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Social skills in smokers: a study with brazilian undergraduate students

Habilidades sociais em tabagistas: um estudo com universitários brasileiros

Regina de Cássia Rondina
Doutora em Psicologia (Phd in Psychology)
Departamento de Psicologia da Educação, Universidade Estadual Paulista – UNESP
rcassiar@terra.com.br

Raul Aragão Martins
Universidade Estadual Paulista – UNESP
São José do Rio Preto, São Paulo, Brasil
raul@ibilce.unesp.br

Antonio Carlos Manzato
Universidade Estadual Paulista – UNESP
manzato@ibilce.unesp.br

Clóvis Botelho
Universidade Federal do Mato Grosso (UFMT)
Coxipó-Cuiabá/MT
Cuiabá, Mato Grosso, Brasil
clovisbotelho8@gmail.com

Brunna Refberg
Universidade Estadual Paulista – UNESP
brunna205@hotmail.com

ABSTRACT

The objective of this study was to compare characteristics of social skills on college smokers and nonsmokers. We evaluated 1126 students enrolled in a public university in western São Paulo through a questionnaire - the Fagerström test for nicotine dependence - and the Social Skills Inventory (Inventário de Habilidades Sociais) - IHS (Del Prette & Del Prette , 2001) . Smokers had, on average, higher scores on the factor score F1 in the IHS when compared to nonsmokers. The data do not confirm the hypothesis of an association between social skills deficits and smoking among participants of this research. College smokers have been described, on average, as more assertive when compared to nonsmokers. More studies to confirm this information is still required. Prospective and/or tranversal resear-

ches on the possible underlying factors to the association between smoking and assertiveness may also contribute to understanding of the subject.

Keywords: smoking; social skills; assertiveness

RESUMO

O objetivo deste trabalho foi comparar características do repertório de habilidades sociais em universitários fumantes e não fumantes. Avaliaram-se 1126 estudantes matriculados em uma universidade pública do oeste paulista por meio da aplicação de um questionário – o Teste de Fagerström para dependência nicotínica – e do Inventário de Habilidades Sociais – IHS (Del Prette & Del Prette, 2001). Fumantes obtiveram, em média, pontuações maiores no escore fatorial F1 do IHS em comparação a não fumantes. Os dados não confirmam a hipótese de associação entre déficits em habilidades sociais e tabagismo entre os participantes desta pesquisa. Universitários fumantes descreveram-se, em média, como mais assertivos em comparação a não fumantes. Ainda são necessários mais estudos no sentido de se confirmar esse dado. Pesquisas de natureza prospectiva e/ou transversal sobre os possíveis fatores subjacentes à associação entre tabagismo e assertividade também podem contribuir para compreensão do assunto.

Palavras-chave: tabagismo; habilidades sociais; assertividade.

In recent decades, the literature shows a growing interest to investigate the relationship between difficulties in interpersonal context and issues related to licit and illicit psychoactive substances (Morales, Plazas, Sanchez, & Ventura, 2011; Wagner & Oliveira, 2007). There is already evidence of an association between social skills deficits and various psychopathological conditions, and, among them, disorders related to abuse and/or drug dependence (Caballo , 2002) .

Researchers have been investigating the relationship between social skills deficits and problems related to psychoactive substance use in general. The literature contains a set of assumptions about the nature of this association. The assumption is that the drug would be a resource for coping used by the subject before external pressures, thus having an instrumental nature. Conditions of abuse and/or substance dependence would also be related, somehow, to failures in development of social skills (Caballo , 2003; Rodrigues , 2008) . Deficits in learning abilities in appropriately interact socially during childhood may increase the child's vulnerability to rejection and, concomitantly, the emergence of problems such as drug use, violence, and other (Lunkes, Soares, & Pergher, 2011; Wagner & Oliveira, 2007). Thus, individual characteristics (such as the level of anxiety in situations of social interaction and/or failures in refusal assertiveness against the pressure to the consumption of substances) are factors that may contribute to the initiation and progression of consumption in adolescents and young adults (Caballo, 2003; Morales et al., 2011). The teenagers who experience difficulties to express their opinions and to properly develop in their social environment may become more vulnerable to peer influence which may lead more easily to the consumption of

substances, when assuming that their behavior will result in social acceptance and/or believing that the pharmacological effects of substances may ease their engagement with colleagues (Morales et al., 2011).

Tobacco relaxes or reduces the tension in smokers - in response to stress and feelings of anxiety, sadness and anger - and may increase their perception of control over stressful events. In other words, the consumption can be perceived as an effective remedy in order to cope with negative affect (Niaura, Shadel, Britt, & Abrams, 2002). Therefore, it is possible that the lack of skill in social situations also constitute one of the factors of vulnerability, specifically for tobacco smoking behavior (Pinho & Oliva, 2007). The individual can smoke, for example, in an attempt to manage feelings of helplessness or lack of skills in times of interpersonal interaction. Thus, smoking would also be used as a resource for coping (Epstein, Bang, & Botvin, 2007; Pinho & Oliva 2007; Rodrigues, 2008).

However, there are still relatively few studies on the relationship between smoking and social skills when compared to other substances. Some publications focus (fully or partially) on this theme (Carvajal, Dawn, Evans, Knee, & Nash, 2000; Epstein et al., 2007; Epstein, Griffin, & Botvin, 2000; Nichols, Graber, Brooks-Gunn, & Botvin, 2006; Palos, Barrera, Martinez, Oviedo, & Oca, 2009; Pinho & Oliva, 2007; Rodrigues, 2008; Suelves & Sanchez-Turet, 2001). One of the main research topics is the relationship between smoking and assertiveness. Assertiveness is considered one of the central dimensions of social skills (Almanza & Pillon, 2004; Furtado, Falcone, & Clark, 2003) and is directly related to quality of life (Rocha, Guerra, & Maciel, 2010). Assertiveness is understood as the ability to express what one thinks, believes and feels directly and clearly at an appropriate time. This dimension includes the interpersonal conduct that involves the direct expression of one's feelings and defending one's own views, without denying the other . Assertiveness is defined as the ability to set limits, to keep them, it is a style of behavior that allows acting thinking in one's own welfare by exercising their own rights and respecting the rights of others (Almanza & Pillon, 2004; Rodrigues, 2008). The desire to be accepted by the peer group is critical, especially during adolescence. It has been hypothesized that adolescents with high assertiveness have greater efficacy in refusing the offer of drugs (and, among them, tobacco). On the other hand, lack of this ability would hinder the conduct of refusing the offer of drugs, making it a risk factor for smoking initiation and/or alcoholism (Almanza & Pillon, 2004; Rodrigues, 2008; Suelves & Sánchez-Turet, 2001). Preventive nature programs including Social Skills Training could prepare teens to be able to identify at what point they are being pressured, and develop attitudes of rejection to drugs (Almanza & Pillon, 2004; Rodrigues, 2008; Suelves & Sanchez-Turet, 2001).

In Brazil, researches on social skills in smokers are still rare. One study investigated the relationship between non-smoking social skills and the condition of being a smoker or ex-smoker (Pinho & Oliva, 2007). In the mentioned work, although the difference was not found significant, social skills were more developed among ex-smokers than to smokers (Pinho & Oliva, 2007). In the Brazilian study by Rodrigues (2008), smokers had a more impaired performance (when compared to nonsmokers) in "aggression self-control" - in addition to factors such as "interaction with strangers" and "being in evidence" (Rodrigues, 2008). Some Brazilian studies on the relationship between illicit drugs and social skills (among other variables) contain similar results. Marijuana adolescent users presented a more impaired performance in coping skills for new situations (in which self-exposure to strangers occurs, with the possibility of contesting their behaviors). It was also detected the inability to deal with feelings and reactions of aggression generated from these situations (Wagner & Oliveira, 2009;

Wagner, Silva, Zanettelo, & Oliveira, 2010). For the authors, this is in line with the hypothesis that, when skills to interact socially are not developed properly, there is a greater risk of engaging in unhealthy behaviors. Adolescents who use substances tend to have more difficulty when dealing with feelings and reactions from social situations, which may contribute to the search of psychoactive substances as unassertive coping behaviors to these difficulties (Wagner & Oliveira, 2009; Wagner et al., 2010).

It is considered that the training in specific social skills may be used as a component in preventive and/or therapeutic nature programs for smoking (Almanza & Pillon, 2004; Epstein et al., 2000). There seems to be a consensus on the need to develop further research focusing on specific aspects of the social skills of smokers, in order to contribute to the development and/or enhancement of preventive and/or therapeutic actions which adopt the training in social skills as a strategy (Almanza & Pillón, 2004; Carvajal et al., 2000; Pinho & Oliva, 2007).

This article presents the results of a cross-sectional nature survey, performed with university students from a public institution of higher education. The overarching goal is to compare characteristics of the social skills of smokers and nonsmokers college students. It does not intend to extract causal inferences between the variables included in this study. This is a preliminary work aimed to investigate whether there is evidence of association between social skills and smoking in a sample of Brazilian subjects. We've also tried to ascertain the extent to which there's an association between sociodemographic characteristics and the social skills of the students.

METHODOLOGY

a) Participants: This work was conducted with students enrolled in undergraduate courses at a public university in western São Paulo, during the 2010 school year. The academic courses of Philosophy, Education, International Relations, Social Sciences, Archival Science, Library Science, Occupational Therapy, Phonoaudiology and Physical Therapy were evaluated.

b) Instruments: For data collection, the following instruments were used: Questionnaire for survey data on sociodemographic characteristics and pattern of tobacco use for students, specifically designed for this study; Fagerstrom Test for Nicotine Dependence - Brazilian Version (Meneses–Gaya, Zuardi, Loureiro, & Crippa, 2009), to assess the degree of nicotine dependence of smokers; Social Skills Inventory (Inventário de Habilidades Sociais-IHS), (Del Prette & Del Prette, 2001) for assessing social skills of students. The results of the IHS can be calculated as the total score (total) or factorial scores (specific skills). The total score allows a first assessment of the existence of resources and social skills deficits of the respondent. The factor scores should be interpreted in situational behavioral terms. The IHS contains the following factor scores: F1 = Coping with risk; F2 = self-assertion skills in the expression of positive affect; F3 = talking and social skills; F4 = self-exposure to strangers or new situations; F5 = aggression self-control in aversive situations (Del Prette & Del Prette, 2001). Studies show the validity and reliability of the instrument, endorsing its use to assess the social skills in university students in Brazil (Del Prette & Del Prette, 2001; Bandeira, Costa, Del Prette, Del Prette, & Gerk-Carneiro, 2000).

c) Procedure: This study was approved by the Ethics Committee of the University (process number 1914/2009). All the students enrolled in different courses, during the 2010 school year, were asked to voluntarily participate. Each participant received a Term of Free and Informed Consent (TFIC), as envisaged in the Resolution 196/96, for research involving human beings. After signing the con-

sent, it was successively applied, the Questionnaire, the Fagerstrom Test and the IHS. Participants were classified for their tobacco consumption as follows: we considered "smokers" (S) those who reported that they currently smoke and have consumed at least 100 cigarettes during their lifetime; ex-smokers, those who reported having stopped smoking, and "non-smokers" (NS) those who marked the item "non-smokers" in the survey.

d) Analysis of the results: Initially the prevalence of smoking was calculated. Then, the analysis was performed on categorical variables using the chi-square test. To examine the associations between the results obtained by students in the IHS and the other variables included in the study, a multivariate analysis of variance was conducted. The scores of students in the IHS (Total Score and Factorial Score) were taken as dependent variables. Sociodemographic characteristics and information related to the pattern of tobacco consumption of the participants were considered independent variables.

Then, the data were subjected to analysis of binary logistic regression (Wright, 1996). For this purpose, the variables were coded as follows:Smoking: Smokers (1) and Non-smokers (0);Course: Humanities = 1 and Health Sciences= 0;Gender: Female = 1 and Male = 0;Having a paid job: Working = 0 and not working = 1;Religion: Having a religion = 1 and not having a religion = 0; Age: up to 21 years old= 1 and equal to or older than 22 years old = 0;Course period: Day = 1 and Night = 0.

RESULTS

In all, 1126 students participated in the study, with 97 smokers, 45 ex-smokers and 984 nonsmokers. Smoking prevalence was 8.6% (considering the total sample). Among smokers, 51 (52.6%) were males, and 46 (47.4%) were female.

In this study, 45 participants were excluded for declaring being ex-smokers, and 05 by incomplete filling of the IHS. The final sample was composed of 1,076 participants, 76.3 % female and 23.7 % male (Table 1). The prevalence of smoking among males is 20.0 % and for females, 5.2%, and this difference is significant ($c2 = 49,169$, $p = 0,001$).

Table 2 shows the performance of smokers and nonsmokers in IHS. Via analysis of variance, there was a significant effect on the dependent variable "Total Score in IHS" Total ($F1,1074 = 6,650$, $p = 0,010$) and IHS F1 ($F1,1074 = 22,307$, $p = 0,001$) and close to significant for the dependent variable IHS F3 ($F1,1074 = 3,274$, $p = 0,071$). In Total score and factor score F1; the average score for college smokers was higher when compared to nonsmokers. Exploring the interactions between the "tobacco use" variable (smoking and not smoking) with the study variables (gender, period, year, age, religion and job), significant interaction between IHS F3 with tobacco use and period was detected ($F1,1072 = 4,665$, $p = 0,031$). Night students who smoked had a higher average at IHS F3 when compared to the day students (Night: Average = 7.87, SD = 1.63; Day: Average = 7.10, SD = 1.94) .

Through the analysis of Binary Logistic Regression it was examined to what extent the dependent variable "use of tobacco" (smokers and nonsmokers) is related to variables Course, Gender, Age, Work, Religion, Period and performance in the IHS (in the total score and in the factorial scores F1, F2, F3, F4, F5). The results are shown in Table 3. It was found statistical significance for the variables: F1Factor Score from the IHS, Course, Gender and Religion:

Table 4 presents the results of the binary logistic regression performed for F1, Course, Gender and Religion variables (which were significant in the first analysis, as shown in Table 3). There was a positive association with the F1 Factorial score from the IHS and the area of the

course. This analysis also revealed a negative association (inverse) with the variables gender and religion.

The positive association with Factor Score F1 (Coping with Risk) from the IHS suggests that, as we increase the scores in F1, it increases the likelihood that the subject belongs to category Smokers (S). That is to say that smokers performed better in F1, corroborating the analysis of variance. Logistic regression also revealed a positive association with the "course in the humanities" variable. This denotes a higher prevalence of smoking among courses in the humanities than to healthcare courses. On the

Binary Logistic Regression for scores of Smokers and Non-Smokers in scores of IHS, Course, Gender, Age, Work, Religion and Period

	Health Sciences		Humanities		Total[1]	
	f	%	*f*	%	*f*	%
Gender[2]						
Female	315	38,4	506	61.6	821	76,3
Male	31	12,2	224	87,8	255	23,7
Period						
Day	346	52,2	317	47,8	663	61,6
Night	0	0,0	413	100,0	413	38,4
Year						
1st	124	29,6	295	70,4	419	39,2
2nd	81	35,2	149	64,8	230	21,5
3rd	67	30,2	155	69,8	222	20,7
4th	74	37,2	125	62,8	199	18,6
Age						
Up to 21 years old	253	37,5	421	62,5	674	62,6
22 years old or more	93	23,1	309	76,9	402	37,4
Religion[2]						
Yes	303	39,7	461	60,3	764	71,0
No	43	13,8	269	86,2	312	29,0
Works[2]						
Yes	6	2,2	273	97,8	279	25,9
No	340	42,7	457	57,3	797	74,1
Fargestrom Test						
Dependent	2	10,0	18	90,0	20	20,6
Non dependent	9	11,7	68	88,3	77	79,4
Cigarette consumption						
Low	7	15,2	39	84,8	46	47,4
High	4	7,8	47	92,2	51	52,6

1 = number of participants is smaller than 1.076 for some of the variables since not everyone has answered all of the questions;
2 = $p \leqslant 0{,}001$

Distribution of averages and standard deviation scores of smokers and nonsmokers in IHS

	Smokers		Non-Smokers	
	Average	SD	Average	SD
Total	98,27	16,26	94,27	16,35
F1	10,24	2,85	8,77	2,93
F2	8,76	1,76	8,99	1,79
F3	7,51	1,81	7,17	1,76
F4	3,65	1,34	3,51	1,25
F5	1,26	0,78	1,26	0,67

Binary Logistic Regression for scores of Smokers and Non-Smokers in scores of IHS, Course, Gender, Age, Work, Religion and Period

	Coefficient	Odds Ratio	*P*
IHS Total	-0,0170	0,98 (0,93 1,03)	0,515
IHS F1	0,2037	1,23 (1,04 1,45)	0,017
IHS F2	0,0570	1,06 (0,86 1,31)	0,596
IHS F3	0,0846	1,09 (0,88 1,35)	0,441
IHS F4	-0,0506	0,95 (0,75 1,20)	0,670
IHS F5	0,0718	1,07 (0,77 1,50)	0,672
Course	0,8744	2,40 (1,15 5,01)	0,020
Gender	-0,8369	0,43 (0,26 0,72)	0,001
Age	-0,2936	0,75 (0,47 1,18)	0,212
Works	-0,0419	0,96 (0,57 1,63)	0,876
Religion	-1,1622	0,31 (0,19 0,50)	0,001
Period	-0,0988	0,91 (0,54 1,51)	0,704

Binary Logistic Regression for scores of Smokers and Non-Smokers in F1 factor in the IHS, Course, Gender and Religion

	Coefficient	Odds Ratio	*P*
IHS F1	0,1504	1,16 (1,08 1,26)	0,001
Course	0,8590	2,36 (1,20 4,64)	0,013
Gender	-0,8310	0,44 (0,27 0,69)	0,001
Religion	-1,1719	0,31 (0,19 0,49)	0,001

other hand, the inverse association (negative) was found between the variable "having a religion" and the category "Smokers" which reveals a lower percentage of students who reported having a religion among smokers than to nonsmokers. Also the inverse association with the variable "female" denotes a lower prevalence of smoking among females.

DISCUSSION

The low prevalence of smoking in this study (8.6%, considering the total sample of initial subjects) is consistent with recent studies. Studies involving students from public institutions in different regions of the country show prevalence ranging from approximately 5% to 15% (An-

drade et al., 2006; Granville-Garcia et al., 2012; Souza, Oliveira, Silva, & Santos, 2009). The highest concentration of smoking among students enrolled in courses in the field of humanities (when compared to the health area) observed in this study is also consistent with previous studies (Andrade et al., 2006; Wagner, de Oliveira, Barroso, Nishimura, Ishihara et al. 2012).

In regards to the variable "having a religion", data from this study confirm what predicts the recent literature on tobacco smoking behavior in college students and also in conducted researches with the general population (Cardoso, Coelho, Rodrigues, & Petroianu, 2010; Granville-Garcia et al., 2012). It is possible that adherence to religious beliefs constitutes, somehow, in a protective factor for smoking. Finally, this study showed a higher prevalence in males. However, recent surveys suggest that there is no consensus regarding the relationship between smoking and gender. Studies conducted with samples of college students and surveys with the general population suggest that, in this respect, there is still controversy (Andrade et al., 2006; Cardoso et al., 2010).

This study came from the hypothesis (broad and general) that smoking is related, somehow, to deficits in social skills. However, the results did not confirm the assumption. No association between smoking and the total score (T) of the IHS, which "allows a first assessment of the existence of resources and social skills deficits in the repertoire of the respondent" (Del Prette & Del Prette 2001, p.27) was observed. Two studies contain similar results. In the work of Pinho e Oliva, (2007) no significant association was found between the condition of being a smoker and social skills. Rodrigues (2008) compared the performance of smokers and nonsmokers in the Inventory of Social Skills / IHS and in the Cuestionário de Interación Social / Ciso A-82. There was no significant difference between the performances of two groups of subjects in the general score in either of the instruments used.

Also contrary to expectations, in this study, smokers showed better performance in F1 factor score (Coping with risk). On the other hand, the study by Rodrigues (2008) did not observe significant difference between the performance of smokers and nonsmokers in F1 factor from the IHS. The Brazilian study by Pinho e Oliva (2007) presents no comparison between the performances of subjects in the factor scores from the IHS. The factor score F1from the IHS is:

> (...) the repertoire of the respondent in coping to risk skills, i.e., the ability to deal with interpersonal situations that require the affirmation and defense of rights and self-esteem, with the potential risk of undesirable reactions by the interlocutor (possibility of rejection, replica or opposition). In other words, it is an indicator of assertiveness and anxiety control (...) presenting oneself to an unknown person, approaching a partner for intercourse, disagreeing with authority, disagreeing with colleagues in groups, collecting debt from a friend, declaring loving the partner, dealing with unfair criticism, speaking to a known public, returning a defective good to the store, maintaining conversation with strangers and making question known people. (Del Prette & Del Prette, 2001, p. 27-28)

Factors of different nature may have influenced the results of this study. It is possible, for example, that the college smokers evaluated in this study had misperceptions regarding their social skills and/or social performance. In the study by Pinho e Oliva (2007), more than 80 % of smokers had scores corresponding to an elaborate repertoire or very elaborate social skills at IHS. The authors suggest, as a hypothesis, that smokers may have overestimated their social skills:

The percentage of over 80% of average repertoire and developed social skills among smokers in this group could be a result of smoking to cope with social situations considered difficult. By simple associative mechanisms, smokers start to perceive themselves as more skilled than they really would be. Constant use of cigarettes as a coping strategy in adverse social situations might lead many smokers to overestimate their social skills (Pinho & Oliva, 2007, p. 51).

As mentioned, one of the main hypotheses is that (among other things) smoking is used as a strategy when facing social situations (coping) perceived as difficult (Pinho & Oliva 2007; Rodrigues, 2008). For Niaura et al. (2002), tobacco relaxes or reduces stress in smokers, particularly in response to stress and feelings of anxiety, sadness and anger. In addition, smoking can increase their perceived control over stressors, i.e., the consumption can be perceived as an effective remedy in order to deal with stress and anxiety. Thus, it is possible that the repeated use of tobacco as a coping strategy among academics in this work may have created a "false perception" of higher self-control (or of greater coping skill) in situations perceived as stressful. More studies are needed to investigate such matters.

On the other hand, it´s possible that somehow the college smokers who took part in this study are really more skilled in keeping anxiety under control when coping with aversive interpersonal situations in comparison to non-smokers. However, further research is necessary to confirm this result. Longitudinal surveys with a bigger sample size, involving students from public and private graduate schools, can increase the understanding on the matter. The best assertiveness performance in this work, if confirmed, also suggests the importance of investigating the underlying factors to this association. Furthermore, it is important to note that the literature as a whole is controversial regarding the association between smoking and assertiveness. However, most studies published on the subject today have been conducted with adolescents, which make comparison with studies involving subjects of different age group difficult. In some studies, adolescents with low assertiveness were more likely to be smokers (Epstein et al., 2000; Nichols et al., 2006). On the other hand, the study by Carvajal et al. (2000) found that adolescents with high assertiveness were more likely to be smokers.

One explanation for this controversy is that the association between smoking and assertiveness can be variable in case it is taken into account specific dimensions of assertive behavior (Carvajal et al, 2000; Suelves-Turet & Sanchez, 2001). One facet or sub dimension of assertive behavior in general, characterized as "skill of assertiveness in refusing" before the offer or pressure to the consumption of substances, is considered by many as a protective factor for smoking. Prospective and transversal studies suggest that high scores on "assertiveness in refusing" are associated with a lower risk of teen consume tobacco (Epstein et al., 2000; Epstein et al., 2003; Epstein et al., 2007; Palos et al., 2009). Therefore, many programs of preventive nature against the consumption of psychoactive substances (and, among them, tobacco) adopt, among other strategies, assertiveness training and other social skills based on the argument that these skills can help to improve resistance of pressure on adolescents to consume. However, there is no consensus in this regard, and the subject has been the object of inquiry (Botvin, 2000; Carvajal et al., 2000; Suelves, & Sanchez-Turet, 2001). According to Epstein et al. (2000), for example, it is necessary that training programs develop aspects of social competence as a whole, combined with training in refusal skills. For the authors, adolescents with deficits in skills like decision making and reduced self-efficacy are less likely to use assertiveness in refusing and more likely to succumb in the face of social influence to smoke. Moreover, the develo-

pment of these skills can motivate these teens to use the skill of assertiveness in refusing.

For Carvajal et al. (2000), much attention has been focused on skill acquisition of resistance to peer pressure to consume, although the results of the studies as a whole still show controversy as to denote this association. A study conducted with adolescents suggests a complex interrelationship between measures of social assertiveness, behavioral control, persistence in achieving goals and initiation of smoking in adolescents, leading us to believe that the relationship between smoking and assertiveness may be mediated by variables of different nature. High scores on assertiveness - associated with low scores on measures of self-esteem - were related to a higher risk of smoking initiation. I.e., in that study, the variable "having strong feelings of self-esteem" seemed to act as a protective factor against smoking among more assertive adolescents. New studies on the subject could elucidate (specific and general) critical behavioral factors for smoking initiation in order to guide preventative interventions in adolescence. As an example, studies to determine the role of social assertiveness in the face of conflicting and non-conflicting situations and the difference that such situations can exercise in predicting the initiation of smoking could contribute to the understanding of the subject (Carvajal et al., 2000).

Also for Suelves e Sanchez-Turet (2001), the association between assertiveness and substance consumption (and, among them, tobacco) depends on the dimension of assertiveness analyzed. A study revealed that in early adolescence, assertive behavior explains a very small part of the observed variation in the consumption of substances; on the other hand, "aggressive forms of behavior" sub dimension was associated with a higher risk of smoking. Thus, the said protective effect of preventive programs against initiation of substance use could be magnified if the training programs in social skills were aimed at changing specific behavioral aspects (Suelves, & Sanchez-Turet, 2001). According Almanza and Pillon (2004), programs for the prevention of alcohol and drugs have resorted to strategies supposedly generalizable to the population as a whole. Such strategies are not always used respecting individual differences in regards to the risk of consumption, i.e., it does not take into account the heterogeneity of the target population. It is also necessary to distinguish the actions according to the specific motivational stages of acquisition of the habit and risk/protective factors present. The ideal would be to develop interventions that point protective factors which influence in each motivational specific step in the process of acquiring the habit among young people. (Almanza & Pillón, 2004).

FINAL CONSIDERATIONS

The goal of this study was to investigate whether there is an association between characteristics of social skills and smoking in a sample of university students. The study proceeded on the assumption that social skills deficits can influence somehow initiation and/or maintenance of smoking. However, the results are contrary to this line of interpretation. There was no difference between the performance of smokers and nonsmokers in the Total score of the IHS. Also contrary to expectations, smokers had, on average, better performance in F1 factor from the IHS (Coping with risk). A set of variables may have influenced this result. In addition to the above factors, smokers may have more distorted the responses in the IHS protocols (consciously or not) in order to present a pattern of behavior considered appropriate (or socially approved). In a previous study on personality characteristics and smoking involving over a thousand Brazilian university students, smokers tended to distort responses during data collection in order to make socially accepted characteristics (Rondina, Gorayeb, & Botelho, 2005).

Finally, it is important to pay attention to the limitations of this study. The population characteristics (university students) and the relatively small number of found and analyzed smokers here (97) are factors that make it difficult to compare with other studies. Furthermore, most of the available literature on smoking so far is composed of social skills research with adolescents, which limits (at least in part) the comparison with studies involving subjects of different age groups. New studies of prospective and cross-sectional nature involving populations with different characteristics and larger sample size may enhance the understanding of the subject.

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