Promoção da Saúde
DOI: 10.17765/2176-9206.2024v17e12887

Relationship between physical activity levels and risk behaviors in Brazilian University students

Relação entre os níveis de atividade física e comportamentos de risco de estudantes Universitários Brasileiros

***Marcus Vinícius Mizoguchi*[1*], *Gustavo Bottega Lunardelli*[2], *Amanda Aparecida Souza de Oliveira*[1], *Lucas Savassi Figueiredo*[3], *Henrique de Oliveira Castro*[1]**

[1] Federal University of Mato Grosso (UFMT), Mato Grosso (MT), Brazil, [2] State University of Maringá (UEM), Maringá (PR), Brazil, [3] Federal University of Juiz de Fora (UFJF), Governador Valadares (MG), Brazil

***Corresponding author**: Marcus Vinícius Mizoguchi – *Email*: marcusmaringa@gmail.com

ABSTRACT
This study investigated the relationship between physical activity and risky behaviors of Brazilian undergraduate students. The sample comprised 63 students (23.48±7.29) from Accounting Sciences, Physical Education, and Physics courses at Federal University of Mato Grosso. Online versions of the IPAQ and NCHRBS questionnaires were used to assess physical activity levels and risky behaviors, respectively. Data was reported as frequencies for the categories in each instrument, and chi-square test was used for inferential analysis. Results indicated that 52% of students were active and 18% were sedentary. In the comparison between the fields of study, the Physical Education students showed better eating habits related to the consumption of fruits and fruit juice (83%). It is concluded that there was no direct relationship between physical activity levels and risk behaviors. However, more positive physical activity and nutrition behaviors were observed among Physical Education students.
Keywords: Health Risk Behavior; Life Style; Physical Activity; University Student.

RESUMO
Este estudo objetivou-se investigar os níveis de atividade física e os comportamentos de risco de estudantes de graduação. Participaram 63 estudantes (23,5±6 anos) dos cursos de Ciências Contábeis, Educação Física e Física da Universidade Federal do Mato Grosso. Versões online dos questionários IPAQ e NCHRBS foram utilizados para acessar níveis de atividade física e comportamentos de risco, respectivamente. A análise descritiva utilizou-se de frequência das categorias evidenciadas em cada instrumento e para análise inferencial, utilizou-se o teste qui-quadrado com $p<0.05$. Observou-se que 52% dos acadêmicos mostraram-se ativos e 18% sedentários. Na comparação entre as áreas de conhecimento, o curso de Educação Física apresentou melhores hábitos alimentares relacionados ao consumo de frutas e suco de frutas (83%). Conclui-se que não houve uma relação direta entre os níveis de atividade física e comportamentos de risco. Entretanto, comportamentos mais positivos referente a atividade fisica e alimentação foram observados entre os estudantes da curso de Educação Física.
Palavras-chave: Atividade Física; Comportamentos de Risco à Saúde; Estilo de vida; Estudante Universitário.

INTRODUCTION

Higher education grew by an average of 32.8% students admissions between 2011 and 2021, and it is estimated that there are 8.9 million academics enrolled in Brazil[1]. Starting a university course can represent a complex moment due to the vulnerabilities experienced by students, who frequently need to reconcile academic activities with personal and professional activities. Scientific evidence even indicates that university students' lifestyle evolves negatively throughout the course[2].

The embracement of risky behaviors is responsible for a significant portion of morbidity and mortality among university students[3]. A study with university students in the United Kingdom[4], identify that a small proportion of students had positive health practices such as consuming fruits/vegetables and carrying out physical activity. Furthermore, the research showed that the vast majority of participants consume excessive alcoholic beverages and use illicit drugs.

In this sense, researchers have made efforts to investigate and understand risky behaviors among university students. Another study investigated students from a university in Jordan and demonstrated that the most prevalent risk behaviors were poor dietary and lifestyle habits, suggesting that nutrition and health education programs and increasing physical activity levels would reduce the prevalence of overweight and obesity[2]. On the other hand, a study conducted with Italian university students[5] observed that the initiation of certain risky behaviors, particularly excessive alcohol consumption or the use of illicit drugs such as marijuana, negatively influenced the engagement in other risky behaviors (e.g., sexual behaviors). Despite the investigation of various undergraduate groups in other countries, there is still a need for further studies at the national level and comparisons between fields of study, which this the gap addressed by the present study.

Various risky behaviors within the university environment can be observed, directly affecting the maintenance of a healthy lifestyle. Likewise, the lifestyle established by individuals since childhood significantly influences the acquisition or not of future diseases, especially chronic non-communicable diseases, which represent around 70% of all deaths in the world and are associated with health expenditure by governments[6,7]. From this perspective, the level of physical activity represents an essential factor related to well-being and quality of life, since, according to data from the World Health Organization, 3.2 million deaths per year in the world are attributed to physical inactivity[8]. However, it is evident that the resumption of activities post-COVID-19, particularly among university students, combined with the ability to seek, comprehend, and evaluate health information through electronic media (e-health literacy), can promote healthy behaviors and well-being[9].

Considering the increasing university population in Brazil and the vulnerability of university students to adopt risky behaviors, there is a growing interest in investigating these subjects throughout the national territory. Although several national[6] and international[10] studies address risk behavior in university students, it has been shown that there is a lack of studies that observe the students' level of physical activity and risk behaviors based on their fields of study. In this sense, understanding how physical activity levels relate to the development of risk behaviors is crucial in the pursuit of greater health among university students. The findings of this study may prompt increased attention to the health of university students, enabling the development of programs or interventions aimed at enhancing lifestyle and preventing risky behaviors related to nutrition, the use of legal and illegal substances, physical activity, sexual education, and traffic safety. Thus, the objective of the present study is to investigate the levels of physical activity and risk behaviors of undergraduate students from different fields of knowledge.

METHODS

The sample of this cross-sectional study consisted of university students in the 3rd and 4th semesters, of three undergraduate courses, from the Federal University of Mato Grosso (Mato Grosso, Brazil). The selection of courses was performed randomly, from the courses available in the institution. Initially, an invitation was sent

to directly to the course coordinators of six courses (Psychology, Veterinary Medicine, Physics, Accounting Sciences, Public Health, and Physical Education), two courses from each field of knowledge. However, only three courses agreed to participate in this research (Accounting Sciences, Physical Education, and Physics). The field of knowledge for each of the courses was determined according to the classification of major fields of the Coordination for the Improvement of Higher Education Personnel - Exact and Earth Sciences (Physics); Applied Social Sciences (Accounting Sciences); Health Sciences (Physical Education).

The first and last year's students were not recruited because they represent, respectively, an adaptation phase and a transition phase to the job market. Therefore, first-year students may not yet have scientific knowledge about healthy habits and practices, and last year's students would have a greater commitment of time to on- and off-campus activities, such as internships, which could make data collection unfeasible[11].

The project was presented to the course coordinators to inform them about its objectives, methodology, and relevance. Data collection was conducted online using Google Forms. Contact with students was established through personal emails provided by the course coordinators following a request made through the institution's Electronic Information System (SEI). Prior to data collection, students were briefed on the project's details, including its objectives, methodology, and the associated risks and benefits. They were also informed about the research's anonymous nature and provided with the Informed Consent Form.

Inclusion criteria were: a) being over 18 years old, b) being regularly enrolled in the selected courses, and c) being in the second year of study. Exclusion criteria included: (a) incorrect completion of the data collection instrument, and/or (b) volunteers who did not meet one or more inclusion criteria.

The students' physical activity levels were assessed by the short version of the International Physical Activity Questionnaire (IPAQ), containing eight closed questions. The IPAQ was validated in Brazil[12] and participants responded to questions based on activities carried out in the week before the questionnaire was administered. The IPAQ classifies and conceptualizes the response categories into: Sedentary; Irregularly Active A; Irregularly Active B; Active; and Very Active. The reliability of the questionnaire was $\alpha = 0.87$, indicating strong reliability.

Risk behaviors were assessed by a modified reduced version of the National College Health Risk Behavior Survey (NCHRBS), containing 34 closed questions. This questionnaire was developed by the Centers for Disease Control and Prevention (CDC), and validated[13]. The instrument addresses topics such as safety and violence, the use of tobacco and alcoholic beverages, and nutrition. Two categories were not assessed (risky sexual behavior and suicidal behavior). Given the fact that this research was carried out online, there could be some type of embarrassment or fear of responding to these types of behaviors. The answers to the questionnaire were multiple choice and the university students should select the most appropriate option. For example, in question one about safety and violence, the following question is asked: "How often do you wear a seat belt when riding in a car in the front seat?" The answer options were: "a) Never; b) Rarely; c) Sometimes; d) Most of the time; and e) always".

This research was approved by the Health Research Ethics Committee of the Federal University of Mato Grosso, document nº 4.091.174, respecting Resolution 466/2012 of the National Health Council (CNS/MS), which regulates research involving human beings.

Data analysis was performed using descriptive and inferential statistics. The descriptive analysis was carried out using relative and absolute frequencies of the selected categories in the physical activity (sedentary, irregularly active, and active) and risk behavior (with risk behavior or without risk behavior) instruments. The association between courses and the two aforementioned variables was assessed by chi-square tests. All analyses were conducted using the SPSS 22.0 software, adopting a significance level of $p < 0.05$.

RESULTS AND DISCUSSION

We contacted 167 second-year undergraduate students (Physics: n = 60;

Accounting Sciences: n = 50; Physical Education: n = 57). After contact, 21 students from the Accounting Sciences course (33%), 35 in the Physical Education course (56%), and 7 in the Physics course (7%) participated. It is noteworthy that the Physical Education and Accounting Sciences programs have a minimum duration of 4 years, divided into 8 semesters, while the Physics program has a duration of 4.5 years, totaling 9 semesters. Distribution by sex showed a prevalence of male participants (62%). Furthermore, among students, 52% of students classified themselves as physically active, 30% as irregularly active, and 18% as sedentary. Considering the percentages of irregularly active students and sedentary students, there is a large number of students who presented health risk factors related to physical inactivity (48%).

When comparing courses, Physical Education students were the most physically active (57%), followed by Accounting Sciences (52%) and Physics (29%) students. On an overall analysis, these results are also similar to those presented by Rodrigues, Cheik and Mayer[14] who analyzed the level of physical activity among students at a University in Gurupi (TO), and found that 51.1% of these students were active, while 7.6% were sedentary.

On the other hand, Souza, Bonfante, Junior and Lopes[15], investigated the physical activity levels of students from different health courses at a public university in Paraná and reported that 30% of university students were considered physically inactive or insufficiently active. Such results are similar to those reported in a review study by Guthold et al.[16], indicating that 47% of the Brazilian population is physically inactive.

In the present study, we also identified that Physics students showed higher percentages of sedentary lifestyles (57%) compared to the other courses. This result is in line with results from an investigation of Rio Grande do Sul University students[17]. In this study, similar values of sedentary lifestyle between the areas of knowledge were reported (Applied Social Sciences - 41.2%; Exact and Earth Sciences - 38.1%; Health Sciences - 37.7 %). This indicates that there is no consensus on which courses have the highest level of physical activity. Further studies are suggested to better understand the reasons for such levels of sedentary lifestyle observed in specific courses.

Previous research aimed to explore the reasons why university students do not engage in physically active behaviors[11]. It is speculated that most students spend their daily time at the university, in classroom-related activities during graduation. Part-time students (morning, afternoon, or evening), on the other hand, carry out additional activities such as work, which results in less time to be involved with physical activities.

In the present study, a relationship between the area of study and the physical activity levels was found. This result may be associated with the profile of the course students and the knowledge about health benefits arising from physical activities as part of the curriculum itself, for Physical Education students[11]. Despite that, Lansini et al.[17], highlight that even when students are enrolled in a health area course and have access to information about the importance of physical activity, there is no guarantee for the acquisition of healthy habits, since habits are an individual choice. This notion may explain the divergences between the results of the studies previously presented. Table 1 presents the association between physical activity level and gender.

Table 1. Association between physical activity level and gender.

Sex	Physical Activity Level						p
	Very active/Active		Irregularly active A/B		Sedentary		
	f	(%)	f	(%)	f	(%)	
Men	26	79	9	47	4	36	0.01*
en	7	21	10	53	7	64	
Age range**	23,0 ± 5,6		23,0 ± 5,9		23,1 ± 9,4		

**Mean, standard deviation. *Significant difference $p < 0.05$.

Physical activity levels data compared by sex showed that men are more active than women ($p<0.01$). These findings are in line with other study involving students from the University of Brasília, that indicated sex as one of the factors associated with physical activity levels, with men showing higher average physical activity levels than women[11].

The difference in physical activity levels between sexes have been previously investigated, and some reasons for these differences have been proposed[18,19]. For instance, women are engaged in less physical activity during leisure time, while other activities related to aesthetic and health benefits are preferred. On the other hand, men tend to prefer sports and group activities, behaviors that can already be observed in childhood and adolescence, whilst women are involved in games and activities with lower caloric expenditure[19].

When analyzing risk behaviors related to imprudence in traffic, no statistically significant differences were observed between the courses ($p > 0.05$). Although most students wear a helmet when riding a motorcycle and a seat belt in the front seat, it was noted that some university students tend to adopt some reckless behaviors, such as not using a seat belt in the back seat (86% in Accounting Sciences, 71% in Physical Education, and 71% in Physics students). In this sense, using a seat belt reduces by 40 and 65% the risk of being thrown from a vehicle and suffering serious or fatal injuries[20]. It is also noteworthy that 31% of our pool of students drank alcohol and drove a vehicle or rode in a vehicle in which the driver had consumed alcohol. Future research is warranted to explore the factors influencing these behaviors across diverse academic fields of study.

No significant associations were found between courses for aggressive behavior. In fact, only one student from each course reported carrying a firearm or knife and less than two students were involved in physical fights. In another study carried out in Mato Grosso with elementary and high school students, no significant associations were identified, and the prevalence of violent behavior was 4.5% among young students[21].

Regarding tobacco consumption, results show that 46% of university students have tried cigarettes at some point in their lives (38% Accounting Sciences, 49% Physical Education e 57% Physics). Despite that, 94% of students do not use tobacco recurrently, meaning that the risk behavior was not persistent. It is important to note that, despite the percentage differences among the courses regarding the aforementioned data, there was no association between them ($p=0.33$). Similar results were observed in the study by Rodrigues, Cheik and Mayer[14], whose prevalence of smoking among university students from Gurupi University (TO) across various graduations was 7.5%.

In the present study, we did not investigate the reasons that led to the habit of smoking, however, the results allowed the inference that university students from our sample are not concerned with social status and influences from friends. Additionally, the physical activity levels presented by them may be related to the non-usage of cigarettes, since practicing sports is a factor that does not favor tobacco consumption[22].

A high percentage of alcoholic beverage consumption was identified among university students (57%) who participated in this study, with no association found between alcohol consumption and the courses (57% Accounting Sciences, 54% Physical Education, and 71% Physics). Similarly, a study conducted by Antoniassi Junior and Meneses-Gaya[23] with university students from a private institution in Minas Gerais found that 89.4% of students had consumed alcohol in their lifetime, and some users exhibited risky behaviors associated with drug use. Overall, studies indicate that alcohol consumption among young people generally initiates at social environments, such as parties, related to curiosity or the need for social acceptance from groups[24]. In addition, alcohol is the substance most associated with other risk behaviors[25].

Small percentages of cannabis consumption (2%) were also identified among university students participating in this research. In a study carried out with medical students from a Federal University of Minas Gerais (MG), marijuana and cocaine use were observed[26]. Among students from a university in Bahia[27] reported the use of marijuana (22.6%), cocaine and/or crack (3.1%), amphetamines and/or ecstasy (4.1%) and inhalants (3.1%). We hypothesize that evaluating more courses from each field may result in closer drug consumption values to those of the aforementioned studies.

Our results indicated that a large proportion of Accounting Sciences (0%), Physical Education (6%), and Physics (0%) students did not present risky behaviors related to illicit drugs, since 98% of them do not use illicit drugs, with no association found among them. Drug use among this population is worrying, since in Brazil the number of higher education students has reached an estimated 8.9 million enrolled students[1]. Indeed, academic demands may generate personal, interpersonal, and social problems that motivate the use of these illicit substances. These drugs, in turn, can affect the students' global sense, giving the impression of "well-being"[27].

When body self-description was assessed, we found that most of the Accounting Sciences (95%), Physical Education (86%), and Physics (100%) students indicated that they did not have the appropriate body weight. Actions related to body weight control were observed especially among Accounting Sciences and Physical Education students, who seek the most to gain or lose weight, both through diet (52% and 51%, respectively) and exercise (76% and 63%, respectively). This may indicate a greater concern with health or body aesthetics. It is worth noting that Physics students (100%), who described an unhealthy weight, are those who undertake fewer diets and exercises to maintain or lose body weight (71%), presenting greater risk behavior related to body weight. Similarly, the study by Vargas et al.[28] with university students from Itararé (SP), also observed that university students with the greatest dissatisfaction with their body weight are those with the lowest level of physical activity. Table 2 shows the association of dietary risk factors among students from different undergraduate courses.

Table 2. Association of dietary risk factors among students from different undergraduate courses.

Inadequate eating		Accounting Sciences		Physical Education		Physics		P
	RB	F	(%)	F	(%)	F	(%)	
31. Did you eat fruits or drink fruit juices yesterday?	Yes	9	43	6	17	4	57	0,03*
	No	12	57	29	83	3	43	
32. Did you eat green salads or cooked vegetables yesterday?	Yes	4	19	9	26	3	43	0,45
	No	17	81	26	74	4	57	
	Yes	17	81	28	80	6	86	0,94

33. Did you eat a hamburger, hot dog, *coxinha*, *empadinha*, chips, or French fries yesterday?	No	4	19	7	20	1	14	
34. Did you eat cookies, pies, cakes, or candies yesterday?	Yes	7	33	15	43	3	43	0,77
	No	14	67	20	57	4	57	

*Significant difference, $p<0.05$. RB - Risk behavior.

In the present study, it was observed that university students did not present regular healthy eating habits, which is worrying, as a diet poor in whole grains, fruits, and vegetables is associated with increased exposure to chronic diseases risk. However, Physical Education students showed a higher consumption of fruit or fruit juices than university students of other courses (83%) ($p<0.05$). These students may have presented healthier habits in their daily lives, mainly due to their area of knowledge, having curricular subjects that deal with the concepts of health education and the importance of a healthy lifestyle[29]. This result presented by Physical Education students may also be related to the observations of Feitosa et al.[30] that analyze students' food habits from a Brazilian Northwest Public University who indicated an improvement in the consumption of protective foods, such as fruits, as the course goes on.

No associations between risk behaviors and physical activity levels were found in the present study. Alcohol was the most consumed drug among students, and high physical activity levels were not a protective factor against this behavior. Some studies describe the relationship between adequate eating habits and higher physical activity levels[15], however, the high physical activity level was not decisive for better eating habits in this study.

This study presents some limitations. One of them concerns the fact that a single course represented each field of study, due to the refusal of three courses to participate, reducing the sample. The low student participation and the way data was collected using an online platform also contributed to the small sample. We believe that the lack of direct and personal contact with students may have interfered with explaining the importance of this research topic.

The findings of this study aim to stimulate reflection on risk behaviors and levels of physical activity. The practical implications include prompting university administrators and educators across different fields of study to address these issues, aiming to mitigate and prevent risky behaviors while promoting healthier lifestyles. Furthermore, the implementation of health programs tailored to the university community to foster these objectives is warranted.

CONCLUSION AND FINAL CONSIDERATIONS

On the overall, results indicated that the majority of students presented satisfactory behavior regarding physical activity. The comparison between the three fields of study showed lower physical activity levels for Exact and Earth Sciences students, compared to Health Sciences students. Health Sciences students also presented more positive results regarding nutrition.

Positive behaviors related to smoking, use of illicit drugs, and aggressive behaviors were observed in the three fields of study investigated, indicating that university students may be more aware of these lifestyle aspects. On the other hand, reckless traffic behavior and alcohol consumption were the most frequent risk behaviors observed among university students. There was no direct relationship between physical activity levels and risk behaviors.

REFERENCES

1. Censo da Educação Superior (CES). 2021. Available from:

http://portal.mec.gov.br/component/tags/tag/344-censo-da-educacao-superior

2. Al-Awwad NJ, Al-Sayyed HF, Zeinah ZA, Tayyem RF. Dietary and lifestyle habits among university students at different academic years. Clinical Nutrition ESPEN. 2021; 44:236–42. https://doi.org/10.1016/j.clnesp.2021.06.010

3. Lima CAG, Maia, MFM, Magalhães TA, Oliveira LMM, Reis V, Brito MFSF et al. Prevalência e fatores associados a comportamentos de risco à saúde em universitários no norte de Minas Gerais. 2017;25(2):183–91. https://doi.org/10.1590/1414-462X201700020223

4. Ansari W, Stock C, John J, Deeny P, Phillips C, Snelgrove S, et al. Health Promoting Behaviours and Lifestyle Characteristics of Students at Seven Universities in the UK. Central European Journal of Public Health. 2011; 19(4):197–204. https://doi.org/10.21101/cejph.a3684

5. Ongaro F, Tocchioni V. Adding up risks: Sexual debut and substance use among Italian university students. Advances in Life Course Research. 2022; 53:100491. https://doi.org/10.1016/j.alcr.2022.100491

6. Belem IC, Gaion Rigoni PA, Santos VAP dos, Vieira JLL, Vieira LF. Associação entre comportamentos de risco para a saúde e fatores sociodemográficos em universitários de educação física. Motricidade. 2016;12(1):3. https://doi.org/10.6063/motricidade.3300

7. Malta DC, Bernal RTI, Lima MG, Araújo SSC de, Silva MMA da, Freitas MI de F, et al. Noncommunicable diseases and the use of health services: analysis of the National Health Survey in Brazil. Revista de Saúde Pública. 2017;51(suppl 1). https://doi.org/10.1590/S1518-8787.2017051000090

8. World Health Organizzation (WHO). Riscos globais para a saúde: mortalidade e sobrecarga da doença atribuível aos principais riscos selecionados. Genebra: Organização Mundial da Saúde. 2019. Available from: https://www.paho.org/pt/noticias/9-12-2020-oms-revela-principais-causas-morte-e-incapacidade-em-todo-mundo-entre-2000-e

9. Bao X, Chen D, Shi L, Xia Y, Shi Z, Wang D. The relationship between COVID-19-related prevention cognition and healthy lifestyle behaviors among university students: Mediated by e-health literacy and self-efficacy. Journal of Affective Disorders. 2022;309:236-41. https://doi.org/10.1016/j.jad.2022.04.044

10. Alcocer-Bruno C, Ferrer-Cascales R, Ruiz-Robledillo N, Sánchez-SanSegundo M, Zaragoza-Martí A. Personal and Lifestyle Determinants of HIV Transmission Risk in Spanish University Students. International Journal of Environmental Research and Public Health. 2020;17(22):e8332. https://doi.org/10.3390/ijerph17228332

11. Marcondelli P, Costa THM da, Schmitz B de AS. Nível de atividade física e hábitos alimentares de universitários do 3o ao 5o semestres da área da saúde. Revista de Nutrição. 2008;21:39–47. https://doi.org/10.1590/S1415-52732008000100005

12. Matsudo S, Araújo T, Matsudo V, Andrade D, Andrade E, Oliveira LC, et al. Questionário Internacional de Atividade Física (IPAQ): estudo de validade e reprodutibilidade no Brasil. Revista Brasileira de Atividade Física & Saúde. 2001;6(2):5–18. https://doi.org/10.12820/rbafs.v.6n2p5-18

13. Franca C, Colares V. Validação do National College Health Risk Behavior Survey para utilização com universitários brasileiros. Ciencia & Saude Coletiva. 2010;15(suppl 1):1209–15. https://doi.org/10.1590/S1413-81232010000700030

14. Rodrigues ESR, Cheik NC, Mayer AF. Nível de atividade física e tabagismo em universitários. Revista de Saúde Pública. 2008;42:672–8.

https://doi.org/10.1590/S0034-89102008000400013

15. Souza I, Bonfante I, Moraes Junior F, Lopes W. Níveis de atividade física e estágios de mudança de comportamento de universitários da área de saúde. Revista Brasileira de Atividade Física & Saúde. 2016;20(6):608. https://doi.org/10.12820/rbafs.v.20n6p608

16. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1·9 million participants. The Lancet Global Health. 2018;6(10):e1077–86. https://doi.org/10.1016/S2214-109X(18)30357-7

17. Lansini LC, Pieta Dias C, Oestreich MG, De Ross Rosa L, Tiggemann CL. Nível de sedentarismo entre estudantes universitários do Rio Grande do Sul e os possíveis fatores associados. O Mundo da Saúde. 2017;41(3):267–74.

18. Claumann GS, Pereira ÉF, Pelegrini A. Prática de caminhada, atividade física moderada e vigorosa e fatores associados em estudantes do primeiro ano de uma instituição de ensino superior. Motricidade. 2014;10(4):16–26. https://doi.org/10.6063/motricidade.10(4).2731

19. Salles-Costa R, Werneck GL, Lopes CS, Faerstein E. Associação entre fatores sócio-demográficos e prática de atividade física de lazer no Estudo Pró-Saúde. Cadernos de Saúde Pública. 2003;19(4):1095–105. https://doi.org/10.1590/S0102-311X2003000400031

20. Toroyan T, Peden M. Youth and road safety. Geneva: World Health Organization (WHO). 2007. Available from: https://iris.who.int/handle/10665/43607

21. Castro M de L, Cunha SS da, Souza DPO de. Comportamento de violência e fatores associados entre estudantes de Barra do Garças, MT. Revista de Saúde Pública. 2011;45(6):1054–61. https://doi.org/10.1590/S0034-89102011005000072

22. Sánchez-Hernández CM, Pillon SC. Tabaquismo entre universitarios: caracterización del uso en la visión de los estudiantes. Revista Latino-Americana de Enfermagem. 2011;19(spe):730–7. https://doi.org/10.1590/S0104-11692011000700010

23. Antoniassi Júnior G, Meneses-Gaya C. O Uso de Droga Associado ao Comportamento de Risco Universitário. Saúde e Pesquisa. 2015;8:9–17.

24. Picolotto E, Libardoni LFC, Migott AMB, Geib LTC. Prevalência e fatores associados com o consumo de substâncias psicoativas por acadêmicos de enfermagem da Universidade de Passo Fundo. Ciência & Saúde Coletiva. 2010;15(3):645–54. https://doi.org/10.1590/S1413-81232010000300006

25. Malta DC, Machado ÍE, Felisbino-Mendes MS, Prado RR do, Pinto AMS, Oliveira-Campos M, et al. Uso de substâncias psicoativas em adolescentes brasileiros e fatores associados: Pesquisa Nacional de Saúde dos Escolares, 2015. Revista Brasileira de Epidemiologia. 2018;21(suppl 1). https://doi.org/10.1590/1980-549720180004.supl.1

26. Pillon SC, O'Brien B, Chavez KAP. The relationship between drugs use and risk behaviors in brazilian university students. Revista Latino-Americana de Enfermagem. 2005;13(spe2):1169–76. https://doi.org/10.1590/S0104-11692005000800011

27. Damasceno RO, Boery RNSO, Boery EN, Anjos KF, Santos VC. Fatores Associados à Qualidade de Vida em Estudantes Universitários (Anais). Reunião Anual da SBPC, 67, São Carlos – SP. 2016.

28. Vargas LM, Cantorani JRH, Mauricio LK, Annunciato SKL. Nível de atividade física de estudantes universitários com e sem distúrbio da imagem corporal. Pensar a Prática. 2016;19(1):169–81. https://doi.org/10.5216/rpp.v19i1.35220

29. Silva TR da, Saenger G, Pereira ÉF. Fatores associados à imagem corporal em estudantes de Educação Física. Motriz: Revista de Educação Física. 2011;17(4):630–9. https://doi.org/10.1590/S1980-65742011000400007

30. Feitosa EPS, Dantas CAO, Andrade-Wartha ERS, Marcellini PS, Mendes-Netto RS. Hábitos alimentares de estudantes de uma universidade pública no Nordeste, Brasil. Alimentação e Nutrição. 2010; 21(2):225-230.

Received: 20 june. 2024
Accepted: 22 july. 2024