

# Prevalence of risk behaviors in young university students

Prevalência de comportamentos de risco em adulto jovem e universitário

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## Keywords

Prevalence; Risk-taking; Universities;  
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## Descritores

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## Abstract

**Objective:** To assess the prevalence of risk behaviors in young university students.

**Methods:** Cross-sectional study carried out with 210 university students aged between 18 and 24. The applied research instrument was a validated questionnaire called National College Health Risk Behavior Survey. Data were analyzed using descriptive statistics, bivariate analysis and logistic regression.

**Results:** Among the studied individuals, 40% ingested alcohol, 25% were overweight, 19% used motorcycles as a means of transportation, and 6% reported suicide attempts. Alcohol consumption, overweight and practicing sports were associated with men. Suicide attempts and healthier eating habits were associated with women.

**Conclusion:** Participants adopted behaviors that risked their health status, being such attitude more frequently observed among men. Alcohol consumption was the most prevalent risk behavior in this population.

## Resumo

**Objetivo:** Conhecer a prevalência de comportamentos de risco em adulto jovem e universitário.

**Métodos:** Estudo transversal com 210 universitários com idades entre 18 a 24 anos. O instrumento de pesquisa foi um questionário validado *National College Health Risk Behavior Survey*. Para análise dos dados, utilizaram-se estatística descritiva, análise bivariada e coeficientes de regressão logística.

**Resultados:** Dentre os estudantes, 40% consumiram álcool, 25% apresentaram excesso de peso, 19% utilizaram motocicletas para transporte e 6% relataram tentativa de suicídio. Consumo de álcool, excesso de peso e prática de atividades esportivas associaram-se aos homens. Tentativa de suicídio e hábitos alimentares mais saudáveis associaram-se às mulheres.

**Conclusão:** Os participantes adotaram comportamentos que colocaram a saúde em risco, sendo essa atitude mais frequentes nos homens. O consumo de álcool foi o comportamento de risco mais prevalente nessa população.

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## Introduction

Health-risk behaviors adopted by university students have been assessed worldwide. Recent studies aimed at comprehending, controlling and monitoring such behaviors point out their high prevalence reflected on sedentary habits, eating disorders, traffic accidents, consumption of tobacco, alcohol and other drugs, and violence against oneself and others.<sup>(1-5)</sup> Wang et al. observed a high percentage of university students who presented unhealthy lifestyles. The researchers stood up to defend the need for taking social and territorial contexts into account in the preparation of plans toward minimizing the morbidity-mortality loads caused by non-transmissible chronic diseases, as well as the need for improving the quality of life of this population by means of regional development programs of healthcare education that may mitigate social-spatial inequalities.<sup>(6)</sup>

In Brazil, violence has become a public health-care challenge as a result of the high morbidity-mortality rates originated in the adoption of risk behaviors, such as consumption of alcoholic beverages and illicit drugs, as well as the broad availability of fire guns and the lack of adequate infrastructure of the traffic system.<sup>(7)</sup>

It is possible that young students entering the university adopt health-risk behaviors in detriment of the commitments related to the dynamics of the academic life, in such a way that their lifestyles are modified.<sup>(8)</sup> The entrance of the student in the university overlaps periods in which values, beliefs, autonomy and the establishment of limits by parents are questioned. In Portugal, a research involving university students showed that the educational level was not a protection factor in choosing healthy conducts among young Portuguese university students. Veteran students, who have been experiencing the academic life for a longer period, display significant proportions of risk factors for non-transmissible chronic disease, in comparison with students who have recently entered college.<sup>(9)</sup>

The number of Brazilian students enrolled in higher education institutions has been steadily growing, and the expansion of the university population represents an opportunity to identify health-

risk behaviors. Additionally, very few studies related to health-based behaviors among young university students in the Midwest region of Brazil, and especially in the Federal District and its surroundings, have been produced. In face of the aforementioned introduction, the objective of the present study was to identify the prevalence of health-risk behaviors in young university students.

## Methods

This cross-sectional study was carried out with 210 young university male and female students, with ages ranging from 18 through 24, in a higher education institution located in Brasília, in the central region of Brazil.

The data collection instrument is part of the National College Health Risk Behavior Survey, elaborated by the Centers for Disease Control and Prevention (CDC), and which has the aim to monitor health-risk behaviors among American adolescents and youngsters. The questionnaire includes: sociodemographic data (sex, self-declared skin color, age group, period taken in the university, and body mass index); issues addressing risk behaviors concerning young people as college students (driving behaviors; violence against oneself and third parties; consumption of substances such as tobacco, alcohol, inhalants, marijuana; weight control, eating habits, and practice of physical activities).

Data were processed with the aid of the Statistical Package for the Social Sciences (SPSS, version 22), and analyzed using descriptive statistics, Pearson's Chi-Square test and logistic regression tests.

The development of this study complied with national and international ethical guidelines for research involving human subjects.

## Results

The study was composed of 210 young adults who responded the questionnaire, corresponding to 71%

of the university students enrolled in the institution during the period of the research.

The mean age of the participants was 21.35 years old (standard deviation of 1.7555), being the youngest 18 and the oldest 24 years old. There was a predominance of female participants, 128 (61%) students. There was also a predominance of respondents who self-declared being white. The group with the largest amount of respondents was the one comprised of first-year students (first and second semesters), totaling 83 (40.3%) students. The number of students in the initial periods who responded to the questionnaire was predominantly higher than in all other periods.

Table 1 presents health-risk behaviors among students by sex and self-declared skin color/ethnic group.

Although other significant statistical correlations were not detected, men displayed a higher percentage (29; 19.1%) regarding driving a motorcycle and not making use of a helmet (7; 3.3%). Behaviors related to self-aggression or aggression of third parties presented low results, even though they showed slightly higher patterns among women who had attempted suicide (12; 9.4%), thus gen-

erating a significant statistical correlation (p-value =0.018) (Table 1).

Alcohol consumption was very high among students (82; 40.0%), with a marked percentage among men (42; 51.9%), and presenting a significant difference (p-value = 0.006) (Table 1).

Black and indigenous categories showed the highest occurrence of risk behaviors: passengers who did not use the seat belt (1.210), who drove a motorcycle (1.083), suicide attempts (0.0118) (Table 1), and provoked vomit/use of laxatives (1.832), ingestions of diet pills (1.078), and overweight (1.114) (Table 2).

Even though higher overweight results were found among men (32; 60.3%), there was also a higher participation of men in sports activities in the seven previous days (56; 68.2%), which generated a statistical correlation (p-value =0.001) (Table 2).

High results regarding healthier eating habits were found among women, although there were reports on diets toward losing or maintaining weight (58; 45.3%). Nevertheless, regarding eating fruits or drinking fruit juice (in the previous day, between one and three times), a significant difference was observed between sexes (p-value =0.007) (Table 2).

**Table 1.** Health risk behaviors among students by sex and self-declared skin color/ethnic group

Risk behavior	Total n(%)	Gênero		p-value	Odds ratio*	Self-declared skin color/ethnic group			p-value	Odds ratio**
		Male n(%)	Female n(%)			White n(%)	Black n(%)	Indigenous n(%)		
Traffic										
Passenger did not make use of seat belt	9(4.3)	4(4.9)	5(3.9)	0.740	1.251	5(4.1)	3(4.8)	1(5.3)	1.000	1.210
Driver did not make use of seat belt	4(2)	2(2.4)	1(1.6)	0.644	1.575	3(2.4)	1(1.6)	-(0.0)	1.000	0.498
Use of motorcycle	29(19.1)	16(27.6)	13(13.8)	0.055	2.374	16(19.0)	8(16.3)	5(33.3)	0.342	1.083
Use of motorcycle without the protection of a helmet	7(3.3)	4(4.9)	3(2.3)	0.089	2.137	5(4.0)	2(3.2)	-(0.0)	0.876	0.595
Self-aggression or aggression against others										
Bearing of weapons	9(4.3)	2(2.4)	7(5.5)	0.487	0.429	7(5.7)	-(0.0)	2(10.5)	0.094	0.414
Involvement in fights	4(1.9)	-(0.0)	4(3.2)	0.155	-	3(2.4)	1(1.6)	-(0.0)	1.000	0.500
Suicide attempts	1(6.2)	1(1.2)	12(9.4)	0.018	0.118	7(5.7)	5(7.9)	1(5.3)	0.906	1.308
Consumption of substances										
Habitual consumption of cigarettes	5(2.5)	3(3.8)	2(1.6)	0.383	2.368	2(1.6)	2(3.3)	1(6.2)	0.447	2.466
Consumption of marijuana	4(2.0)	1(1.2)	3(2.4)	1.000	0.515	3(2.4)	1(1.6)	-(0.0)	1.000	0.513
Risky consumption of alcohol	82(40.0)	42(51.9)	42(32.3)	0.006	2.262	49(40.8)	24(38.1)	8(44.4)	0.859	0.946
Consumption of inhalants	8(7.8)	8(10.1)	8(6.3)	0.423	1.678	11(8.9)	1(1.6)	4(22.2)	0.014	0.688

\* Reference category: male; \*\* Reference category: black/indigenous

**Table 2.** Health behaviors by sex and self-declared skin color

Health behaviors	Total n (%)	Gender		p-value	Odds ratio*	Self-declared skin-color/ethnic group			p-value	Odds ratio**
		Male n (%)	Female n (%)			White n (%)	Black n (%)	Indigenous n (%)		
Body mass index										
<25	136(64.7)	45(33)	91(66.9)	0.001	1.689	84(61.7)	40(29.4)	12(8.8)	0.339	1.114
≥25	53(28)	32(60.3)	21(39.6)			27(54)	16(32)	7(14)		
Self-perception of body weight										
Way below weight	11(5.3)	1(1.25)	10(7.8)	0.18	0.650	7(5.6)	2(3.1)	1(5.2)	0.219	1.022
Slightly below weight	14(6.7)	9(11.2)	5(3.9)			10(8)	2(3.1)	1(5.2)		
Right weight	120(57.9)	40(50)	80(62.9)			73(58.8)	41(65)	11(57.8)		
Slightly above weight	54(26.0)	26(32.5)	28(22.8)			31(25)	16(25.3)	4(21)		
Way above weight	8(3.8)	4 (5)	4(3.1)			3 (2.4)	2(3.1)	2(10.5)		
Attempts to cause the body to										
Lose weight	87(42.4)	33(42.3)	54(42.5)	0.313	1.35	55(44.3)	30(47.6)	12(63)	0.523	1.004
Gain weight	43(20.9)	21(26.9)	22(17.3)			28(22.5)	11(17.4)	2(10.5)		
Maintain the same weight	44(21.4)	13(16.6)	31(24.4)			23(18.5)	13(20.6)	2(10.5)		
Not attempting anything	31(15.1)	11(14.1)	20(15.7)			18(14.5)	9(14.2)	3(15.7)		
Weight control										
Diet to lose or maintain weight	83.(39.9)	25(31.2)	58(45.3)	0.44	0.795	42(33.8)	28(44.4)	8.(42.1)	0.166	1.179
Provoked vomit or use of laxatives	16(7.7)	2(2.5)	14(10.9)	0.031	0.206	7(5.6)	4(6.5)	4(21.1)	0.020	1.832
Diet pill	18(8.6)	7(8.6)	11(8.6)	1.000	1.006	10(8.1)	5(8.1)	2(10.5)	0.934	1.078
Physical exercises to lose or maintain weight	82(39.4)	36(43.9)	46(36.5)	0.313	1.305	47(37.9)	24(38)	9(4.3)	0.267	1.039
Sports activities										
Participated in sports activities in the previous 7 days	103(49)	56(68.2)	47(36.7)	0.001	1.996	57(45.9)	38(60.3)	10(52.6)	0.300	1.303
Walked or used a bike for at least 30-60 minutes in the previous 7 days	100(47.6)	44(53.6)	56(43.7)	0.161	1.214	64(51.6)	28(44.4)	12(63.1)	0.386	0.945
Eating habits										
Ate fruits or drank fruit juice (yesterday, yes, between 1-3 times)	168(80)	58(70.7)	110(85.9)	0.007	0.480	95(76.6)	53(84.1)	16(84.2)	0.388	1.475
Ate green salad (yesterday)	147(70)	52(63.4)	95(74.2)	0.096	0.705	82(66.6)	49(77.7)	15(78.9)	0.504	1.543
Ate boiled vegetables (yesterday)	134(63.8)	46(56)	88(68.7)	0.063	0.712	78.(62.9)	39(61.9)	15(78.9)	0.504	1.086

\* Reference category: male; \*\* Reference category: black/indigenous.

## Discussion

This study was limited by the fact that 1) it was carried out in a single institution, although it was the only educational institution in that location; and 2) its cross-sectional design did not allow for the establishment of cause and effect correlations.

The findings showed that the risk behaviors adopted by university students were: alcohol consumption, use of motorcycles as a means of transportation, suicide attempts, overweight, and unhealthy eating habits.

The study also showed that the consumption of alcohol was more frequent among male students. Previous studies show that the pressure exerted by academic demands, the need for being part of a group, the accessible price of alcoholic beverage, and the lack of prohibition of alcohol consumption in the college environment were some of the causes related to the alcohol consumption patterns among university students.<sup>(10,11)</sup>

Violent and aggressive behaviors against oneself or third parties related to the bearing of guns, involvement in fights and suicide attempts were predominant among women. Another research indicated higher frequencies of these behaviors in men, except for the suicide attempts.<sup>(1)</sup>

In agreement with other studies, reports on suicide attempts reached higher frequencies among female students.<sup>(12,13)</sup> A study also mentions some factors related to the suicide risk, such as generalized anxiety disorder (bipolar disorder and depressive episodes), traffic accidents, fights with physical aggression, low confidence level regarding communication with parents, alcohol and tobacco consumption, sexual assault, and depression symptoms.<sup>(14)</sup>

Behaviors related to traffic safety displayed significant results, and gave proof to the overall approval of the use of the seat belt and helmet by drivers. This study showed a higher frequency of male students as motorcycle drivers.

Among men, the study pointed out higher occurrences of sports practices; among women, on the other hand, healthier eating habits were found. Such findings agree with other studies in which female participants were found more likely to have healthier eating habits and lower interest for physical activities.<sup>(5,15)</sup> A research with Spanish college students showed that women were less active and had a more sedentary lifestyle than men and therefore the realization of specific intervention actions for women was recommended.<sup>(3)</sup> Data pointing out that college students who live with their families had better nutritional habits have also been found, and that those enrolled in the first year of college tend to present improved health behaviors when compared with students in subsequent periods.<sup>(15)</sup>

As for the overweight, this study observed a higher percentage of cases in comparison with the findings among American university students. The causes for the overweight and obesity were the eating disorders and lack of physical activity during the academic life.<sup>(16)</sup>

The findings suggest that new health behavior patterns regarding the sex, skin color/ethnic group of university students have become a reality to be dealt with by the university.

Optimistic young university students tend to adopt health-risk behaviors and therefore an articulation between the positive psychology and the preventive education of health-risk behaviors should be inserted into the undergraduate curriculum of higher education institutions.

## Conclusion

The participants adopted health-risk behaviors, being such attitude more frequent among male students. Alcohol consumption was the most prevalent risk behavior in this population.

## Collaborations

Faria YO; Gandolfi L and Moura LBA contributed to the project conception, analysis and data interpretation, relevant critical review of its intellectual content and final approval of the version to be published.

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