



## Students' perception of health promotion in higher education and quality of life

### *Percepção dos estudantes sobre promoção da saúde no ensino superior e qualidade de vida*

### *Percepción de los estudiantes sobre promoción de la salud en la educación superior y la calidad de vida*

**Raquel Cristina Carrasco Martins** 

Cesumar University (Universidade Cesumar) - Maringá (PR) - Brazil

**Eraldo Schunk Silva** 

Cesumar University (Universidade Cesumar) - Maringá (PR) - Brazil

**José Gonçalves Vicente** 

Cesumar University (Universidade Cesumar) - Maringá (PR) - Brazil

**Rute Grossi-Milani** 

Cesumar University (Universidade Cesumar) - Maringá (PR) - Brazil

#### ABSTRACT

**Objective:** To assess students' perception of health promotion in a higher education institution relating it to quality of life (QoL).

**Methods:** This is a quantitative descriptive cross-sectional study carried out in November 2019 in a private denominational and philanthropic university located in Southern Brazil. Questionnaires were applied to 390 university students in a representative sample of 62.4% of the students enrolled. To assess health promotion based on students' perception, the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU*) was used. To assess the students' QoL, the QoL assessment instrument - WHOQOL-bref was used. Data were analyzed statistically using crosstabs and Wilcoxon test with a confidence level of 95% ( $\alpha=0.05$ ). **Results:** The university students showed a positive perception of the institution as a promoter of health, exhibiting a mean score above 90 (from 0 to 100) in the physical activity, food and environmental factors domains. It was found that the mean scores for general quality of life in the WHOQOL-bref instrument differed significantly between participants who reported practicing physical and recreational activities ( $p=0.0001$ ), and those who participated in healthy eating activities offered by the institution ( $p=0.005$ ). **Conclusion:** The students positively rated the health-promoting actions at the university analyzed, with a better perception of quality of life seen among students who reported practicing physical and recreational activities, and who participated in healthy eating activities.

**Descriptors:** Quality of life; Adolescent health; Health promotion; University.

#### RESUMO

**Objetivo:** Avaliar a percepção dos estudantes sobre a promoção da saúde em uma instituição de ensino superior, relacionando com a qualidade de vida (QV). **Métodos:** Trata-se de um estudo transversal, descritivo, de natureza quantitativa, realizado em uma faculdade privada, de natureza confessional e filantrópica, localizada no Sul do Brasil, no mês de novembro de 2019. Aplicaram-se questionários a 390 estudantes universitários, configurando uma amostra representativa de 62,4% dos matriculados. Para avaliação da promoção da saúde sob a percepção dos estudantes, utilizou-se o questionário IAPSU – Instrumento de Avaliação da Promoção da Saúde na Universidade. Para avaliação da QV dos acadêmicos, utilizou-se o instrumento de avaliação da QV - WHOQOL-bref. Analisaram-se os dados, estatisticamente, por meio de tabelas de frequências cruzadas, através dos testes de Wilcoxon, com nível de confiança de 95% ( $\alpha=0,05$ ). **Resultados:** Os universitários mostraram percepção positiva da instituição como promotora da saúde, alcançando escore médio superior a 90 (de 0 a 100) nos domínios atividade física, alimentação e fatores ambientais. Verificou-se que a média obtida na qualidade de vida geral do instrumento WHOQOL-bref diferiu significativamente entre os participantes que relataram praticar atividade física e recreativa ( $p=0,0001$ ), e que participaram de atividades sobre alimentação saudável oferecidas pela instituição ( $p=0,005$ ). **Conclusão:** Conclui-se que os estudantes avaliaram positivamente as ações promotoras da saúde na universidade avaliada, com melhor percepção da qualidade de vida entre os estudantes que relataram praticar atividade física e recreativa, e que participaram de atividades sobre alimentação saudável.

**Descritores:** Qualidade de Vida; Saúde do Jovem; Promoção da Saúde; Universidade.



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## RESUMEN

**Objetivo:** Evaluar la percepción de los estudiantes sobre la promoción de la salud en institución de educación superior relacionando con la calidad de vida (CV). **Métodos:** Se trata de un estudio transversal, descriptivo, de naturaleza cuantitativa realizado en una facultad privada, de naturaleza confesional y filantrópica, localizada en el Sur de Brasil en el mes de noviembre de 2019. Se aplicaron cuestionarios con 390 estudiantes universitarios que ha sido una muestra representativa del 62,4% de los matriculados. Para la evaluación de la promoción de la salud bajo la percepción de los estudiantes, se utilizó el cuestionario IAPSU – Instrumento de Evaluación de la Promoción de la Salud en la Universidad. Para la evaluación de la CV de los académicos, se utilizó el instrumento de evaluación de la CV – el WHOQOL-bref. Se analizaron los datos, estadísticamente, a través de tablas de frecuencias cruzadas, a través de las pruebas de Wilcoxon con el nivel de confianza del 95% ( $\alpha=0,05$ ). **Resultados:** Los universitarios mostraron percepción positiva de la institución como promotora de la salud alcanzando una puntuación media más de 90 (de 0 a 100) para los dominios actividad física, alimentación y factores ambientales. Se verificó que la media de la calidad de vida general del instrumento WHOQOL-bref ha sido significativamente distinta entre los participantes que relataron la práctica de actividad física y de recreación ( $p=0,0001$ ) y los que participaron de actividades sobre alimentación saludable ofrecidas por la institución ( $p=0,005$ ). **Conclusión:** Se concluye que los estudiantes evaluaron positivamente las acciones de promoción de la salud de la universidad evaluada con mejor percepción de la calidad de vida entre los estudiantes que relataron la práctica de actividad física y de recreación y los que participaron de actividades de alimentación saludable.

**Descriptor:** Calidad de Vida; Salud del Adolescente; Promoción de la Salud; Universidades.

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## INTRODUCTION

The notion of health promotion (HP) as a social action began to be disseminated worldwide in recent decades aiming at reducing health inequities and expand the possibilities of individuals and communities to act on the factors that affect their health and quality of life<sup>(1)</sup>. Thus, the vision of health was expanded beyond the specific services of the area, with the encouragement of intersectoral involvement. In that regard, professionals and institutions must take on the responsibility of acting towards the improvement of the quality of life and production of health<sup>(1)</sup>.

In the general population that needs to be reached by health promotion, there are young people who have been left aside for years by public agencies and policies<sup>(2)</sup>. Currently, there is recognition of the need to invest in HP for this population group, in which there is a high rate of risky behaviors and mental disorders<sup>(3,4)</sup>. With the aim of tackling this issue, the health-promoting universities (HPU) movement proposes that educational institutions be active agents in HP, adopting a commitment to health within its principles since universities have the potential to significantly and positively affect the quality of life and health of its students, employees and community<sup>(5)</sup>.

Therefore, promoting the health and quality of life (QoL) of young people is a challenge to be faced by universities. The concept of quality of life consists of the “individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”<sup>(6)</sup>. It is closely related to lifestyle, that is, to the usual health actions that the individual performs and that reflect their attitudes, values and opportunities in life<sup>(7)</sup>, which will impact their general well-being and health. Thus, investing in health promotion and education for young people is vital for them to achieve a healthy life and quality education, as recommended by the global sustainable development agenda, enabling new behaviors and preventing diseases<sup>(2,8)</sup>.

The higher education institution (HEI) is a potential environment to contribute to the intersectoral work to promote the quality of life of university students<sup>(9)</sup>. Thus, the HEI can promote and train more conscious and healthy individuals, also generating a better quality of life for society as it is an environment in which knowledge, concepts and values are acquired and built<sup>(9)</sup>.

Although studies identify the relevance of HEIs for HP and QoL, few have analyzed this perception from the perspective of university students and the relationship between HP and the QoL of this population group. In line with this perspective, the present study aims to contribute to the understanding of the theme from the perception of university students, thus enabling the awareness of HEIs and the academic community about the need for changes and improvement of actions that promote and support HP and QoL. Therefore, the objective of this study was to assess students’ perception of health promotion in a higher education institution and relate it to quality of life.

## METHODS

This is a quantitative, descriptive, cross-sectional case study conducted in a private higher education institution (HEI) belonging to a worldwide denominational and philanthropic educational network located in the Northwest of the state of Paraná, Southern Brazil. The institution offers boarding and day care for students, which allows it to receive students from different countries and Brazilian states, featuring a great cultural multiplicity. The courses offered by the HEI are: Administration, Nursing, Pedagogy, Accounting Sciences, Psychology and Theology.

The HEI has as its guiding principle the integral education of university students and invests in social relationships, spirituality, contact with nature, healthy eating and sports practice. It has a structured space for the practice of physical activity: a gym, two sports courts, two swimming pools, a running track and a soccer field, as well as a place for bathing and changing clothes, and drinking fountains.

625 students aged 18 years or older from the first to the last year of undergraduate studies enrolled at the HEI in the morning and evening shifts were contacted to participate in the research. The composition of the sample was representative and convenient, totaling 390 university students (62.4%).

Data were collected in November 2019 in person in classrooms using Google Forms® accessed online on electronic devices. First, the objective of the research was presented at a time planned in advance and set by the HEI with the aim of obtaining the consent from the participants through the signing of the informed consent form applied by a teacher graduated in Pedagogy and with adequate training to use the instruments.

Two validated instruments were used: the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU*)<sup>(10)</sup>, which contains the sociodemographic questionnaire; and WHOQOL-Bref- an instrument for assessing quality of life<sup>(11)</sup>.

IAPSU has 41 questions divided into five domains: physical activity, diet, environmental factors, psychosocial factors, alcohol/drug consumption and integrative and complementary practices<sup>(10)</sup>. The response to the items was assigned a score equal to zero or one. A score of one (1) was assigned to the response corresponding to a positive evaluation. Then, the scores on the items in each domain were summed – calculated on a scale from 0 to 100, expressed in mean scores –, with the highest scores being favorable to health promotion at the university according to university students' perception.

To characterize the sociodemographic profile of students, we used the identification module already contained in IAPSU<sup>(10)</sup> and questions on academic year, study shift and university program.

The WHOQOL-bref instrument consists of 26 questions, with questions 1 and 2 on general quality of life and the remaining 24 questions covering 4 domains: physical, psychological, social relations and environment. Responses are given on a Likert scale from 1 to 5, with higher scores suggesting better quality of life<sup>(11)</sup>.

The data were described as means and standard deviation and by means of crosstabs. The means of the items of the IAPSU instrument (representative questions) and the means of the domains of the WHOQOL-bref were analyzed through cross-sectional statistics using the Wilcoxon test considering a confidence level of 95% ( $\alpha=0.05$ ). Data analysis was performed using the Statistical Analysis Software (SAS, version 9.4) and a database built using Excel.

The research followed the ethical criteria for research involving human beings recommended by Resolution No. 466/12. The project was analyzed and approved by the Research Ethics Committee of Cesumar University (*Universidade Cesumar – UniCesumar*), under Approval No.: 3.702.302. Participants were informed about the voluntary nature of the research, as well as data confidentiality and the informed consent form. All the participants who agreed to participate signed the form and received guidance on the possibility of withdrawing at any time during the research.

## RESULTS

In all, 50.51% (n=197) of the participants were women and 40.49% (n=193) were men, with the majority, 65.89% (n=257), aged between 18 and 23 years. As for the undergraduate program, 32.31% (n=126) of the participants studied Theology, 21.79% (n=85) studied Pedagogy, 21.54% (n=84) studied Nursing, 12.61% (n=48) studied Psychology and 12.05% (n=47) studied Administration.

As for the family profile, 44.6% (n=174) of the participants' parents studied only up to primary school, 27.4% (n=107) up to secondary school and 17.9% (n=70) engaged with higher education. With regard to income, 36% (n=141) did not rely on their parents' income and either had their own income or did not have any source of income at all, being assisted by the institution only. The mean household income was BRL 3,965.44.

The assessment of health promotion at the university from the students' perspective is presented in Table I.

Table I - Item scores for the domains of the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU\**) in the Higher Education Institution – HEI analyzed. Maringá, Paraná, Brazil, 2019.

IAPSU domains	Scores
<b>Domain – physical activity</b>	
1. Participates in physical activities promoted by the university	43.60
3. Participates in recreational physical activities at university	46.70
5. Assessment of university spaces for physical activities	88.82
6. Students who identified all health-promoting spaces	92.22
7. Understands that the practice of physical activity influences their health and well-being	97.90
<b>Domain – food</b>	
10. The university's restaurants and/or cafeterias offer healthy foods	91.00
12. The university offers a comfortable environment for meals	90.30
15. Participated in healthy eating activities at the university	60.00
<b>Domain – environmental factors</b>	
16. Conscious use of water and energy is addressed at the university	79.50
17. The sanitary facilities at your university are clean and fully operational	96.70
18. There are trash cans with lids in classrooms, patios, bathrooms and hallways	98.72
19. Classrooms are adequate as for lighting, ventilation, acoustics and furniture	93.40
20. Feels safe at the university	86.64
<b>Domain – psychosocial factors</b>	
24-26. Assessment of university relationships	78.40
27. Situations of violence (SV)	26.15
28. Predominant SV: psychological	96.00
29. Predominant factors involved in SV among students:	90.00
consumption of alcohol, tobacco or any illicit drug at the university	5.38
<b>Domain – integrative practices</b>	
40. The Integrative and Complementary Practice (ICP) in the HEI can promote a healthy environment	84.10
41. Predominantly used ICP: prayer, biblical reflection	77.45

\*Fontenelle Catrib AM, Bitar da Cunha Olegario N, Gardano Bucharles Mont'Alverne D, Pinheiro Ferreira da Silva G, Vasconcellos Abdon AP, Guimarães e Silva J, et al. Development and reproducibility of the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU*). *Rev Bras em promoção da Saúde* [Internet]. 2015;28(3):305-17

The structural aspect of the higher education institution was positively rated by the students, especially regarding the quality of spaces intended for physical activity, in which the mean score was 89.00 on a scale from 0 to 100. Thus, the health-promoting spaces in the institution intended for physical and recreational activities were recognized by the students, reaching a mean score of 92.0 (n=359) (scale from 0 to 100).

As for the food domain, 91.03% (n=356) of the students said the institution offers healthy food and 90.26% (n=352) said the environment for eating (restaurant and cafeteria) is comfortable. With regard to environmental factors (acoustics, lighting and furniture in classrooms, hygiene and conscious consumption), 92.18% (n=359) of the students said these could be found in the institution.

The items that assess health education were assigned a mean score of 81.18 (scale from 0 to 100) by the students. As for the psychosocial factors, the mean score for quality of relationships in the institution was 78.40, whereas the mean score for consumption of alcohol, tobacco or drugs was 5.38 (0 to 100) and for situations of violence was 26.15 (0 to 100), with a predominance of psychological violence and violence among students.

With regard to the questions about the involvement of students in health promotion projects offered by the institution, 46.70% (n=182) reported participating in recreational physical activities, 60% (n=234) reported having already participated in healthy eating activities and 38.18% (n=148) said they participated in extracurricular academic activities. In general, the result was positive, with scores above 75 (scale from 0 to 100) for students' perception and assessment of physical activity, diet, environmental factors, psychosocial factors, and integrative and complementary practices.

Table II shows the mean, standard deviation, minimum and maximum values for the domains of the WHOQOL-bref instrument, namely the physical domain (77.8%; mean 3.89 out of 5); and the social relationships domain (72%; mean 3.60 out of 5), followed by the psychological and environmental domains.

Table II - Mean scores on WHOQOL-bref domains (n = 390). Maringá, Paraná, Brazil. 2019.

Domains	Mean	SD	Minimum	Maximum
Physical	77.8	16.2	31.4	100.0
Psychological	70.4	13.6	23.4	96.6
Social relations	72.0	15.8	20.0	93.4
Environment	68.2	12.6	25.0	97.6

SD: standard deviation

The differences between the mean scores in the WHOQOL-bref domains and the responses to some selected items of the IAPSU instrument were also analyzed according to the significant findings observed for the domains – physical activity, diet and psychosocial factors –, which can be seen in Tables III and IV.

Significant differences were observed in the general quality of life (p-value=0.0001) of the students who reported participating in physical activities promoted by the higher education institution (n=170;43.59%), presenting higher scores and a significant difference in the physical (p-value=0.0016), psychological (p-value=0.0001) and environmental (p-value=0.0002) domains (WHOQOL-bref). Students who claimed to participate in recreational physical activities (n=182; 46.67%) at the university had significantly higher scores on the perception of quality of life in the physical (p-value=0.0045), psychological (p-value=0.0016), environmental (p-value=0.0022) and general quality of life (p-value=0.0010) domains.

Students who responded positively when asked whether the practice of physical activity influences health and well-being (IAPSU), (n=382;98.56%) scored significantly different on the psychological (p-value=0.0322), environmental (p-value=0.0231) and general quality of life (p-value=0.0298) domains (WHOQOL-bref).

Students who said they had participated in healthy eating activities (IAPSU) (n=156; 40%) exhibited significantly different mean scores, resulting in better indicators for the psychological (p-value=0.0019), social relationships (p-value=0.0007) environmental (p-value=0.0324) and general quality of life (p-value=0.0055) domains (WHOQOL-bref).

As for the psychosocial domain, students who said (IAPSU) there was no violence at the university (n=288; 74.85%) had significantly higher scores on the psychological (p-value=0.0126), social relationships (p-value=0.0126), value=0.0323) and general quality of life (p-value=0.0146) domains of the WHOQOL-bref.

Table III - Physical activity domain of the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU\**) and its relationship with the WHOQOL-bref domains. Maringá, Paraná, Brazil, 2019.

IAPSU domain x WHOQOL-bref		n	mean	SD	p-value
<b>1. Practices physical activity promoted by the HEI</b>					
<b>WHOQOL-bref: Physical</b>	No	220	3.52	0.6642	0.0016*
	Yes	170	3.74	0.6043	
<b>WHOQOL-bref: Psychological</b>	No	220	3.40	0.7402	0.0001*
	Yes	170	3.69	0.6835	
<b>WHOQOL-bref: Social relations</b>	No	220	3.54	0.8580	0.0695
	Yes	170	3.65	0.8656	
<b>WHOQOL-bref: Environment</b>	No	220	3.27	0.6436	0.0002*
	Yes	170	3.49	0.6244	
<b>WHOQOL-bref: General QoL</b>	No	220	3.41	0.5357	0.0001*
	Yes	170	3.63	0.5756	
<b>3. Practices recreational activity promoted by the HEI</b>					
<b>WHOQOL-bref: Physical</b>	No	208	3.53	0.6506	0.0045*
	Yes	182	3.71	0.6299	
<b>WHOQOL-bref: Psychological</b>	No	208	3.42	0.7461	0.0016*
	Yes	182	3.64	0.6922	
<b>WHOQOL-bref: Social relations</b>	No	208	3.54	0.8754	0.0695
	Yes	182	3.64	0.8460	
<b>WHOQOL-bref: Environment</b>	No	208	3.28	0.6617	0.0022*
	Yes	182	3.46	0.6092	
<b>WHOQOL-bref: General QoL</b>	No	208	3.42	0.5766	0.0010*
	Yes	182	3.60	0.5444	
<b>7. Physical activity influences well-being</b>					
<b>WHOQOL-bref: Physical</b>	No	8	3.17	0.4364	0.0911
	Yes	382	3.62	0.6445	
<b>WHOQOL-bref: Psychological</b>	No	8	3.29	0.7122	0.0322*
	Yes	382	3.53	0.7328	
<b>WHOQOL-bref: Social relations</b>	No	8	3.54	1.2206	0.4662
	Yes	382	3.59	0.8551	
<b>WHOQOL-bref: Environment</b>	No	8	2.92	0.5706	0.0231*
	Yes	382	3.37	0.6424	
<b>WHOQOL-bref: General QoL</b>	No	8	3.16	0.4471	0.0298*
	Yes	382	3.51	0.5691	

SD: standard deviation; HEI: higher education institution; QoL: quality of life; Wilcoxon test. \*Items 1, 3 and 7 of IAPSU (12). Fontenelle Catrib AM, Bitar da Cunha Olegario N, Gardano Bucharles Mont'Alverne D, Pinheiro Ferreira da Silva G, Vasconcellos Abdon AP, Guimarães e Silva J, et al. Development and reproducibility of the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU*). Rev Bras em promoção da Saúde [Internet]. 2015;28(3):305-17

Table IV - Food and psychosocial factors domains of the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU\**) and its relationship with the WHOQOL-bref domains. Maringá, Paraná, Brazil. 2019

IAPSU domain x WHOQOL-bref		n	Mean	SD	p-value
<b>15. Participated in healthy eating activities</b>					
<b>WHOQOL-bref: Physical</b>	No	156	3.59	0.6430	0.1579
	Yes	234	3.64	0.6498	
<b>WHOQOL-bref: Psychological</b>	No	156	3.39	0.7461	0.0019*
	Yes	234	3.61	0.7066	
<b>WHOQOL-bref: Social relations</b>	No	156	3.42	0.8964	0.0007*
	Yes	234	3.70	0.8214	
<b>WHOQOL-bref: Environment</b>	No	156	3.28	0.6551	0.0324*
	Yes	234	3.41	0.6322	
<b>WHOQOL-bref: General QoL</b>	No	156	3.42	0.5834	0.0055*
	Yes	234	3.56	0.5521	
<b>27. Violence occurs in the HEI</b>					
<b>WHOQOL-bref: Physical</b>	No	288	3.64	0.6583	0.1204
	Yes	102	3.56	0.6126	
<b>WHOQOL-bref: Psychological</b>	No	288	3.56	0.7557	0.0126*
	Yes	102	3.43	0.6449	
<b>WHOQOL-bref: Social relations</b>	No	288	3.63	0.8711	0.0323*
	Yes	102	3.47	0.8276	
<b>WHOQOL-bref: Environment</b>	No	288	3.39	0.6367	0.1407
	Yes	102	3.28	0.6588	
<b>WHOQOL-bref: General QoL</b>	No	288	3.54	0.5836	0.0146*
	Yes	102	3.43	0.5178	

SD: Standard deviation; QoL: quality of life; Wilcoxon test. \* Items 15 and 27 of IAPSU. Fontenelle Catrib AM, Bitar da Cunha Olegario N, Gardano Bucharles Mont'Alverne D, Pinheiro Ferreira da Silva G, Vasconcellos Abdon AP, Guimarães e Silva J, et al. Development and reproducibility of the Health Promotion at the University Assessment Tool (*Instrumento de Avaliação da Promoção da Saúde na Universidade – IAPSU*). Rev Bras em promoção da Saúde [Internet]. 2015;28(3):305-17

## DISCUSSION

Men and women who participated in this study were balanced, with the majority being young people aged between 18 and 23 years and enrolled in different programs of the institution. Most university students come from poorly educated households, have a low average household income or cannot rely on their parents' financial support. Also, previous studies identified that quota students and low-income students have the lowest average quality of life<sup>(12,13)</sup>.

However, despite the fact that most students in the present study presented this profile, characteristic of a philanthropic institution, there were higher mean scores for quality of life when compared to other studies with similar population groups<sup>(11,12)</sup>. It can be inferred that the health promotion, social support and educational opportunities offered by the analyzed institution may be playing a relevant role in the students' quality of life. This result confirms studies that identified the benefit of social support for the health and quality of life of university students<sup>(14,15,16)</sup>. In addition, it should be noted that previous studies<sup>(17,18)</sup> identified lower quality of life scores in university students, but the focus was not on understanding how the environment could positively change this reality, but on the student's profile in the face of academic challenges.

With regard to the domains of the IAPSU, significant differences were observed for the quality of life of university students who reported participating in physical and recreational activities promoted by the institution assessed in the current research. However, it was observed that even with the provision of these activities and institutional incentives, the participation rate for young people is relatively low, corroborating previous research<sup>(19,20,21)</sup>.

In the health education domain of the IAPSU, the question about understanding that physical activity is related to health and well-being revealed a significant difference in the general quality of life and in the psychological and

environmental domains when compared to the group that did not report/get this type of learning. This result confirms studies that emphasized the relevance of health education and educational interventions in this area<sup>(22,23)</sup>.

In the IAPSU food domain, the students in the present study said that the institution offers healthy food and that the environments for eating (restaurant and cafeteria) are comfortable. However, it was identified that most university students have inadequate eating habits. Thus, the need for actions to promote healthy eating is emphasized and should minimize the risk of obesity and other associated negative factors<sup>(24)</sup>. On the other hand, students who claimed to participate in healthy eating activities (IAPSU) showed a significant difference in quality of life scores, confirming, once again, the relevance of health education in higher education<sup>(22,23)</sup>.

In the psychosocial factors domain, 74.85% of the students said there was no type of violence in the institution. However, 26.15% reported the existence of psychological violence and violence among students. Students who reported violence had lower scores in quality of life. For that reason, the need for continuous projects to strengthen psychosocial factors and health promotion is confirmed and should curb any type of harmful behavior in the academic environment while strengthening healthy biopsychosocial development<sup>(25,26)</sup>.

In general, the results of the present research contribute to promoting the effectiveness of healthy environments and the health-promoting university, as proposed by the World Health Organization (WHO). Based on the quality of life scores obtained by university students who participated in health-promoting activities at the university, it is possible to infer that the educational and social environments of young people can significantly contribute to improving their quality of life<sup>(17,18)</sup>.

Thus, it is understood that interdisciplinary research on health promotion is necessary to foster the discussion of public policies related to quality of life and how environments can be relevant to society. When health promotion and quality of life are integral parts of the teaching environment, students can become more complete citizens and professionals<sup>(9)</sup>. Higher education institutions can go beyond the basic curriculum and aim for an ethical, integral and full education. This health-promoting look offers opportunities for the development of reflection, resilience and self-care, reflecting on the improvement of quality of life<sup>(13,27)</sup>.

Thus, more research is needed to explore and foster the effect of health promotion in higher education to improve students' quality of life. It is important to develop research that explore, identify and develop programs aimed at positively impacting the quality of life of students.

Despite the evidence, the results must be interpreted with caution, as the study was carried out using a cross-sectional design, a method that has limitations in establishing a direct causal relationship. Even so, it was observed that the university environment, when promoting health, despite the unfavorable conditions that may exist, can provide actions to improve the quality of life of students. Thus, academic environments that invest in health education, in health-promoting spaces, in healthy eating on campus and in the practice of physical and recreational activities can contribute to improving the quality of life.

## CONCLUSION

The assessment of the student's perception of health promotion in a higher education institution revealed a positive perception of the university environment, with emphasis on the physical activity, food and environmental factors domains. However, there is still a need for greater incentive to participate in the activities offered.

There was a better perception of quality of life among students who reported practicing physical and recreational activities and those who participated in healthy eating activities.

## CONTRIBUTIONS

**Raquel Cristina Carrasco Martins** and **Rute Grossi-Milani** contributed to the study conception and design; the acquisition, analysis and interpretation of data; and the writing and/or revision of the manuscript. **Eraldo Schunk Silva** and **José Gonçalves Vicente** contributed to the acquisition, analysis and interpretation of data. All authors approved the final version of the manuscript and are responsible for its content.

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**Mailing address:**

Raquel Cristina Carrasco Martins  
Avenida Guedner, 1610  
Bairro: Jardim Aclimação  
CEP: 87050-900 - Maringá - PR-Brasil  
E-mail: [danieleraquelmartins@gmail.com](mailto:danieleraquelmartins@gmail.com)

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