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DRUG CONSUPTION AMONG UNIVERSITY STUDENTS: FAMILY, SPIRITUALITY AND ENTERTAINMENT MODERATING INFLUENCE OF PAIRS

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ABSTRACT: A quantitative, descriptive and exploratory study, with a cross-sectional design aimed at investigated the role of the family, spirituality and entertainment in moderate relationship of influence of pairs and drug consumption among university students of one university. The sample was composed of 250 students from a public university in Brazil. A questionnaire was developed with 5 validated scales that interrogated about the influence of the peer group, the family relationships, the entertainment, the spirituality, and drug consumption. It was used SPSS version 18 for the statistical analysis. The data indicated that 90.8% of students had at least one friend who is drug consumer, most of them use alcohol, tobacco and marijuana. There was significant association between some academic and sociocultural factors and the consumption of licit and illicit drugs. We recommended that some preventive strategies should be elaborated considering the influence of sociocultural factors about drug consumption among university students.

DESCRIPTORS: Drug abuse. University. Family. Cultural factors. Peer group.

CONSUMO DE DROGAS ENTRE ESTUDIANTES UNIVERSITARIOS: FAMILIA, ESPIRITUALIDAD Y ENTRETENIMIENTO MODERADOR LA INFLUENCIA DE PARES

RESUMEN: Investigación cuantitativa de tipo descriptiva-exploratoria, con diseño transversal que investigado el papel de la familia, la espiritualidad y entretenimiento en la moderará a la relación entre influencia de la pares y el consumo de drogas entre estudiantes universitarios. La muestra fue conformada por 250 estudiantes de una universidad pública brasileira de forma no probabilística. Fue elaborado un cuestionario con 5 escalas ya validadas, que interrogaba sobre la influencia del grupo de pares, las relaciones familiares, el entretenimiento, la espiritualidad y el consumo de drogas. Se utilizó el programa SPSS versión 18 para el análisis estadística. Los datos indicaran que el 90,8% de los estudiantes de la muestraran reportaron tener por lo menos un amigo que consumía drogas, las drogas mas consumidas fueron alcohol, tabaco y marihuana. Se estableció asociación significativa entre algunos factores académicos y culturales con el consumo de drogas legales e ilegales Se recomienda que deben ser elaboradas estrategias preventivas considerando la influencia de los factores culturales sobre el consumo de drogas entre los estudiantes universitarios.

DESCRIPTORES: Consumo de drogas. Universidad. Familia. Factores culturales. Grupo paritario.

CONSUMO DE DROGAS ENTRE ESTUDANTES UNIVERSITÁRIOS: FAMÍLIA, ESPIRITUALIDADE E ENTRETENIMENTO MODERANDO A INFLUÊNCIA DOS PARES

RESUMO: pesquisa quantitativa, descritiva e exploratória, com desenho transversal que investigou o papel da família, da espiritualidade e do entretenimento em moderar a relação da influência dos pares sobre o consumo de drogas entre estudantes universitários. A amostra foi composta por 250 estudantes de uma universidade pública brasileira de forma não probabilística. Foi elaborado um questionário com cinco escalas validadas que indagaram sobre a influência do grupo de pares, as relações familiares, o entretenimento, a espiritualidade e o consumo de drogas. Utilizou-se o programa SPSS versão 18 para a análise estatística. Verificou-se que 90,8% dos estudantes da amostra tinham pelo menos um amigo consumidor de drogas, e as mais consumidas foram álcool, tabaco e maconha. Estabeleceu-se associação significativa entre alguns fatores acadêmicos e culturais com o consumo de drogas lícitas e ilícitas. Recomenda-se a elaboração de estratégias preventivas, considerando a influência dos fatores culturais sobre o consumo de drogas entre os estudantes universitários.

DESCRIPTORES: Abuso de drogas. Universidade. Família. Fatores culturais. Grupo de pares.

INTRODUCTION

ODrug consumption is increasing and is considered to be a public health problem because of its fatal effects, which are worrying to the global community. Today the use of illegal drugs has increased all over the world, affecting 230 million individuals aged 15 to 65 years old. Regarding the consumption of legal drugs, it is estimated that there are more than 200 million alcohol consumers and 700 million individuals who use tobacco worldwide, and one in every 10 adults older than 30 years of age dies from the chronic use of these substances.¹

In Brazil, drug use/abuse is directly and indirectly correlated with several health hazards such as road accidents, aggression, behavioral disorders, risky behavior in the sexual sphere, and HIV virus transmission through the use of injected drugs. Additionally there are other health conditions resulting from the components of the substances used and the route of administration, such as alcohol's association with cirrhosis, and cigarettes' (nicotine) association with lung cancer.²

Therefore, strategies aimed at institutional strengthening, demand reduction, supply reduction, control measures, and international cooperation have been adopted. Policies on drugs should include as core elements: prevention; early intervention; treatment; rehabilitation; and recovery-related support services. Moreover, policies should be guided by the principle of promoting health and social well-being among individuals, families, and communities as mechanisms to reduce the adverse consequences of drug consumption.³

For our purposes, "drug" is defined as any substance that is not produced by the body and which has the property of acting on one or more bodily systems to produce changes in their functioning.⁴ Thus, drugs are not necessarily hazardous, as these can even entail significant benefits when used with care and on medical prescription. Some drugs, however, can change the functioning of the central nervous system (CNS): these are the so-called psychotropic drugs.

Drugs can be natural or synthetic, and act on the brain, affecting the mental, motor, and emotional processes, changing psychic activities and behavior (exciting, depressing, and/or disturbing). These substances can cause dependence and, thus, must be used with care. When used in this study, the term "drug" refers particularly to this group.

Identifying the risk factors for consumption and the protection factors is crucial to understand the phenomenon of drugs. Drug addiction is a complex phenomenon with multiple determinants and demands considerable scientific knowledge to understand it.

Today there is an unprecedented increase in the use of drugs by different groups and social classes. University students make up one of the social segments that deserves more attention from the scientific community. They face situations that build up a special process since many of them are in a phase of life full of cognitive and emotional conflicts that can escape control if disregarded.

Brazil has 2,377 higher education institutions, of which 278 are public, and 2,099 are private, spread over the 26 Brazilian states and the Federal District.⁵ In 2010, the First National Survey on the Use of Alcohol, Tobacco and other Drugs among University Students in 27 Brazilian Capitals was published. Data were collected in 2009, and the sample was made up of 12,856 university students at 51 public education institutions (EIs) and 49 private EIs from all regions of Brazil. Alcohol was the most widely consumed drug regarding use throughout life (86.2%), in the last 12 months (72%), and in the last 30 days (60.5%). The study also found that nearly half of university students had consumed some illegal drug at a point in their lives (48.7%), of which a little more than one-third had used them in the last 12 months (35.8%).⁴

Regarding the reasons for the multiple use of drugs, university students affirmed that they used either because they liked it or to forget their everyday problems. They used alcohol to manipulate the effect of another substance to maximize pleasant effects and minimize unpleasant effects; the sites that allowed access to alcohol also allowed access to other drugs, making this a mandatory association (environmental influence). Or they stated that they used drugs to imitate the behavior of friends (social influence).⁵

It can be observed that the reasons for drug consumption vary from one country to another, emphasizing that cultural, social, and economic factors can have a direct influence on consumption. These factors can originate in the family and other social segments, such as spirituality/religion, entertainment, or groups of peers/friends, because these environments compel individuals to respond in a way consistent with social demands or pressure, and also coincide with a desire for social approval.

In this study, peers were defined as members of a group or sub-group that influence one another in their social activities, study habits, clothing, sexual behavior, and use or non-use of drugs; typically these are friends who share similar attitudes and values.⁶ Therefore, the influence of peers occurs as individuals respond to social pressure or motivation by their peers towards behaving in a way acceptable to them.

Family relations were defined as the inter-connection of family members in their relations with other family members, and how they affect the thoughts and actions of the participants within the family unit.⁷ In the final analysis, the terms were approached in the sense of belonging, coexistence, cohesion, and intra-family communication.

Entertainment (based on technological interaction, non-interactive technology, and parties and social activities) was defined as any activity or experience envisaged to delight and to satisfy as a result of exposure to information, knowledge, and actions by others or oneself. The definition considers all kinds of activities wherein the person is a witness, participant, or sole performer.⁸

Spirituality was defined as the perception of individuals about themselves as a spiritual and/or religious person with moments of silence, prayer, or meditation.⁹

In this context, this study investigated the role played by the family, spirituality, and entertainment in moderating the influence of peers on drug consumption among Brazilian university students.

METHOD

This study is part of a multicenter research carried out simultaneously at three universities in the Caribbean and five universities from Latin America, coordinated by the Centre for Addictions and Mental Health (CAMH) of Canada, in partnership with the Inter-American Drug Abuse Control Commission (CICAD/OAS). It is a cross-sectoral, quantitative, analytical and descriptive survey. In Brazil, the study was performed with university students from a public university in Santa Catarina.

The non-probabilistic sample by quotas was made up of 250 undergraduate students of both sexes. The criterion for inclusion in these quotas was to be a student enrolled in the fields of either health sciences, social sciences, or human

sciences – courses common to the universities that were part of the study – thus completing the total sampling according to the availability of the areas and courses of the university hosting the survey. The exclusion criterion was to be younger than 18 years or older than 24 years. The sample provided potency higher than 0.8 to bi-varied analyses, with potency sufficient to detect the average and small effects in terms of coefficients of correlation and regression.

Data were collected through a self-administered questionnaire prepared by a team of researchers, and adopted some existing scales such as the Peer Influence scale,¹⁰ the Index of Family Relations,¹¹ the Spirituality Involvement and Beliefs Scale,¹² Screen-based entertainment,¹³ and the Alcohol, Smoking, and Substance Involvement Screen Test.¹⁴ Content validity was obtained through a CAMH experts panel, while internal consistency was calculated using Cronbach's alpha (0.95; $p < 0.05$). The English version of the questionnaire was translated into Portuguese and tested with 20 university students from the same areas as the study sample to check understanding and make the required adjustments. The final version comprised six sections with 81 close-ended questions.

Following were the variables of this study: dependent variable (drug consumption); moderator variables (family relations, participation in entertainment based on interactive and non-interactive technology at parties/social activities, and degree of spirituality); and demographic variables (age, sex, marital status, year of study/semester, and labor status).

Data were collected from March to May 2012 through the application of the questionnaire in classrooms and at university facilities, and were filled in by students who have voluntarily agreed to participate in the study by signing the free and informed consent form.

Data analysis used the Statistical Package for Social Sciences (SPSS) software, version 18 for Windows. Data were analyzed in a descriptive way to establish the percentage of frequency and average and logistic regression, thus finding the correlation between variables. The estimates provided by the bivariate analysis were expressed in odds ratio, and statistical significance was verified through the chi-square test and a test for linear tendency for ordinal variables. The multi-variate analysis employed logistic regression. The survey included variables associated with outcome at a

significance level lower than or equal to 0.15. The model retained the variables associated with outcome at a significance level lower than or equal to 0.05, verified through the Wald test.

The research project was submitted to the evaluation of the Committee of Ethics and Research of the Federal University of Santa Catarina (CEP-UFSC) and approved through certificate # 2432. It is also worth mentioning that the research project was previously approved by the CAMH Ethics Committee. The database assigns an identification code to each subject, thus preserving anonymity.

RESULTS

The total sample of this study was made up of 250 students from a university in Florianópolis, Santa Catarina, Brazil. Of the total sample, 187 (74.8%) students were women, and 63 (25.2%) were men. As regards age: seven were 18 years old (2.8%); 59 were 19 years old (23.6%); 50 were 20 years old (20%); 59 were 21 years old (23.6%); 39 were 22 years old (15.6%); nine were 23 years old (3.6%); and 27 were 24 years old (10.8%). It is important to mention that most of the sample belonged to the age group of 19 to 21 years old. Among the participants, 202 (80.8%) students stated that they were single; three (1.2%) were married; two (0.8%) were in a stable union; 42 (16.8%) were in a relationship; and one (0.4%) was divorced. Of these, 113 (45.2%) lived with their families; 90 (36%) lived with friends outside of the university campus; 37 (14.8%) lived alone outside of the university campus; five (2%) lived in a university residence; and five (2%) lived with other relatives. Only one (0.4%) participant had a child.

Regarding academic data, 150 students (60%) were from health sciences and 100 (40%) from social/human sciences. Of the total, 238 (95.2%) studied full-time; 62 (24.8%) were taking the first year of the course; 75 (30%) were taking the second year; 112 (44.8%) were taking the third year, and one (0.4%) was taking the fourth year of the course.

Regarding labor status, 223 students (89.2%) did not work and, of the 27 (10.8%) who worked, six (2.4%) performed formal professional activities and 21 (8.4%) were fellows and worked in the university or partner institutions. Their weekly workload ranged from 12 to 40 hours a week, and most of the workers (20; 8%) worked 20 hours a week.

The results displayed that 227 (90.8%) of the

students affirmed to have friends who used drugs and only 23 (9.2%) had no drug-user friends. Most of the friends, 164 (72.4%), were reported to drink five or more alcoholic beverages at a time but, on the other hand, 168 (74.4%) of the friends did not use tobacco. According to the data, a strong influence of peers on decisions about drug use can be inferred.

As regards family relationship traits, and according to the gross data in the table below, it seems that family relations, in general, were good, for example: "I believe my family is wonderful" occurred with 189 (75.6%) of the responses "all the time" and "most of the time." However, when using the Index of Family Relations and making a reversion of the control of positive and negative questions in the set of responses, the family relations in the sample displayed a slight tendency towards being good.

When it comes to entertainment based on social meetings, the average participation in parties for the students in the sample was 8.16, with a maximum of 50 participations in the last three months. Alcohol, tobacco, or other substances that change mood were present at these parties. Technology-based interactive entertainment, in turn, was one of the activities with the largest participation by the students in the sample. It is worth mentioning that 216 (86.4%) of students had frequent or very frequent access to e-mail, and 203 (81.2%) of the students in the sample frequently or very frequently used social networks. Participation for non-interactive entertainment was lower, with 156 (62.4%) frequently or very frequently watching pornography on television or the Internet; 145 (58%) frequently or very frequently watching music videos on the Internet; in addition to 96 (38.4%) frequently or very frequently watching the news on media such as the Internet and television.

Regarding spirituality, results show that the level of spirituality of the students in the sample, in general, ranged from good to neutral. For example, 182 (72.9%) of the sample agreed with the statement: "I can find spiritual comfort in hard times" and 207 (82.8%) agreed with the statement: "there is a purpose in my life." However, it was found that 188 (75.2%) rarely meditate or pray, and 216 (83.6%) were not engaged in religious activities with other persons.

Regarding drug consumption in the last 12 months, alcohol was the most widely used legal drug, with 229 (91.6%) of the students in the sample reporting consumption, followed by tobacco

with 86 (34.4%). For illegal drugs, the most widely consumed was marijuana with 76 (30.4%), and ecstasy among seven (2.8%) of the students of the sample.

To allow logistic regression, the socio-demo-

graphic and moderator variables were aggregated and linearly compared to the independent (influence of peers) and dependent (drug consumption) variables, as depicted in Tables 1 and 2 below.

Table 1 - Correlation among peer influence, spirituality, family relations, entertainment, and consumption of legal drugs (alcohol and tobacco) in the last 12 months. Florianópolis-SC, 2012

Variables	Estimate	Standard Error	Wald chi-square	Prob> chi-square	Odds Ratio		
					Lower 95% C.I.	Higher 95% C.I.	
Age	0.635	0.332	3.654	0.056	1.887	0.984	3.617
College	-13.27	156.88	0.007	0.933	0.000	<0.001	>999.999
Family relations	0.020	0.024	0.716	0.398	1.020	0.974	1.069
*Family relations/ Influence of peers	0.018	0.018	1.044	0.307	1.018	0.984	1.054
Gender	1.567	1.144	1.877	0.171	4.792	0.509	45.100
Intercept	0.276	157.06	0.000	0.999	0.000	<0.001	<0.001
Marital status	-3.937	1.822	4.668	0.031	0.020	<0.001	0.694
Entertainment	0.394	0.167	5.528	0.019	1.482	1.068	2.058
Entertainment/ Influence of peers*	-0.211	0.131	2.584	0.108	0.810	0.626	1.047
Influence of peers*	0.726	0.296	6.004	0.014	2.067	1.156	3.694
Academic status	2.158	1.470	2.153	0.142	8.652	0.485	154.440
Residence	-1.046	0.890	1.379	0.240	0.351	0.061	2.013
Spirituality	-0.263	0.762	0.119	0.730	0.769	0.173	3.423
Spirituality/Influence of peers*	0.304	0.436	0.484	0.486	1.355	0.576	3.184
Labor status	-1.642	1.040	2.495	0.114	0.194	0.025	1.485
Years of education	0.297	0.578	0.265	0.607	1.346	0.434	4.176

* Variables with statistical significance

The logistic regression data displayed in Table 1 show that legal drug consumption was associated with the influence of peers who used some kind of drug, and students with no personal relationship were more vulnerable.

Results show that the influence of peer group is significantly associated with the consumption of legal substances, because all of the students with friends who consumed drugs were more likely to use legal drugs when compared to those whose friends did not consume drugs: OR of 2.067 (IC95%: 1.156-3.394). For the variable of marital status, students in some kind of union were less

likely to consume legal drugs than those who were single: OR of 0.020 (IC95%: 0.001-0.694).

Results show that entertainment, family relations, and spirituality had no significant influence on the correlation between peer group and legal drug consumption (alcohol and tobacco) in the last 12 months.

In terms of illegal drugs, the highest consumption standards were associated with students younger than 21 years old who had friends that consumed drugs and were studying social/human sciences, as displayed in the table below:

Table 2 - RCorrelation among peer influence, spirituality, family relations, entertainment, and consumption of illegal drugs (marijuana, cocaine, and ecstasy) in the last 12 months Florianópolis-SC, 2012

Variables	Estimate	Standard Error	Wald chi-square	Prob> chi-square	Odds Ratio	Lower 95% C.I. Odds Ratio	Higher 95% C.I. Odds Ratio
Age	-0.229	0.106	4.633	0.031	0.795	0.645	0.980

College	-0.768	0.374	4.205	0.040	0.464	0.223	0.967
Family relations	0.003	0.008	0.190	0.663	1.003	0.989	1.018
Family relations/ Influence of peers*	-0.017	0.009	3.060	0.080	0.984	0.965	1.002
Gender	-0.608	0.364	2.781	0.095	0.545	0.267	1.112
Intercept	-11.40	343.25	0.001	0.973	0.000	<0.001	<0.001
Marital status	0.448	0.415	1.164	0.281	1.565	0.694	3.529
Entertainment	0.038	0.019	3.990	0.046	1.039	1.001	1.079
Entertainment/ Influence of peers*	0.008	0.029	0.080	0.778	1.008	0.953	1.067
Influence of peers	0.008	0.029	0.080	0.778	1.008	0.953	1.067
Influence of peers	0.564	0.187	9.090	0.003	1.757	1.218	2.535
Academic status	13.493	343.24	0.002	0.969	724577	<0.001	>999.999
Residence	0.237	0.332	0.509	0.476	1.267	0.661	2.427
Spirituality	-0.106	0.324	0.106	0.744	0.900	0.477	1.699
Spirituality/ Influence of peers*	0.901	0.585	2.369	0.124	2.461	0.782	7.747
Influence of peers*	0.198	0.384	0.264	0.607	1.218	0.574	2.587
Labor status	0.901	0.585	2.369	0.124	2.461	0.782	7.747
Years of education	0.151	0.241	0.394	0.530	1.163	0.725	1.866

* Variables with statistical significance

The results of Table 1 show that the influence of the peer group is significantly associated with the consumption of illegal drugs, because students with friends who consumed drugs were more likely to consume illegal drugs when compared against those whose friends did not consume illegal drugs: OR of 1.757 (IC95%: 1.218–2.535). Age was a protective factor; students older than 21 years were less likely to consume drugs: OR of 0.795 (IC95%: 0.645–0.980). Likewise, students studying health sciences were less likely to consume illegal drugs when compared against students studying social/human sciences: OR of 0.464 (IC95%: 0.223–0.967).

Results show that entertainment, family relations, and spirituality have no significant influence on the correlation between the peer group and illegal drug consumption (marijuana, cocaine, ecstasy) in the last 12 months

DISCUSSION

Many youngsters who enter the university, an environment favorable to personal and professional growth, undergo a wide range of changes in their everyday lives, such as separation from family, new friendships, more independence, new forms of leisure and interaction, and more responsibility in the face of academic demands. This new reality may influence the individual's health mainly regarding the use of drugs, as these factors can play the role of either protection from or risk toward the use of these substances.

Data for Brazil show that nearly half of university students (48.7%) reported to have con-

sumed some psychoactive substance at least once in their lives.⁴ Moreover, most of the students had tried drugs before entering the university, during adolescence, at more or less 12 years of age,¹⁵ for curiosity, fun, or pleasure, and the use was sustained in order to enjoy the effects and reduce anxiety/distress,¹⁶ or relieve pain, anguish, hopelessness, and depression.¹⁷ When an individual enters the university he is involved in several changes that may act as risk factors for the use of drugs.²

This survey identified that, in the previous 12 months, alcohol was the most widely consumed drug among university students, followed by tobacco and marijuana. This reality was also found in other institutions in Brazil and in other countries.

Similar results were found in a survey carried out in another public university with academics in the field of human, exact, and biological sciences regarding the prevalence of drug use. The survey identified that, in the previous 12 months, alcohol was the most widely used drug (80%), followed by tobacco (23.6%), and marijuana (18.5%).¹⁸ Corroborating these data, another study with 275 university students in a private institution in Brazil found that alcohol was the most widely used substance, followed by tobacco, prescribed psychoactive drugs, marijuana, and inhalants.¹⁹

A North American study entitled Monitoring the Future reported the following data regarding the prevalence of drug use by university students in the last 12 months: alcohol (82.1%); tobacco (30.0%); and marijuana (32.3%).²⁰ These are evidence that the high rate of use of alcohol followed by the use of tobacco and marijuana is a reality

worldwide and, thus, use of drugs is a global public health issue.

In addition to identifying the prevalence of drug use in higher education institutions, there is also the urgent need to analyze the factors that interfere in consumption by university students. Therefore, this survey tried to identify the influence of peers on drug consumption, and whether the family, entertainment, and spirituality played the role of moderator in such influence.

The logistic regression data show that legal drug consumption was associated with the influence of friends who used some kind of drug, and students with no intimate relationship were more vulnerable.

In terms of illegal drugs, the highest consumption standards were associated with students younger than 21 years old who had friends that consumed drugs and belonged to the social/human sciences departments.

The use of legal and illegal drugs proved to be strongly influenced by peers, as students who had friends that consume drugs have more frequently consumed these substances. This reality is explained by other studies that have identified the interaction of university students and drug users with permissive relations, and shared views favorable to the use of drugs have a negative influence on consumption.²¹ Furthermore, friends and colleagues serve as companions to use drugs at pubs and parties and in moments of interaction at home. A survey of 275 nursing students in Rio de Janeiro showed that only 7.3% consume alcoholic beverages alone.²² The perception of drug use among peers with higher estimates than actual use has also influenced, in a negative way, the consumption of drugs among university students.²³

It is perceived that youngsters belonging to a group where most of their peers use drugs are more likely to consume drugs as well. Group pressure may be the reason for drug consumption, and social cognitive theory suggests that the model is the critical point of that behavior, as youngsters observe and comply with the rules described by the actual behavior perceived by the others.

This model introduces an explanation for the use of drugs and deviation considering the notion of pressure on individuals, even those protected by good social links with conventional agents. Thus, despite the exposure to the positive influences of conventional institutions and strong links with these influences, youngsters duly socialized also engage in deviating behaviors, specifically the use

of drugs. Why, then, does this deviation occur if strong links have been built earlier in the life of an individual?

One study showed that youngsters with friends who engage in risky behaviors are more likely to get involved with some of those behaviors, such as consuming drugs, for example. It also indicated that if youngsters are associated with groups of peers that consume drugs, that is a factor that increases vulnerability to involvement with illegal drugs. Results were clearly evident – all those who consumed at least one drug had many friends who used it, too.²⁴

Therefore, the consumption of drugs among individuals can be explained by the fact that groups of peers play an important role in the identification of causes for the use of drugs in adolescence. Peer groups strongly influence the decision-making of youngsters in general, as the authors have mentioned. This work identified peers as the factor of strongest influence in the consumption of legal and illegal drugs.²⁴

For the consumption of legal drugs, this sample showed that not being in an intimate relationship is a factor of vulnerability. A study performed among academics in the course of medicine at a public university also identified that single students adhere more to the consumption of drugs.²⁵ The study observed that single students spent more time at social events and with friends and, just as in this study, it was shown that most of them had friends who use drugs, thus increasing the possibility that students with no intimate relationship would consume drugs.

In relation to the consumption of illegal drugs, being younger than 21 years old was identified as a factor of vulnerability in this sample. Research has also found that nearly 92% of the population that stated they had used drugs did so before entering the university; these data include alcohol and tobacco. This information is very relevant, as it shows that the university is not the starting point for using drugs. Of the 92%, 14% affirmed to have tried drugs before the age of 12; 45% from 13 to 15 years old; 33% from 16 to 18 years of age; and only 8% after the age of 18.²⁶

In relation to students in this sample, those taking social/human sciences courses were more vulnerable to the use of illegal drugs. A study has also disclosed that “in human sciences the percentage of students that endorse trying and regularly using drugs is higher, as well as the ratio of users”.^{4:144}

The consumption of drugs among youth is also recognized as a behavior culturally mediated by learning processes.²⁷ Cultural agents of socialization such as family, colleagues, religion, and the entertainment industry are among the social institutions from which young adults and adolescents cognitively assimilate information and influence and which, by extension, influences others' behaviors.²⁸ Hence, these cultural agents can potentially influence the use of drugs, similarly to the social rules or practices that govern the use of specific substances in a given culture.²⁹

In this study the factors of family relations, spirituality, and entertainment did not significantly moderate the influence of peers on the consumption of legal and illegal drugs. It is worth considering that spirituality and family relations are neutral among students, thus justifying their non-interference in the moderation of the influence of peers. However, these factors can be worked on in the move away from neutrality and become influencing factors, in the sense of positive moderation, so that students make conscious decisions and do not consume drugs.

Nonetheless, some students displayed a significant influence of family relations. A study among university students showed that the standard of family organization among marijuana users had at its core the controlling authority, where youngsters kept a superficial and submissive relation with family members despite displays of affection. The families of non-users, in turn, held links with less authority that favored interpersonal connections marked by relations of exchange and fellowship.³⁰ Regarding the use of alcohol and other drugs, a study among undergraduate students of courses in the fields of biological, exact, and human sciences evidenced an association of family aspects with regular use of drugs.³¹

When it comes to spirituality, other studies have found no significance between spirituality and drug consumption. A study performed in a public university with a sample of 278 academics did not associate the use of drugs with having or not having a religion.³² These different realities highlight the importance of performing studies in different institutions and courses, as the factors that influence the use of drugs vary depending on the population being studied.

In this study, the results showed that entertainment did not significantly influence the relation between peer group and drug consumption in the last 12 months, although the students in the sample

participate in parties where alcohol, tobacco, or other substances that change mood could be found. Technology-based interactive entertainment, in turn, is one of the activities with a higher participation of students in this sample, mainly through access to e-mail and social networks. Non-interactive entertainment was also strong among these students, such as watching videos and news on the television or the Internet.

It is known that entertainment can influence the use of drugs among university students. Television and the Internet are very popular entertainment media, and display many advertisements that increase the consumption of alcohol mainly among youth, as shown by some surveys.³³ From a different perspective, these communications and entertainment means bear the power of disseminating information about the negative consequences of drugs and could become a protective factor.³⁴ However, in this study entertainment did not play the role of moderator in relation to the use of drugs among university students.

Nonetheless, it is accepted that, in a university environment, the media influences the consumption of alcoholic beverages. This fact is evidenced by a survey that evaluated the posters displayed on the campus of a university. Most of the posters publicizing university parties showed contents referring to the use of alcohol, encouraging the use of this drug and, more than advertising the party, they served as an incitement to the use of alcohol.³³ However, entertainment could be used to assist in the prevention of drug consumption by bringing accurate information to students and, thus, providing them with autonomy to make decisions.

CONCLUSIONS

Os estudantes universitários participantes deste The university students participating in this study used legal drugs, alcohol and tobacco, followed by illegal drugs, where marijuana was the most common. However, what is worth mentioning is the differences between the rates of drug consumption, risk factors, and protective factors identified herein, and others found at different universities and in different courses.

Data divergence suggests that other universities should carry out epidemiological and qualitative surveys in their campuses, considering the different courses, to identify the drugs used and existing risk factors and, thus, implement actions to prevent drug use and promote the health of its

students.

The influence of peers on drug consumption among the university students in this sample was highly significant, and the single students were the largest consumers of legal drugs, while those younger than 21 years old prefer illegal drugs and were found predominantly in the social/human science courses.

Family relations and spirituality were neutral socio-cultural factors and did not exercise any significant moderation on the influence of peers and drug consumption, although other studies have found such significance. For this sample, entertainment had no moderating influence on drug consumption.

Several studies have pointed out that family relations and spirituality are important protective factors against drug use, but in this study those factors were neutral among this student sample. The university should implement strategies to strengthen family links and spirituality to maximize these factors, and further investigate whether the rates of drug use among students are affected. Moreover, as most of the participants indicated the use of technology-based entertainment, the university should start using this resource to disseminate knowledge about drugs, thus contributing to preventing the use of these substances.

It is worth mentioning that the facts investigated play no preponderant role as moderators of the influence on drug consumption in this sample. Alternatively, the size of the sample may not have been sufficient to evidence such moderation.

Therefore, the Brazilian and university authorities should carry out new surveys in the same line of investigation to provide subsidies to policies to promote health among university students, engaging them in this transformation process.

Limitations

The use of an intentional sample restricted potential generalizations of the results to other population groups, as well as to the set of university youngsters from other localities/regions of Brazil. However, these methods are typically used in psychosocial and epidemiological studies, in addition to other health-related surveys. The results of this study should be considered in the context of the sample surveyed

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