

# Use of psychoactive substances in students at a public university

## Uso de substâncias psicoativas em estudantes de uma universidade pública

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### ABSTRACT

**Introduction:** The use of psychoactive substances by the student population has been the object of various studies in Brazil.

**Objective:** To determine the prevalence of substance use among students. **Methods:** Quantitative study with a closed questionnaire based on standardized assessment instruments was developed.

It consists of questions related to types of psychoactive substance use, abuse, frequency and duration of use, self-criticism regarding the use, consequences of use in relation to health, and misdemeanors committed under the influence of psychoactive substances. The sample included the participation of 268 students. A total of 183 (68.3%) questionnaires were analyzed, and only those with positive result for substance abuse at some point in life, the remainder, 85 (31%) questionnaires, had negative responses to psychoactive substances. **Results:** Students' responses to the two years surveyed indicated that the first psychoactive substance used was alcohol (77.9%), followed by tobacco use (10.9%), and marijuana (7.6%). Of the students surveyed, 145 (79.2%) answered that still make use of psychoactive substances, and the current frequency of use varies from one or more times per week. When asked about the possibility of being or becoming drug addicts, 169 (92.3%) responded that they are not or will not become dependent. **Conclusion:** The results indicate the high rate of substance use among college students surveyed, and point to their contradiction to consider such psychoactive substances harmful to their health.

**Keywords:** substance-related disorders; drug-related side effects and adverse reactions; students.

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### RESUMO

**Introdução:** O uso de substâncias psicoativas pela população estudantil tem sido objeto de vários estudos no Brasil. **Objetivo:** Determinar a prevalência do uso de substâncias psicoativas entre os estudantes. **Métodos:** Foi um estudo quantitativo, para tanto foi desenvolvido um questionário fechado baseado em instrumentos de avaliação padronizados. Ele é composto por questões relacionadas com os tipos de substâncias psicoativas utilizadas, o abuso, a frequência e a duração do uso, a autocrítica em relação ao uso, as consequências do uso em relação à saúde e os delitos cometidos sob a influência de substâncias psicoativas. A amostra contou com a participação de 268 alunos. Foram analisados 183 (68,3%) questionários, sendo apenas aqueles com respostas positivas para o uso de substâncias psicoativas em algum momento da vida, o restante, 85 (31%), teve respostas negativas ao uso de substâncias psicoativas. **Resultados:** As respostas dos alunos dos dois anos pesquisados apontaram que a primeira substância psicoativa utilizada foi o álcool (77,9%), seguida pelo uso do tabaco (10,9%) e da maconha (7,6%). Dos alunos pesquisados, 145 (79,2%) responderam que ainda fazem uso de substâncias psicoativas, sendo que a atual frequência de uso varia de uma ou mais vezes por semana. Quando questionados sobre a possibilidade de serem ou tornarem-se dependentes químicos, 169 (92,3%) responderam que não são ou não se tornarão dependentes. **Conclusão:** Os resultados indicam o alto índice do uso de substâncias psicoativas entre os estudantes universitários pesquisados e apontam para a contradição destes ao considerarem tais substâncias psicoativas nocivas à saúde.

**Palavras-chave:** transtornos relacionados ao uso de substâncias; efeitos colaterais e reações adversas relacionados a medicamentos; estudante.

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**Conflict of interests:** nothing to declare.

## INTRODUCTION

The use of psychoactive substances (PS) by students has been matter of several studies in Brazil<sup>1-5</sup> and in other countries<sup>6-9</sup>. Aiming to verifying the prevalence of drug use among teenagers, the Brazilian center of information on psychotropic drugs (CEBRID) carried out five large national surveys (1987, 1989, 1993, 1997, 2004 and 2010) about using alcohol, tobacco and other PS among university students in some Brazilian capitals<sup>10,11</sup>. Data presented by the last survey, in 2010, pointed that 49% of the surveyed college students have already experienced some illicit drug at least once in life and 80% of the respondents declared to be younger than 18 years-old and stated having consumed alcohol.

According to the United Nations Office on Drugs and Crime (UNODC)<sup>12</sup>, 172,000,000 to 250,000,000 people have already used some illicit drug, in the survey conducted in 2008, licit PS, such as alcohol and tobacco, lead the consumption worldwide. In another study in 2012, it was stated that among the PS with illicit use, marijuana is the one with greater annual prevalence of use, followed by amphetamines, opioids, and ecstasy.

In a research conducted by Picolotto *et al.*<sup>13</sup>, referring to drug use by college students, it was found that the prevalence of licit drugs ranged from 20.7 to 83.1% for tobacco and alcohol respectively and, for general illicit PS, the prevalence found was of 24.6%. The authors still highlight that the prevalence of drug use is more accentuated in males, who do not live with their families and with higher family income.

Recent studies<sup>14,15</sup> approach the high level of alcohol consumption and binge drinking among college students, other<sup>16,17</sup> correlate the use of PS, stress and the difference in use between genders. According to Carlini *et al.*<sup>18</sup>, in studies with high-school students, prevention measures become more effective when they are based on reality of consumption. Thus, it is important to conduct researches in the university environment in order to enable structuring and evaluating public policies in the field of prevention and education, which is also mentioned as part of the results of Silva *et al.*<sup>2</sup>. Therefore, we aimed at determining the prevalence of drug use among students.

## METHODS

### Study population

We evaluated 268 students enrolled in the first and fourth degrees of all undergraduate courses in the Faculty of Philosophy and Sciences, at São Paulo State University (UNESP), in Marília, São Paulo, Brazil. Inclusion criteria included: to be enrolled and attend the first and fourth degrees of courses in the areas of Social and Biological Sciences.

### Data collection

A self-questionnaire was developed, implemented, and applied consisting of questions related to drug use, types of drugs used, frequency and duration of use, age of onset of drug use, academic losses related to drug use and design of dependence while chemical

pathology. The questionnaire was based on previously validated instruments, such as AUDIT, ASSIST, CAGE, and DUSI. The study was approved by the Research Ethics Committee of the Faculty of Philosophy and Sciences, UNESP (protocol 0443/2012).

The questionnaires were applied during class to nine courses: Archival Sciences, Library Sciences, Social Sciences, Philosophy, Physical Therapy, Speech Language and Hearing Therapy, Education, International Relations and Occupational Therapy. After answering the questionnaires, the students put them in urns, which increases the anonymity of the student. All the participants signed the final consent term and received a copy of the document.

### Data analysis

Data collected were analyzed quantitatively by calculated percentage, and the results were interpreted and plotted for better visualization of the results.

## RESULTS

The sample included the participation of 268 students, with 139 (51.9%) from the first grade and 129 (48.1%) from the fourth. Among the 139 students of the first grade, great part had used PS at least once in their lives and in the fourth grade, the majority had also used PS at some point in life (Figure 1A). The majority of the interviewed subjects were female (Figure 1B).

In addition, a high number of subjects mentioned first use before entering college (Figure 1C).

On age of onset of drug use among the students of the first year, almost half of them had their first contact with the drug between 16 and 20 years-old, while the minority did not answer. Among the students of the fourth grade, half of them mentioned initiating drug use among 16 to 20 years-old (Figure 1D).

Regarding the first drug tried, among the first university degree, great part of the students reported alcohol as the primary drug consumed (Figure 2A).

On the current use of PS, of the 183 students who have used them once in life the majority still make drug use (Figure 2B).

With respect to the frequency of drug use among college students from the first grade that still use drugs, almost half of them, 47.6%, reported using one once a week (Figure 2C).

In relation to current drug use among college students of the first grade, the majority reported using alcohol. Among the students of the fourth grade, alcohol was also prevalent (Figure 2D).

When asked if the use of PS impair their academic performances, around one-third reported having been harmed academically and the majority mentioned that had never been harmed. (Figure 3A).

Among college students of the fourth grade, great part of the students reported that would not be nor become dependent (Figure 3B).

Among the students that are still using PS, approximately two-thirds stated that the drug is harmful to health and half reported that the drug does not affect their health (Figure 3C).

In relation to offense practices, while under the influence of PS, around one-third of the students who still use reported having committed offenses (Figure 3D).

## DISCUSSION

The use of a closed self-administered questionnaire collectively applied in the classroom, although not validated, consisted of a potential instrument of data collection, acquisition of information about personal behavior, ensuring the anonymity of the participant.

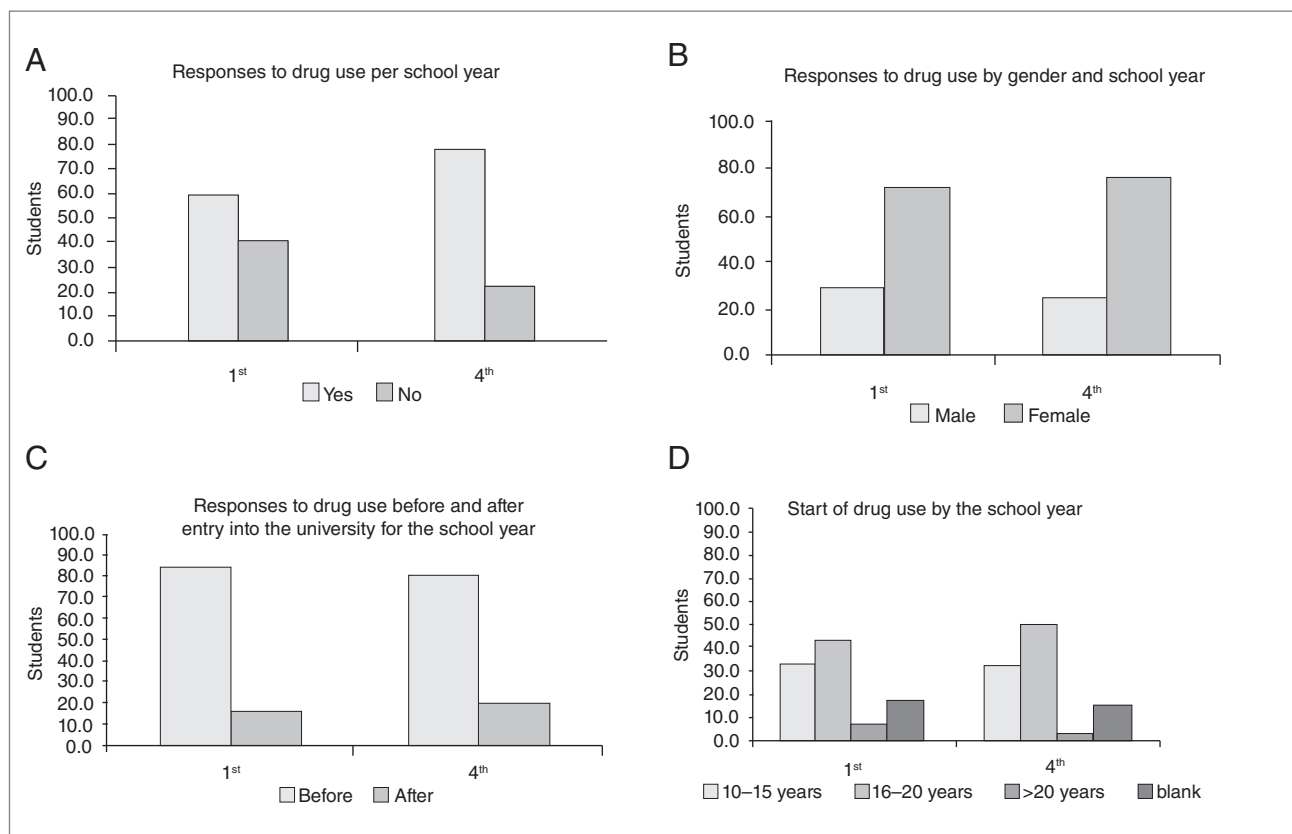
In this study, questionnaires were applied to 268 college students, showing that 68.3% had used PS once in their lifetime and 79.2% continue to use some type of PS. The mean age of students who still use is 22 years, and 73.8% were female. The prevalence of female gender is justified because the courses taken by the researched students are frequently chosen by women, and, according to studies by Silva *et al.*<sup>19,20</sup>, there are no significant differences regarding the use of PS among genres of student users. However, the predominance of females in the surveyed courses can be a limiting factor, when compared to data from other Brazilian and international literature.

This study showed that the age of drug use onset by college students was between 16 and 20 years old; 43% were in the first degree and 50% in the fourth. However, the prevalence of students who mentioned the age of beginning between 10 and 15 years was also high (33% for

the first degree and 32% for the fourth), which is in agreement with several studies that found a high rate of abuse in this age group<sup>21-23</sup>. According to some authors, this age at the adolescence is the period before the student admission to the university, featured by time exposure, trial and vulnerabilities<sup>24-27</sup>.

This period is generally marked by the beginning of responsibilities and decision-making, such as choosing a career; starting working and college; living away from their families; choosing a new circle of friends. Therefore, all these events when mismanaged culminate vulnerabilities and weaknesses that ultimately characterize young adolescents as a risk group to the start of using PS, which is corroborated with the results of this research. We found that 150 (82%) students reported that the first use of drug happened before entering college and 33 (18%) reported use after entering university.

This study showed that the most common PS used by university students was alcohol (69.5% in first and 81.2% in the fourth degree), corroborating Silva *et al.*<sup>20</sup>, Andrade *et al.*<sup>28</sup> and Pedrosa *et al.*<sup>29</sup> that investigated the consumption of licit and illicit PS among college students. Pechansky *et al.*<sup>30</sup> reported that at this stage the adolescent is building his/her identity, and the abuse of alcohol may increase in an extent to which the individual gets used to experiencing situations only under the influence of alcohol and ends up developing skills only through its consumption. Thus, he/she associates his/her skills to the use of alcohol and



**Figure 1:** (A) Percentage distribution of drug use responses by students in the school year; (B) percentage distribution of the students' gender who have used drugs in the school year; (C) percentage distribution of students' responses on early drug use before and after entering college for the academic year; (D) distribution of responses as a percentage of the university on the initial age of drug use, per school year

when abstinent, they consider themselves unable to do anything, showing another form of addiction.

Students from the first degree that mentioned first drug use presented a higher consumption of cigarettes (12.2%) and marijuana (9.8%) compared to fourth degree students that presented a consumption of 9.9% and tobacco 5.9% for marijuana. We can see an increasing trend of using tobacco and marijuana before entering college. In the study by Ortega-Pérez *et al.*<sup>22</sup>, the authors reported that the first drug to be used by participants was alcohol, followed by tobacco, and lastly marijuana, supporting the results of our research.

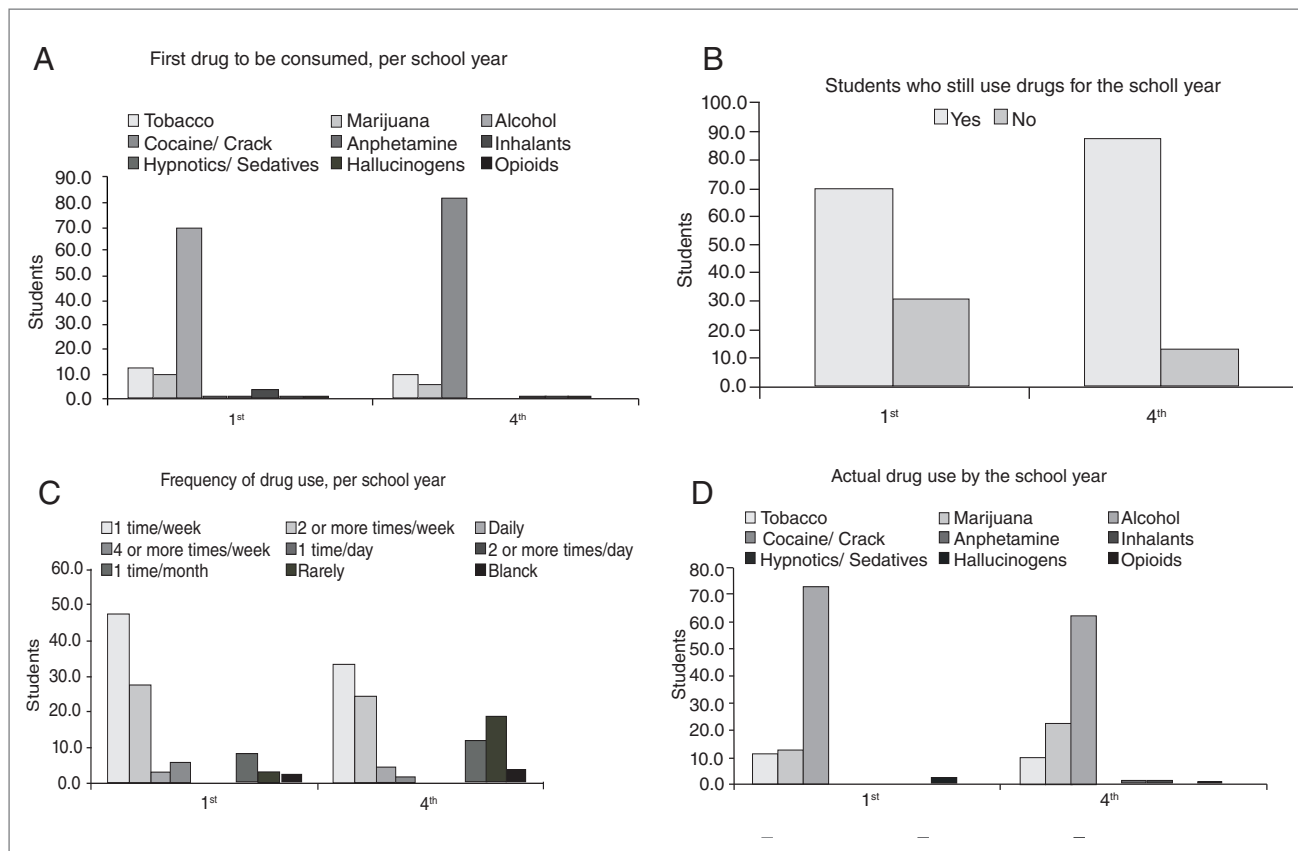
The prevalence of alcohol use was 73.1% for the first degree and 62.2% for the fourth degree, followed by a larger number of marijuana (22.7%) in the fourth degree compared to the first degree (12.8%). We have also seen a trend in the increased use of cocaine and amphetamine by students of fourth grade compared to the first degree. It is believed this may be associated with several biopsychosocial factors, such as: frequent exposure to people that make use of PS; places they go to; presence of stress; difficulties in relationships; increased responsibilities and commitments outside the course and life.

It was observed that among all the students who still use PS, the first drug of choice was alcohol, followed by marijuana and tobacco. Therefore, in our research, marijuana use exceeds tobacco. According

to data published in the World Drug Report 2011 of the United Nations (UN)<sup>31</sup> in Brazil, marijuana was the illicit drug that showed the highest rate of use in recent years, and its use percentage increased from 1% in 2001 to 2.6% in 2005. The UN believes that this increase is a reflection of how easy it is to obtain the drug in the country.

Ortega-Pérez *et al.*<sup>22</sup> reported in their study that 58% of participants mentioned that they had not been academically harmed by drug use; however, in our study, this finding was relatively higher (75%). When asked about drug use to be detrimental to academic performance, college students of the fourth degree had a greater number of positive responses (23.8%), compared to the first ones (12.2%). McKinnon *et al.*<sup>32</sup> reported that alcohol consumption may be associated with a lot of academics damage, as the PS may lead to memory deficits, impairment in learning and consequently poor school performance, leading to decreased self-esteem, making this individual increasingly susceptible to drug abuse.

Of the 183 students who used PS, 145 (79.2%) still continue to use it; when asked about the risk of being or becoming dependent, only 10 (5.5%) consider this a possible risk, and 169 (92.3%) did not consider it. The denial of drug use was evident for 92.3%, we believe the students included in this percentage have control over drug use and consume drugs only for recreation, believing that this practice may not damage their health. However, these same individuals when



**Figure 2:** (A) Percentage distribution of the students' answers who have used drugs, compared to the first drug consumed, per school year; (B) distribution in percentage of students who still make use of the drug, per school year; (C) percentage distribution of students who still use drugs on the frequency of use, per school year; (D) percentage distribution of students' responses on the current drug consumed, per school year

questioned about drug use being harmful to health, 67.8% reported that its use is harmful and 26.8% said that it is not. Both questions lead us to observe the denial and lack of awareness of those students about addiction, the mode of onset and progression of this disease.

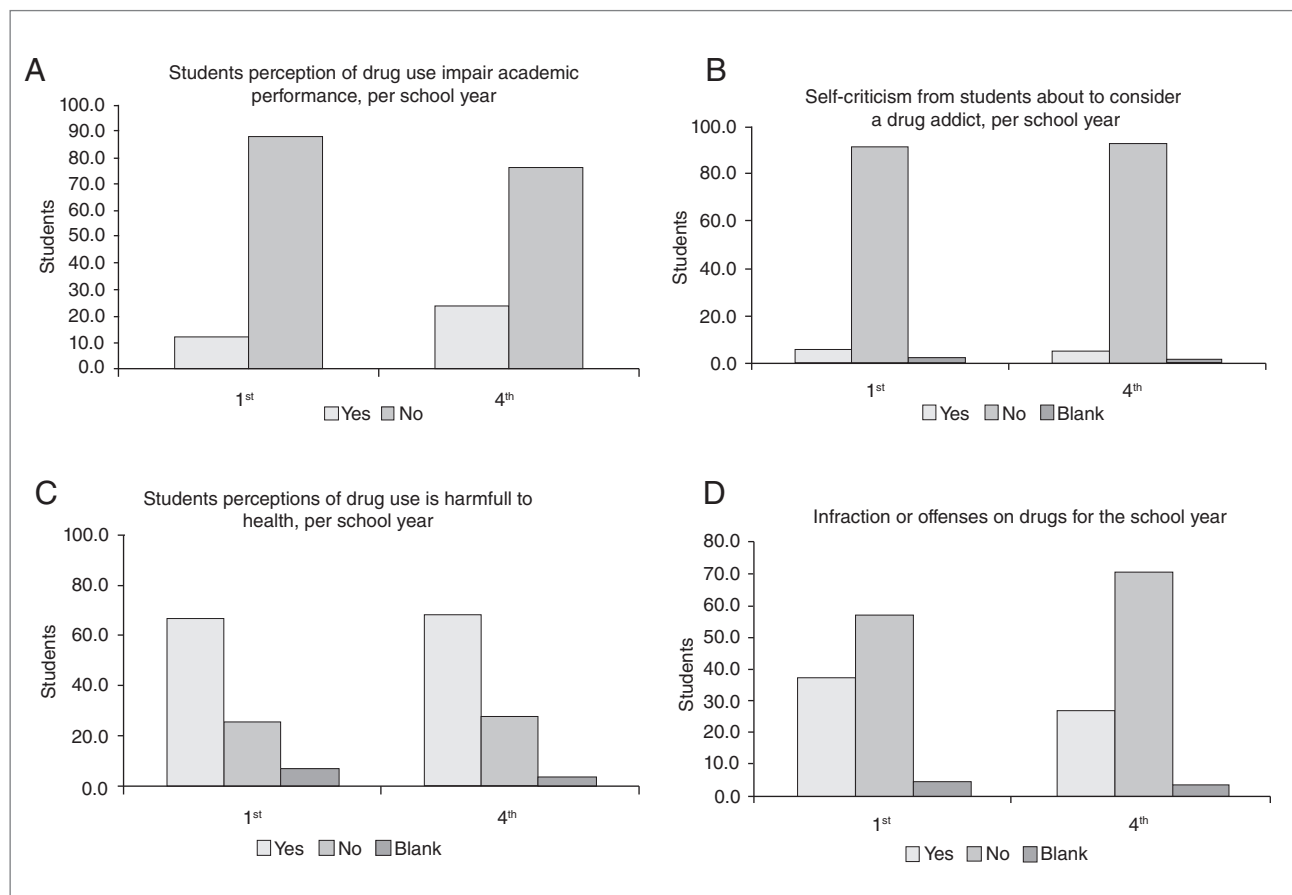
Martins and Pillon<sup>33</sup> corroborate the results of this research, i.e. the use of PS can be associated with offenses. When 183 college students who have already made and/or used PS were questioned about committing misdemeanors under the influence of PS, 58 (31.7%) answered that they committed illegal acts. Therefore, the authors suggest that drug use makes the individual more vulnerable to risk behaviors such as commission of offenses, and point out that when drug use occurs early, it may increase the probability of early user involvement in the offenses and in most cases, use of alcohol and marijuana is associated with burglary, theft, drug trafficking and firearms possession.

We observed an increasing number of studies on drug use among college students and we are trying to better understand the consumption characteristics and profile of the current population of students who are drug users. However, we should emphasize the scarcity of comparative studies of results between freshmen students and graduates of universities. In view of this consideration, it is important the improvement and development of prevention and treatment programs in institutions of higher learning,

enabling adjustment prevention programs that help improving the quality of life and promoting the health of students.

Our study had some points that are important to be raised. Perhaps because the data collection classes were carried out in one day and we included only students present at the time, the result for drug use may be underestimated as also the frequency of drug use. In some classes, there was lack of cooperation of some teachers to authorize the questionnaires during their classes, and the collections made in periods before or after school. It demonstrated that some individuals are still restricted to this area of study.

The results emphasize the problem of drug use among college students, pointing a high drug use and contradiction when considering these PS harmful to health, but they are not deemed a risk group in relation to addiction, even though there is a high frequency of use. Facing gravity and increase of chemical dependency, we highlight the importance of creating new programs and social policies to be deployed in schools, showing the reality of users and all the consequences that are generated by overusing licit and illicit PS. It is evident the importance of continuing the investigation of the addiction phenomenon among college students for programs of prevention, health promotion, implementation of psychological support services for undergraduates and improving the quality of life of this population.



**Figure 3:** (A) Percentage distribution of students' responses, drug users, about prejudice academic performance, per school year; (B) percentage distribution of students' responses, drug users, about being or becoming addicted, per school year; (C) percentage distribution of students' responses, drug users, of the harmful use of drugs for the school year; (D) percentage distribution of students, drug users, in violation of laws on drugs, per school year

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