abstract

The relationship between alcohol use and antisocial behaviour in teenagers has been widely reported in previous research. Our main aim was to evaluate this relationship, and also to study how impulsivity influences it. The instruments used were the *Rutgers Alcohol Problem Index* (RAPI), to evaluate alcohol consumption; the *Scale of Antisocial and Criminal Behaviour in Teenagers*, and the *Barratt Impulsiveness Scale*, to assess these behaviors in the youth. The sampling method was non probabilistic and intentional, and the sample consisted of 212 teenagers aged between 12 and 18 years ($Average=14.1$, $SD=1.48$). The results showed that the variables which better predict anti-social behaviour in teenagers are alcohol consumption and cognitive impulsiveness. On the other hand, it was found that there are significant differences in antisocial behavior according to gender, but not in terms of alcohol consumption. Regarding age level, significant differences were found in alcohol consumption between all age levels, and in antisocial behavior are concentrated between early and medium adolescence, and between early and late adolescence. The possible implications of the link between alcohol consumption and crime by virtue of the results obtained are discussed.

Key words: adolescence, alcohol consumption, antisocial behaviour, impulsiveness.

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Consumo de álcool, conduta antissocial e impulsividade em adolescentes espanhóis

Resumo

A relação entre o consumo de álcool e a conduta antissocial em adolescentes tem sido amplamente relatada em pesquisas anteriores. O objetivo principal deste estudo é avaliar tal relação, além de estudar como a impulsividade tem influência nela. Utilizou-se a Escala Rutgers Alcohol Problem Index (Rapi) para avaliar o consumo de álcool, a Escala de Condutas Antissociais e Delitivas em Adolescentes e a Escala de Impulsividade de Barratt para a conduta antissocial. Foi feita uma amostragem não probabilística de tipo intencional que resultou em uma amostra composta por 212 adolescentes com idades entre 12 e 18 anos ($M = 14.1$, $DP = 1.48$). Os resultados mostraram que as variáveis que melhor predizem a conduta antissocial em adolescentes são o consumo de álcool e a impulsividade cognitiva; ainda, ficou comprovado que existem diferenças significativas na conduta social de acordo com o gênero, mas não em função do consumo de álcool. Com relação ao nível de idade, foram encontradas diferenças significativas entre todos os níveis de idade no consumo de álcool, assim como diferenças na conduta antissocial entre a adolescência precoce e a adolescência média, e entre a adolescência precoce e a adolescência tardia. Discutem-se as possíveis implicações da associação entre o consumo de álcool e o delito em virtude dos resultados obtidos.

Palavras-chave: adolescência, consumo de álcool, conduta antissocial, impulsividade.

INTRODUCTION

Adolescence is the life period in which is more likely to develop alcohol consumption as a social habit (Andrade, Betancourt, Moreno, & Alvis, 2017; Gázquez et al., 2016; Londoño, & Valencia, 2012; Moral, Rodríguez, & Sirvent, 2006). This transition period between childhood and adult life is marked by an “age culture” adolescents feel members of, in which they start developing their own behavior, interiorizing values, and sharing spaces and normative trends, all of which contributes to creating their psychosocial identity. In this stage, adolescents start to make decisions autonomously about interpersonal links, belonging to certain peer groups, and constructing their own identity (Failde, Dapia, Alonso, & Pazos, 2015; Pedreira, Blanco, Pérez-Chacón, & Quirós, 2014).

Regarding leisure practices and psychoactive substance experimentation, according to the World’s Health Organization report (WHO, 2014), alcohol consumption represents a threat to public health, with multiple factors associated with it, such as emergencies in car crash casualties with positive alcohol levels, acute poisoning, violent clashes, suicide, violation of criminal law, high-risk sexual behavior, etc. (Bejarano, & Sáez, 2008; Farke, & Anderson, 2007; Galicia, Alonso, & Nogué, 2014; Isorna, Fariña, Sierra, & Vallejo, 2015). Alcohol consumption in adolescence is certainly considered as one of the most severe public health issues as it can increase the likelihood of consumption remaining the same or even exacerbating during adulthood, associated with the consumption of other psychoactive substances (Laespada, 2010; Musitu, Suárez, Del Moral, Martínez, & Villareal, 2015; Natera, Juárez, Medina, Mora, & Tiburcio, 2006). In addition, the macrostudy by Scoppetta, Pérez

and Lanziano (2011) in Colombian students demonstrated that consumption profiles vary according to each stage of adolescence, with higher risks in adolescents with an earlier consumption onset and more significant previous imbalances.

At the European level, binge drinking is becoming increasingly important. This practice involves the intake of large quantities of alcohol, in short hours, mostly during the weekend leisure period, maintaining a certain level of inebriation and with a certain degree of control loss (Cortés, Espejo, Martín, & Gómez-Íñiguez, 2010; Farke, & Anderson, 2007; Motos, Cortés, Giménez, & Cadaveira, 2015). Specifically, in Spain, Intensive Alcohol Consumption (IAC) among youngsters is associated with the consumption of multiple toxic substances, representing a risk factor for subsequent development of alcohol abuse/dependency (Balodis, Potenza, & Olmstead, 2009). Regarding alcohol-related hospital emergencies in youngsters, this is particularly frequent in Spain at weekends or during public holidays (Sánchez, Redondo, García, & Velázquez, 2012). However, adolescents with higher alcohol intakes have a distorted perception of their negative effects, even though they are informed and well aware of them (Morales et al., 2011; Morales et al., 2015).

According to the World’s Health Organization latest report (WHO, 2014) on alcohol consumption, consumption patterns in Western societies are undergoing a profound change. In this respect, recent studies increasingly report that consumption tends to start earlier and earlier. They also note changes in consumption patterns and consumption leveling between both sexes (ESTUDES, 2014; López, & Rodríguez-Arias, 2010; OEDT, 2015; Romo, Marcos, Gil, Marquina, & Tarragona, 2015). As outlined by Villarreal-González, Sánchez-Sosa, and Musitu (2013), group alcohol consumption is already

part of young culture. This involves a specific conception of space and time constructed by them through the interaction reflecting collective rules and values. The results from the *Survey on Drug Use in Secondary Students* (ESTUDES, 2014) demonstrated that six out of ten students aged 14-18 got drunk at least once in their life, with three having done so in the last month. According to the Home Survey on Alcohol and other Drugs (EDADES, 2015), alcohol is present in 95% of multiple consumptions. The survey confirmed that alcohol remains the most used psychoactive substance, with a slight increase. The Spanish Drug and Toxic Addiction Observatory (2015) states that alcohol is the most used psychoactive substance within the Spanish population. In 2015, 93.1% of individuals aged 15-64 had consumed an alcoholic drink at least once in their lives, which represents a slight increase as compared to 2011, with consumption onset mean age at 16.7, similar to that from previous years. All of this represents a true socio-sanitary emergency (Moral, Bringas, Ovejero, Morales, & Rodríguez, 2017).

As far as sex is concerned, there is seemingly a reduction in the gap of women's intensive consumption (WHO, 2014), these changes being more obvious in adolescence. According to the *Survey on Drug Use in Secondary Students* (ESTUDES, 2014/2015), 1.7% of adolescents aged 14-18 consumed alcohol in the last month on a daily basis. In addition, it reveals a growing incorporation of girls to legal drug consumption, with their levels surpassing those of boys in alcohol, tranquilizer, and tobacco consumption – indeed, the number of girls aged 14-16 getting drunk is higher than that of boys the same age. According to Romo et al. (2015), excess alcohol consumption was initially associated to male sex, but now it is not considered as an exclusive aspect any more.

Young criminal conduct is another commonly studied risk behavior in this life stage (Bringas, Rodríguez, Moral, Sánchez, & Ovejero, 2012; Muñoz et al., 2011; Rodríguez, Rodríguez-Franco, López-Cepero, & Bringas, 2012; Rodríguez et al., 2016). In addition, psychoactive substance consumption by juvenile offenders has fostered a growing awareness, as outlined by Delisi, Angton, Behnken, and Kusow (2015). In this respect, a consistent consumption pattern of varied substances has been found in minors with antisocial behaviors (Contreras, Molina, & Cano, 2012; Ramírez, 2003; Rivas et al., 2015, San Juan, Ocariz, & Germán, 2009). According to Loeber (1988), the occurrence of antisocial behavior at early ages, which will continue during adolescence, is an important predictor of substance use. However, the results from other researches indicate an inverse relationship – i.e., consumption onset age would be the variable predicting future consumption and violent acts, so adolescents with a violent behavior will start to use psychoactive substances at an earlier age (Rodríguez,

Bringas, Moral, Pérez, & Estrada, 2012). Be that as it may, young violence in leisure contexts is an issue of concern as it becomes increasingly frequent (Bellis, Hughes, Korf, & Tossman, 2004; Blay et al., 2010). According to Blay et al. (2010), in countries such as the United Kingdom, violence increase has been associated with the expansion of the alcohol and drug consumption-related model (Anderson et al., 2007). Various studies posit that night leisure contexts are associated with drug abuse and other risks for health such as violence (Calafat et al., 2007; Farke, & Anderson, 2007).

The analysis of risk behavior in adolescents associated with social, emotional, and cognitive human development mechanisms has been a subject of study (see Dussailant, 2010). Cognitive schemes, particularly when associated with an impulsive style of solving problems, could be considered as a risk factor for substance consumption and other antisocial behavior (Calvete, & Estévez, 2009). These schemes work by facilitating cognitive contents related to the desire for an immediate reward. And this, combined with an impulsive style, could hinder adequate reflections on risk behavior consequences. The relationship between low assertiveness, lower impulse control, and emotion management imbalances with drug use has also been suggested (Velázquez, Arellanez, & Martínez, 2012).

Certainly, impulsiveness has been associated with numerous disorders such as substance abuse (Martínez-Loredo, Fernández-Hermida, Fernández-Artamendi, Carballo, & García-Rodríguez, 2015). The relationship between impulsiveness and substance consumption is a very important issue, since previous studies have demonstrated a link between substance use and other risk behaviors during adolescence (Peters et al., 2015). In this respect, a relationship between low self-control and criminal behavior can be noted, with such unlawful conduct remaining over time (Contreras, Molina, & Cano, 2011; Mulvey et al., 2010). In addition, it has been observed that adolescents with antisocial and/or criminal behavior have high impulsiveness and low self-control (Sanabria, & Uribe, 2009). The alcohol consumption and high impulsiveness profile, as well as that of dual pathology in young offenders, have also been demonstrated to be high. These individuals are defined by Ribas et al. (2015) as “multi-problematic youngsters.”

Based on the above, the general objective of this research was to analyze which variables predict antisocial behavior in the adolescent population. This general objective gave rise to other specific objectives, such as assessing the relative importance of each variable to determine the phenomenon, and calculating which percentage of antisocial behavior differences could be predicted using them. Another objective was to find out whether there are significant age- and sex-related differences in antisocial behavior and alcohol consumption.

The underlying hypothesis was that alcohol consumption and impulsiveness are the two variables predicting antisocial behavior in adolescents more accurately.

The second hypothesis was the achievement of higher scores by women in alcohol consumption, and higher scores by men in antisocial behavior, as well as greater significant differences both in alcohol consumption and antisocial behavior in the late adolescence age group as compared to early and mid-adolescence.

METHOD

Participants

The sample is composed of 212 adolescents from Secondary Education in the city of Oviedo (Principality of Asturias, Spain) who answered the questionnaire anonymously providing the sociodemographic data necessary for the subsequent analysis. For the selection of the sample a series of inclusion, accessibility and consent criteria were followed. A two-stage sampling of convenience with intra-group random sub-sampling was performed. Of the participants, 50.94% were men ($n = 108$) and the remaining 49.06% were women ($n = 104$). The age range was between 12 and 18 years, with a mean of 14.1 years ($SD = 1.48$). Regarding the level of studies carried out by the participants, 87.74% were enrolled in Secondary Education and 12.26% were high school students.

Instruments

Given our research interests, the Rutgers Alcohol Problem Index (RAPI) (White and Labouvie, 1989), the Antisocial and Delicate Behavior Scale in Adolescents (ECADA) (Andreu and Peña, 2013) the Barratt Impulsiveness Scale (BIS-11) (Barratt, 2000) were used.

The evaluation of alcohol consumption in adolescents has been performed using the Rutgers Alcohol Problem Index (RAPI) (White and Labouvie, 1989). Validation has been used in Spanish by López-Nuñez et al. (2012). It is a self-administered screening tool to assess problems with alcohol in adolescents. It consists of twenty-three items on a Likert scale with four levels of response in which 0 is never or almost never, 1 is one or two times, 2 is between three and five occasions and 3 is five or more times. Adolescents should indicate how often during the past year they have experienced the situations described there while drinking alcohol or as a result of drinking. The psychometric properties of the instrument showed a Cronbach's alpha obtained for the RAPI questionnaire as a whole of 0.87. For the sample

of this work has obtained an internal consistency, calculated with Cronbach's alpha, of .91.

The *Antisocial and Delicate Behavior Scale in Adolescents* (ECADA) (Andreu, & Peña, 2013) has been used to measure antisocial behavior in adolescents. The internal consistency of the scale, obtained through Cronbach's alpha coefficient, was 0.86. The psychometric properties of the instrument showed a high consistency in five factors: Predelinquent Behavior ($\alpha = .46$), Vandal Behaviors ($\alpha = .67$), Infringements against property ($\alpha = .66$) and Alcohol and drug consumption ($\alpha = .61$). For the sample of this work an internal consistency has been obtained, calculated with Cronbach's alpha, of .82. For the five factors of the ECADA, an internal consistency of .73 for Predelinquent Behavior (Factor I), .71 for Vandalic Behaviors (Factor II), .72 for Infringements against property (Factor III), .71 for Violent behavior (Factor IV) and .73 for Alcohol and drug consumption (Factor V). This scale consists of 25 items with a dichotomous (True / False) titration response scale where the adolescent had to indicate the presence or not during the last year of the behaviors described in the items on the scale. The items are grouped in five dimensions or factors, described by Andreu and Peña (2013) as follows:

1. Predictive behavior (Factor I). It explores a series of behaviors not expressly criminal, although deviated from social norms and rules (eg, missing school, running away from home, driving vehicles without permission or authorization, etc.).

2. Vandalism (Factor II). It includes clearly criminal behavior carried out on objects or property (eg., damage to bus stops, street furniture, etc.).

3. Infringements against property (Factor III). Criminal conduct such as robberies and robberies in different contexts and places (eg entrance permit in a house, building or private property) is evaluated.

4. Violent behavior (Factor IV). Criminal conduct involving participation in assaults against persons and possession / use of weapons (eg, carrying a weapon such as a razor) is recorded.

5. Drug use (Factor V). Drug use is linked to antisocial and criminal behavior (eg, cannabis, cocaine, or amphetamines).

The *Barratt Impulsiveness Scale* (BIS-11) (Barratt, 2000) has been used through the validation in Spanish carried out by Oquendo et al. (2001). It is a self-administered instrument with the objective of evaluating impulsivity. It consists of thirty items grouped into three personality subscales: Cognitive Impulsiveness, Motor Impulsiveness and Unplanned Impulsivity, measured on a Likert scale with four response options, where 0 is rarely or never, 1 is occasionally, 3 is often 4 always or almost always. There is no proposed cut-off point. The internal consistency

analysis of the BIS-11 scale was performed using Cronbach's alpha coefficient, with a value of .78 and for the subscales Cognitive Impulsiveness of .60, Motor Impulsiveness of .66 and Unplanned Impulsivity of .69. For the sample of this work an internal consistency of .77 has been obtained. For each of the three subscales an internal consistency of .77 for Cognitive Impulsivity was obtained, of .78 for Motor Impulsivity and, finally, for .77 for Unplanned Impulsivity.

Procedure

The data collection was done through the previous contact of the researchers with the management teams and counselors of the Secondary Education centers, who carried out the selection of the participating classrooms in a totally random manner. Once the classrooms were selected, the tutor of each course authorized the participation of the adolescents in the study, and together with the counselor of the center they prepared the calendar with the available hours for the application of the instruments. Finally, the questionnaire was applied in the weekly tutoring hour that each course has, in the absence of the tutor to avoid students being influenced by their presence when answering the questionnaire. The application dates were from April 8, 2016 until April 21, 2016, the day on which the questionnaire was applied to the last class.

The final version of the questionnaire contained an explanation at the beginning, in which it was stated that the questionnaire they were about to answer was totally anonymous and confidential, the approximate time it would take them to do it, and that sincerity was requested in the responses and the completion of all items. The participation of the adolescents surveyed was at all times voluntary, counting on their informed consent and respecting their anonymity. The study maintained a 100% response rate throughout its development.

Data Analysis

This research presents an analytical, experimental and transversal design since the purpose is to determine the explanatory variables of the relationship between alcohol consumption and antisocial behavior in adolescent population, by contrasting the hypotheses already described. Previously, the parametric assumptions of normality and homoscedasticity were checked in order to select the appropriate statistical techniques. After using the Kolmogorov-Smirnov statistical test ($N = 212$) to verify the normality assumption, the results show that the data of the variables are adjusted to a normal distribution, hence the need to apply parametric tests.

Descriptive statistics (frequencies, means and standard deviation) were performed. In order to evaluate the internal

consistency of the instruments, Cronbach's Alpha was chosen. Comparisons between groups were carried out using several types of techniques: Multiple Linear Regression, Student's T-test for independent samples and ANOVA for one factor; and the Multiple Linear Regression test was used to check which variables predict the antisocial behavior better in adolescents, what is the relative importance of each of these variables and what percentage of the differences in antisocial behavior could be predicted with them. On the other hand, the Student's t was calculated to verify if there were differences in antisocial behavior and in alcohol consumption according to gender, as well as the ANOVA test in order to determine differences according to age in alcohol consumption and antisocial behavior. Likewise, the size of the effect (with Cohen's d statistic in the mean comparisons tests, as well as the Cramer's V statistic and the contingency coefficient in regression analysis) was calculated to assess the estimated magnitude of the proposed relationships.

The SPSS version 19 was used for data processing and subsequent statistical analysis.

RESULTS

This section presents the results found when comparing the two hypotheses. First, the relative importance of the investigated variables to determine antisocial behavior in adolescents is assessed, with alcohol consumption and impulsiveness' importance as explicative variables having been anticipated. Second, the results from the analysis of sex- and age-related differences in alcohol consumption and antisocial behavior are presented.

First, it has been noted that *cognitive impulsiveness*, *motor impulsiveness*, *unplanned impulsiveness*, and *alcohol consumption* predicting variables, when considered individually, have significant correlations with the criterion (antisocial behavior) ($p < .01$). The four variables allow us to explain 36.6% of differences in this criterion – antisocial behavior scores. The multiple determination coefficient is statistically significant ($p < .01$). However, although *motor impulsiveness* and *unplanned impulsiveness* variables, when considered individually, present a significant correlation with the criterion, this correlation disappears when entering the regression equation. Therefore, the main explicative variables in the regression equation are alcohol consumption and *cognitive impulsiveness*. Alcohol consumption allows to explain 30.1% of differences in the criterion, and using both variables together allows to increase this number up to 35.5%. The absolute value of beta coefficients reveals that alcohol consumption is more important to predict antisocial behavior than cognitive impulsiveness (see Table 1).

Table 1.

Explanatory variables of Antisocial Behavior in adolescents (multiple regression analysis). Coefficients in the final equation.

Model	Non-standardized coefficients			Typified coefficients	
	B	Error tip	Beta	t	Sig.
1					
(Constant)	1.899	.010		193.066	.000
Alcohol consumption	-.284	.030	-.549	-9.511	.000
2					
(Constant)	2.007	.028		72.420	.000
Alcohol consumption	-.246	.030	-.475	-8.145	.000
Cognitive Impulsivity	-.058	.014	-.243	-4.160	.000

Note: Dependent variable: antisocial behavior.

The results obtained when comparing alcohol consumption patterns according to sex (see Table 2) show that there are no significant sex-related differences ($p > .05$), with a medium effect size (Cohen's $d = .36$). However, there are significant differences in antisocial behavior according to sex, with a small size effect (Cohen's $d = .25$).

To control whether age has an impact on alcohol consumption and antisocial behavior, the first task was to recodify the age variable in three new groups or age levels: *early adolescence* (12-13, $n=81$), *mid-adolescence* (14-15, $n=89$), and *late adolescence* (16-18, $n=42$). An ANOVA of one factor was then carried out. Regarding age-related

alcohol consumption differences, the highest mean corresponds to the late adolescence group. Significant differences were confirmed between at least two age levels compared ($F_{2,209} = 26.082, p < .01$). The size effect is medium (partial eta squared = .20). Our model, which only includes the age level effect, allows us to explain 20% of differences in alcohol consumption. To find out which age groups presented such differences, the results from Games-Howell test were taken into consideration, as there was no homoscedasticity. These results are shown in Table 3, which demonstrates significant differences between all age groups, with numbers being higher for late adolescence than for the rest.

Table 2.

Gender differences in alcohol consumption and antisocial behavior (Student's t test)

	Sex	N	Average	ST	Student's t test	p
Alcohol	Man	108	.1546	.28135	-1.159	.873
	Woman	104	.1610	.29975		
Antisocial behavior	Man	108	1.8319	.15610	-2.226	.027
	Woman	104	1.8773	.14049		

Note: * $p < .05$.

Table 3.

Mean differences in alcohol consumption according to age level.

Age level	Media	DT	n
Early adolescence	.0317	.10783	81
Middle adolescence	.1632	.30479	89
Late adolescence	.3892	.35204	42
Total	.1577	.28985	212
(I) Age level	(J) Age level	Sig.	
Early adolescence	Middle adolescence	.001*	
	Late adolescence	.000*	
Middle adolescence	Early adolescence	.001*	
	Late adolescence	.002*	
Late adolescence	Early adolescence	.000*	
	Middle adolescence	.002*	

Note: * $p < .05$

Table 4.
Mean differences in antisocial behavior according to age level.

Age level	Media	DT	n
Early adolescence	1.9249	.12384	81
Middle adolescence	1.8279	.14465	89
Late adolescence	1.7733	.15139	42
Total	1.8542	.15003	212
(I) Age level	(J) Age level	Sig.	
Early adolescence	Middle adolescence	.000*	
	Late adolescence	.000*	
Middle adolescence	Early adolescence	.000*	
	Late adolescence	.112	
Late adolescence	Early adolescence	.000*	
	Middle adolescence	.112	

Note: * $p < .05$

In antisocial behavior results according to age level, the highest mean corresponds to early adolescence. There are significant differences between at least two age levels compared ($F_{2,209} = 19.339, p < .01$) with a medium size effect (partial eta squared = .156). Our model allows to explain 15.6% of differences in antisocial behavior due to the age level effect.

In order to find out which groups presented such differences, Scheffe tests results were taken into consideration, since homoscedasticity was present. There are significant differences between early adolescence and mid-adolescence ($p < .01$) (Cohen's $d = .64$), and between early adolescence and late adolescence ($p < .01$) (Cohen's $d = 1.01$). However, there are no significant differences between mid-adolescence and late adolescence in antisocial behavior (see Table 4).

DISCUSSION

The first objective of this study was to find out which variables predict antisocial behavior in adolescents more accurately. In addition, sex- and age-related differences both in alcohol consumption and antisocial behavior were studied.

In this respect, it was found that the most accurate variables predicting antisocial behavior in adolescents are alcohol consumption and cognitive impulsiveness, even though alcohol consumption has a higher predictive capacity than cognitive impulsiveness, as suggested by other researchers (Contreras et al., 2012, San Juan et al., 2009).

Another objective was to find out whether there are significant sex- and age- related differences in antisocial behavior and alcohol consumption. The results found when comparing alcohol consumption patterns according to sex demonstrate that there are no differential sex-related patterns. This is consistent with other researches (Romo et al.,

2015), which show a growing amount of women drinking alcohol, to the point of exceeding that of men. According to Lyons and Willott's interpretation (2008), this may stem from the fact that women consider those acts as a change in their current social position (Lyons, & Willott, 2008).

Regarding antisocial behavior, there are significant differences between men and women, with numbers being higher for women (López, & Rodríguez-Arias, 2010). But previous researches have shown different results. For instance, some studies suggest that male individuals present more antisocial and criminal behavior, with higher frequency and severity than women. However, according to Pozo (2012), the differences found tend to be increasingly smaller as girls participate in violent situations with growing frequency.

Regarding age-related differences in the participating adolescents, our investigative interest led us to use three levels: early adolescence, mid-adolescence, and late adolescence. It was found that, in alcohol consumption, there are significant differences between all age levels, with numbers being higher for late adolescence than for the rest. In this respect, previous researches agree that age plays an important role, demonstrating differences between young adolescents and older adolescents in consumption (Cava et al., 2008; García et al., 2012; Rodríguez-Arias, 2010; Moral, & Ovejero, 2009). Additionally, even though identifying consumption and acting patterns among younger adolescents is of the utmost importance, pre-adolescents and early adolescents are not usually included in researches (Luengo et al., 2008).

In antisocial behavior, significant differences were found between early adolescence and mid-adolescence, and between early adolescence and late adolescence. The scientific literature cannot seemingly find a common explanation for this; there is no clear agreement among authors regarding the age of antisocial behavior's onset

and occurrence. Some authors, such as Rechea (2008), state that antisocial behavior starts at the age of 13, and point out that it presents a more or less stable nature until adulthood (Estévez et al., 2007), when it intensifies, potentially giving rise to criminal behavior (Cifuentes, & Londoño, 2011).

The present study has some limitations. One is that the sample selection is not randomized, so results cannot be extrapolated to the whole adolescent population, and it also should be limited to social and cultural conditions where intensive alcohol consumption is well spread. On the other hand, this is a cross-sectional study, which prevents from establishing a relation of cause. Another limitation would be that the questionnaire was applied to adolescents in their classrooms at school, which may pose a certain social desirability bias.

Finally, it is underlined that future research considers the importance of including other variables of analysis representing psychosocial risk factors both for intensive alcohol consumption and for antisocial behavior, focused on identity aspects and family socialization factors. Since this is a cross-determined problem, both subjects of study – alcohol consumption amongst youngsters and antisocial behavior in minors – have numerous implications, as we found out in many researches (see Moral, & Ovejero, 2009, 2011; Moral et al., 2016; Moring et al., 2015; Rodríguez, Ovejero, Bringas, & Moral, 2016). Therefore, it is of the utmost importance to carry out a more profound comprehensive and full study of the interrelationship between both problems so as to develop and implement psychosocial intervention and prevention measures.

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