

## PERSONAL AND PSYCHOSOCIAL DETERMINANTS OF TOBACCO AND ALCOHOL USE IN ADOLESCENCE

Paulo C. Dias\*, José A. García del Castillo\*\* and Álvaro García del Castillo-López<sup>1\*\*</sup>

*\*\*Universidade Católica Portuguesa, Portugal*

*\*\*Universidad Miguel Hernández, Elche, España*

**ABSTRACT. Background:** Substance use in adolescence continues to be one of major concerns in public health. Its implications in personal and social terms motivate the search for determinants of consumption in order to develop effective preventive responses. **Method:** this study aims to explore personal determinants of tobacco and alcohol among a sample of 323 adolescents, 199 of them were girls (61.6%), aged between 15 and 19 years ( $M = 16.79$ ,  $SD = 1.096$ ) who attended Portuguese public high schools. For data collection, it was used a socio-demographic and consumption questionnaire, the Proactive Attitude Scale, the Proactive Coping Scale, the General Self-Efficacy Scale, the Berlin Social Support Scales and the Scales of Attitudes Toward Tobacco and Alcohol to evaluate psychosocial determinants. **Results:** The results allow us to verify the determinant role of attitudes on the experience of tobacco use, being higher among those who have tried and with a positive correlation with the intensity of consumption. Nevertheless, the onset age of cigarette smoking correlates only with the perception of emotional support. Also on alcohol consumption, there was a more favorable attitude among those who have tried and a negative correlation with the age of first experience. In addition, differences in attitudes were verified depending on the pattern of consumption, with more favorable attitudes according with binge drinking frequency and drunkenness episodes. It also noticed a lower perception of demand and need for social support between adolescents that relate more drunkenness episodes. **Conclusions:** The study suggests the central role of attitudes towards consumption, although depending on the specific substances, findings that should be explored in future studies. These data are discussed according the existing literature and implications to prevention and further studies are presented.

**Keywords:** Determinants, alcohol, tobacco, attitudes.

### Introduction

Substance use in adolescence continues to be one of major concerns in public health. Despite its presence throughout the history of mankind, its implications in personal and social terms motivate long and intense efforts to characterize it, searching for determinants in order to develop effective preventive interventions. Given the lack of research in our context, this study aims to explore personal and psychosocial determinants of tobacco and alcohol use, a topic that has generated a lot of enthusiasm and contributes at biological, social or psychological level.

<sup>1</sup>Correspondence: Álvaro García del Castillo-López. Universidad Miguel Hernández, Campus de Sant Joan. Carretera de Alicante-Valencia s/n, 03550-Sant Joan d'Alacant (Alicante), España. E-mail: alvaro.garcia@umh.es

Although in most countries there is a higher use rate among boys (Dias, Oliveira, & Lopes, 2011; Palipudi et al., 2012; Precioso, Samorinha, Macedo, & Antunes, 2012) in Portugal the results tend to show a substantial increase in consumption, especially among the female population (Precioso et al., 2009). The contact with consumers at home, especially the mother (Elliott, Carey, & Bonafide, 2012; Ferreira-Borges, Filho, & Ramos, 2006; Sánchez, Opaleye, Martins, Ahluwalia, & Noto, 2010), and leisure activities appear recurrently as determinants in adolescents (García-Rodríguez, Suarez Vazquez, Secades-Villa, & Fernández-Hermida, 2010; Sanchez et al., 2010). The risk of consumption also increases with the consumption of peers, especially when contacting with older schoolmates (García-Rodríguez et al., 2010; Leatherdale, McDonald, Cameron, & Brown, 2005). Also socio-economic factors (Palipudi et al., 2012) or advertising have been studied (García del Castillo, Gásquez, & Castillo-Lopez, 2011; Griffiths, 2010), although some studies show that the effects are neutralized by the influence parental and peers support (Kinard & Webster, 2010).

In Portuguese context, a recent study with individuals older than 18 years (Dias et al., 2011) pointed out as major determinants of alcohol and tobacco consumption the gender, lower education, older age and schooling. In this paper we intend to focus in on a younger population of school-age adolescents, exploring the role of socio-demographic and psychological variables on alcohol and tobacco use, especially the proactive attitudes and in relation to substance use, coping proactive, self-regulation, self-efficacy and perceived social support. Some studies in our context has allowed us to realize a closer relationship between self-regulation and substance use (García del Castillo & Dias, 2007, 2009; García del Castillo, Dias, & Perim, 2012), as well as the attitudes and consumption tobacco and alcohol (Carvalho, 1986, 1993; García del Castillo, Dias, Díaz-Pérez, et al., 2012; Jiménez, Díaz, & Ruiz, 2006; Pimentel, Coelho Junior, & Aragão, 2009). Less evidence exists on the relationship with the social support and recent lines in attitudes and coping as proactive attitude and coping that we intend to explore in the present research.

## Method

### *Participants*

In the sample of this of study were 323 adolescents, 199 of them were girls (61.6%), aged between 15 and 19 years ( $M = 16.79$ ,  $SD = 1.10$ ) who attended Portuguese public high schools.

### *Materials/instruments*

Besides a socio-demographic questionnaire to gather personal data and substance use of the sample, a set of other measures was used.

The Proactive Coping Scale, one subscale of the Proactive Coping Inventory developed by Greenglass, Schwarzer, & Taubert (1999), adapted to Portuguese by Marques, Lemos, & Greenglass (2004), with 14 items evaluates active coping strategies used by adolescents, when dealing with certain problems.

The Proactive Attitude Scale (Schwarzer, 1999a), a measure with 8 items that evaluates individual perception of personal resources to action, translated and adapted to Portuguese by Nunes & Schwarzer (1999).

The Self-regulation Scale (Schwarzer, 1999b), comprises 10 items to evaluate self-regulation as a multidimensional and dispositional approach. This measure is

adapted to Portuguese with acceptable validity and reliability, given its  $\alpha = 0.78$  (Dias, García del Castillo, & Schwarzer, 2008).

The General Self-efficacy Scale (Schwarzer & Jerusalem, 1995) presents 10 items to evaluate optimistic self-beliefs to cope with difficult demands in life. Adapted to Portuguese by Araújo & Moura (2011), this scale presents adequate psychometric properties as unidimensional measure with  $\alpha = 0.87$ .

The Berlin Social Support Scales (Schwarzer & Schulz, 2000), with 17 items, evaluates perceived available support (emotional and instrumental), need for support and support seeking. Its adaptation to Portuguese demonstrated appropriate validity and reliability since  $\alpha = 0.61$  at need for support scale to  $\alpha = 0.80$  at perceived available emotional support (Dias & García del Castillo, 2014).

And the Attitudes toward Tobacco and Alcohol (García-Rodríguez & López-Sánchez, 2001), two scales with 13 items each to evaluate predisposition to use, displeasure index and satisfaction perception toward alcohol or tobacco use. These scales were adapted to Portuguese context by García del Castillo, Dias, Díaz-Pérez, and colleagues (2012), with good validity and good reliability (from  $\alpha = 0.60$  at the satisfaction perception to 0.91 at the displeasure index to alcohol use; and  $\alpha = 0.76$  at the satisfaction perception to 0.91 at the predisposition to use to Tabaco).

### *Procedure*

After gathering the authorization of the authors of the measures, the school boards and parents of secondary students in the north of Portugal, instruments were administered to a non-probabilistic sample and completed by students in the classroom during normal school hours, on times assigned by teachers for the purpose. After collecting data, answers were coded and analyzed in the statistical analysis program Statistical Package for Social Sciences, version 15.

### *Design*

This is transversal *ex-post facto* study, with a cross-sectional design.

## **Results**

At the Table 1 we can verify differences in dependent variables according to tobacco or alcohol use, being significative especially in attitudes toward tobacco or alcohol. Also positive correlations were found between onset age of smoking with emotional support ( $r = .173, p <.05$ ) and between smoking intensity with attitudes, whether at full scale ( $r_s = .418, p <.01$ ) as in the specific dimensions as consumption disposition ( $r_s = .556, p <.01$ ), dissatisfaction index ( $r_s = -.406, p <.01$ ), and perceived satisfaction ( $r_s = .379, p <.01$ ). Onset age of alcohol consumption correlated negatively with the predisposition to consumption ( $r = -.147, p <.05$ ) and positively with the action against the consumption ( $r = .163, p <.01$ ).

**Table 1.** Mean differences according to tobacco and alcohol use.

	Tobacco					Alcohol				
	Yes		No		<i>p</i>	Yes		No		<i>p</i>
	<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>		<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>	
Proactive coping	43.681	4.036	44.370	4.485	.160	44.059	4.153	43.333	5.155	.377
Proactive attitude	26.780	2.259	26.806	2.546	.923	26.871	2.371	26.091	2.492	.076
Instrumental support	14.747	1.636	14.669	1.864	.688	14.713	1.739	14.667	1.780	.886
Emotional support	14.780	1.706	14.597	1.871	.362	14.694	1.790	14.719	1.764	.942
Seek support	15.932	2.844	16.147	2.409	.473	16.011	2.716	16.212	2.133	.681
Need support	12.529	2.158	12.521	2.145	.974	12.525	2.149	12.515	2.210	.981
Self-regulation	27.899	3.890	29.266	4.206	.003	28.495	4.065	28.788	4.357	.698
Self-efficacy	31.449	4.122	31.511	4.218	.896	31.620	4.135	30.281	4.282	.085
Predisposition to use	9.607	5.142	5.875	2.394	.000	8.194	4.694	5.788	1.816	.004
Displeasure index	14.586	3.913	17.438	2.894	.000	15.712	3.843	17.344	2.635	.020
Satisfaction perception	7.261	3.218	5.9510	2.482	.000	6.825	3.014	5.406	2.326	.010
Attitude toward use (Tobacco or Alcohol)	31.238	5.724	29.291	3.900	.001	30.601	5.195	28.355	3.168	.019

According to alcohol consumption pattern, we found significant differences in self-regulation ( $F = 2.496$ ,  $p = .03$ ), displeasure index ( $F = 26.972$ ,  $p < .01$ ), predisposition to consumption ( $F = 9.182$ ,  $p < .01$ ), action against alcohol ( $F = 6.258$ ,  $p < .01$ ) and at attitudes' toward alcohol total score ( $F = 7.567$ ,  $p < .01$ ). Results are consistently higher among those who do not use alcohol and lower in those consuming every day, except in predisposition to consumption. We found also a negative correlation between the number of times that is adolescents get drunk and demand for support ( $r = -.121$ ,  $p = .031$ ), required support ( $r = -.127$ ,  $p = .025$ ) as well as the attitude ( $r = -.122$ ,  $p = .031$ ), displeasure index ( $r = -.418$ ,  $p < .01$ ), action against consumption ( $r = -.199$ ,  $p < .01$ ), and positive relation with predisposition for consumption ( $r = -.386$ ,  $p < .01$ ). Also in binge drinking we verified increased self-regulation among those never used alcohol intensively [ $t_{(304)} = -2.408$ ,  $p = .017$ ] and higher attitude, is the displeasure index [ $t_{(316)} = -5.422$ ,  $p < .01$ ] as action against consumption [ $t_{(319)} = -2.093$ ,  $p = .037$ ], and higher predisposition to consumption [ $t_{(319)} = 4.461$ ,  $p < .01$ ] between those who drank intensively.

### Discussion/Conclusion

The results of the present study highlight the central role of attitudes toward substance use whether in experience, onset age and intensity of use, in line with previous studies (García del Castillo, Dias, & Perim, 2012; García del Castillo, Sánchez, & Soler, 2006; Jiménez et al., 2006; Pimentel et al., 2009). Results allow us also to understand that adolescents who start using alcohol or tobacco earlier present more positive attitudes toward substance use, what might allow us to discuss about the complex effect of substance use in attitudes. A topic that might be deepen in further longitudinal or mixed studies.

Despite the differential role of self-regulation in alcohol use and binge drinking (García del Castillo, Dias, & Perim, 2012; Hustad, Carey, Carey, & Maisto, 2009), or social support (Averna & Hesselbrock, 2001) results look more consistent in attitudes toward substance use. In fact, attitudes still the most consistent factor that differentiates these risk behaviors in line with theory of planned behavior (Ajzen, 2011; Ajzen & Fishbein, 2005). Somehow surprisingly proactive coping and proactive attitudes didn't appear as determinants of experience and alcohol and tobacco use. Eventually these

might be more general constructs without any direct influence on substance use but mediated to specific attitudes or other constructs.

Despite these results, this was a small study with a non-probabilistic sample, so further studies are needed in this line. Particularly important to explore the differential influence of determinates according to substances. Also in intervention terms this data support the need to develop and evaluate the efficacy of preventive interventions specifically directed to each substance given the specific determinants of alcohol or tobacco use in adolescence, a topic that should be explored in further research.

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