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RESEARCH ARTICLE (ORIGINAL)

University students' lifestyles: Contributions to health promotion

Estilos de vida dos estudantes do ensino superior: Contributos para a promoção da saúde

Estilos de vida de los estudiantes de enseñanza superior: contribuciones a la promoción de la salud

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Abstract
Background: The transition to higher education is a period of change during which students have new experiences that influence their lifestyles.
Objective: To identify the domains of higher education students' lifestyles that require intervention.
Methodology: This cross-sectional descriptive correlational study was conducted with 522 higher education students. The Fantastic Lifestyle Assessment questionnaire was used, and statistical analysis was conducted using the IBM SPSS Statistics software – version 25.0.
Results: The study participants had a median age of 22, and 78.4% were women. Of the 522 students in the sample, 17.8% were overweight and 6.3% were obese, 14.4% were diagnosed with a chronic disease, 35.6% had *Very Good* lifestyles, and 20.1% had *Good* lifestyles. The domains Health and sexual behavior ($\bar{x}$= 8.97/24) and Work/type of personality ($\bar{x}$= 6.82/12) obtained negative scores. Significant differences were found in the questionnaire's total score (U =19785.00; $p < 0.05$) when considering the variables Gender, with female students having better lifestyles ($\bar{x}$= 89.16; SD = 12.75) and Course year (H = 18.80; $p < 0.01$).
Conclusion: Assessing higher education students' lifestyles offers the possibility to describe the intervention foci and guide the health promotion interventions.

Keywords: lifestyle; students; university; health promotion

Resumo
Enquadramento: A transição para o ensino superior representa um período de mudança em que o jovem se depara com novas vivências, com implicações no seu estilo de vida.
Objetivo: Identificar os domínios dos Estilos de vida dos estudantes do ensino superior que necessitam de intervenção.
Metodologia: Estudo descritivo-correlacional, transversal, com uma amostra de 522 estudantes do ensino superior. Questionário de Estilos de Vida Fantástico. Análise estatística em IBM SPSS Statistics 25.0.
Resultados: Mediana de idade 22 anos, 78,4% sexo feminino. Dos 522 estudantes, 17,8% excesso peso; 6,3 % obesidade; 14.4% portadores de doença crónica; 35,6% apresentaram Estilos de Vida *Muito Bom* e 20,1% Estilos de Vida *Bom*. Destacou-se pela negativa Comportamentos Saúde e Sexual ($\bar{x}$= 8,97/24), Trabalho/Tipo Personalidade ($\bar{x}$= 6,82/12). Há diferenças significativas no score global do questionário (U = 19785,00; $p < 0,05$) para estudantes as mulheres com melhor Estilo de Vida ($\bar{x}$= 89,16; DP = 12,75); e em função Ano do curso (H = 18,80; $p < 0,01$).
Conclusão: A avaliação dos Estilos de Vida permitiu caraterizar os focos de intervenção e orientar intervenções de promoção da saúde.

Palavras-chave: estilo de vida; estudantes; universidade; promoção da saúde

Resumen
Marco contextual: La transición a la enseñanza superior representa un periodo de cambio en el que los jóvenes se enfrentan a nuevas experiencias con implicaciones para su estilo de vida.
Objetivo: Identificar los dominios de los estilos de vida de los estudiantes de enseñanza superior que necesitan intervención.
Metodología: Estudio descriptivo-correlacional, transversal, muestra de 522 estudiantes de enseñanza superior. Cuestionario de estilos de vida Fantástico. Análisis estadístico en IBM SPSS Statistics 25.0.
Resultados: Mediana de edad de 22 años, el 78,4% del sexo femenino. De los 522 estudiantes, el 17,8% con exceso de peso; el 6,3 % con obesidad; el 14.4% con una enfermedad crónica; el 35,6% presentó estilos de vida *muy bueno*, y el 20,1% estilos de vida b*ueno*. Salud y comportamento sexual destacó negativamente ($\bar{x}$= 8,97/24), Trabajo/Tipo Personalidad ($\bar{x}$= 6,82/12). Existen diferencias significativas en la puntuación global del cuestionario (U = 19785,00; $p < 0,05$) para estudantes mujeres con un mejor estilo de vida ($\bar{x}$= 89,16; DP = 12,75) y dependiendo del año del curso (H = 18,80; $p < 0,01$).
Conclusión: La evaluación de estilos de vida permitió caracterizar los focos de intervención y orientar las intervenciones de promoción de la salud.

Palabras clave: estilo de vida; estudiantes;universidad; promoción de la salud

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Introduction

Involving the different aspects of people's attitudes, values, and life opportunities (Brito et al., 2016), lifestyles (LS) are characterized by modifiable behaviors that profoundly impact people's health. LS are considered one of the main determinants of non-communicable chronic diseases (NCDs), along with other factors such as genetics, environment, and socioeconomic conditions (Direção-Geral da Saúde [DGS], 2017). NCDs are long-lasting and slow-progressing diseases, such as cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases, which are responsible for a large portion of morbidity and mortality worldwide. LSs are defined as the ways individuals act, think, and feel, constituting the backbone of human life and action and the stimulus for building and promoting health and well-being (Morais et al., 2019) According to the World Health Organization (WHO 2018), most young people enjoy good health. However, youth mortality and morbidity rates are still troubling, underscoring the need to reduce health risks.

The transition to university is a significant turning point in students' lives (Luna et al., 2018), involving multiple changes and the need for students to harmonize their personal motivations and interests with their new life, family, social and academic contexts (Guimarães et al., 2017). University students' LSs become more specific during this stage of life due to their relationship with different individual, socio-environmental, and cultural factors that enable students to develop distinctive characteristics and greater autonomy and decision-making capacity regarding their lives (Morais et al., 2019). However, unhealthy dietary patterns, sedentary behaviors, alcohol, tobacco, and psychoactive substances consumption, unprotected sex, accidents, involvement in fights, and exposure to physical harm are also common in this stage of life, contributing significantly to losses in individual health, increases in chronic diseases and poor academic performances (Guimarães et al., 2017).

Bearing in mind that LSs are one of the main determinants of health, particularly in terms of prevention (Silva et al., 2014; Silva et al., 2015) and that today's university students are the future professionals of different areas and, ultimately, the policymakers that will influence the social determinants of health (Morais et al., 2019), further understanding of university students' reality is crucial for developing strategies that promote healthier LSs.

Background

People's LSs are a cause for serious concern due to their influence on health and impact on morbidity, well-being, quality of life, and mortality. University students are considered vulnerable because their behaviors during this phase can extend to other phases of life (Brito, 2018).

Most university students modify their LSs during this period, possibly due to the distance from their families, increased responsibilities, and autonomy to make their own choices (Marques, 2017). According to Silva et al. (2014), Silva (2017), and Ferreira et al. (2017), when transitioning to university, students experience several transformations at the academic and work-related levels but also in other dimensions of life that are less known from a scientific perspective. University institutions are new realities for students that reconfigure their social, family, economic, and cultural circles, reference values, and life habits. So, young university students, in particular, are at risk of adopting unhealthy behaviors, possibly affecting their health (Luna et al., 2018).

Thus, the present study considered appropriate to conduct a preliminary literature review of studies on university students' LSs that used the Fantastic Lifestyle Assessment questionnaire.

Silva (2017) conducted a study with 707 university health professions students in the Central region of Portugal. The study participants had a mean age of 19.1, and 84.0% were women. On average, students' LSs were rated as *Very Good* - 4.1% were considered *Fair*, 13.3% were *Good*, 61.4% were *Very Good*, and 21.2% were *Excellent*. No participant presented scores below 46 points.

Marques (2017) conducted a study using the Fantastic Lifestyle Assessment questionnaire with a sample of 479 students from a university institution in inland Portugal, with a mean age of 22.8 (69.3% women and 30.7% men). The study concluded that students scored higher in the domains Family and friends, Insight, Health and sexual life, and Other behaviors. The results described the students' LSs as *Very Good*. The students with better LSs were mostly younger, female, married, or in a *de facto* union. Also, these students had not moved to another address to attend university, socialized with their colleagues, family, friends, or girl/boyfriend, and belonged to higher-income households. They attended the Master's degree or the 1st and 3rd years of health, sports, and education/communication courses and had a healthy Body Mass Index (BMI).

Morais et al. (2019) conducted a study with 291 university students. The students had a mean age of 22.7, and 80.8% were women. Most were full-time students (67.0%) and remained at their usual address (55.7%). According to the questionnaire's results, most students' LSs were *Very Good* (52.2%). The domains with fewer positive scores were Work/type of personality, (physical) Activity and associativity, Nutrition, and Sleep and stress, with female students having worse results. Male students had fewer positive scores in the domain Health and sexual behavior. Analyzing the influence of Gender on students' LSs revealed statistically significant differences in the domains Family and friends, Tobacco, Alcohol and other substances, and Sexual behavior, with female students scoring higher. In contrast, male students scored higher in the domains (physical) Activity and associativity and Insight. Overall, students' LSs were *Very Good*.

LSs are increasingly relevant as health determinants because they are behaviors that directly influence people's health but are also susceptible to being modified. Therefore, it is vital to focus on prevention by adopting educational and information strategies that promote healthy LSs. Also, it is crucial to act on modifiable factors, reducing risk behaviors with impact on chronic diseases (Ministério da Saúde, 2018).

The *Políticas Saudáveis* (Portuguese "healthy policies" aimed at guiding society's efforts so that all citizens have an equal opportunity to make healthy choices and fully fulfill their health potential) are one of the strategic axes of the Portuguese National Health Plan. According to these, health promotion interventions must include multidisciplinary actions to reduce risk factors, such as smoking, obesity, lack of physical activity, and alcohol and drug consumption. This is a way of strengthening the epidemiological surveillance of factors that may compromise students' health (DGS, 2015).

The present study was conducted in a university institution in Northern Portugal and aimed to characterize the students' LSs and identify the LS domains that require intervention.

Research question

Which LS domains require intervention among university students in the northern region of Portugal?

Methodology

This is a cross-sectional descriptive correlational study approved by the Ethics Committee of Fernando Pessoa University (UFP-13.02.2019) and conducted according to the principles of the Declaration of Helsinki. The study's data collection occurred in September 2019.

This study's sample consisted of students enrolled in several university institutions in Northern Portugal. In the present study, the Northern Portugal region corresponds to the sub-regions of Alto Minho, Alto Tâmega, Porto Metropolitan Area, Ave, Cávado, Douro, Tâmega e Sousa, and Lands of Trás-os-Montes. The sample was selected using a non-probability snowball sampling method. The data collection instrument was sent to some students chosen from the researchers' contact list and invited to participate in the study. These students were later asked to send the instrument to other university students from their contact list. Data were collected with a self-report instrument developed using Google Forms, whose link was sent to the selected participants. The first page of the instrument explained the study's objectives. Participants only had access to the questions after selecting the option "I confirm that I have read and understood the object and objectives of the present study, and I agree to participate."

The data collection instrument was organized into three parts: a) sociodemographic characterization, b) clinical characterization, and c) Silva et al. (2014) Fantastic Lifestyle Assessment questionnaire to assess students' LSs. The sociodemographic characterization collected data regarding gender, age, marital status, nationality, education institution, cycle of studies, course attended, course year, and if the student changed address upon being admitted to university. The clinical characterization gathered data about chronic diseases, disease specification, and BMI. The name Fantastic Lifestyle Assessment questionnaire comes from the acronym "FANTASTICO," representing the initial letters of the ten LS domains (in Portuguese) according to which the 30 items are organized: "F - Family and friends" (minimum value: 0; maximum value: 8); "A – (physical) Activity/ associativity" (minimum value: 0; maximum value: 12); "N - Nutrition" (minimum value: 0; maximum value: 12); "T – Tobacco" (minimum value: 0; maximum value: 8); "A - Alcohol and other substances" (minimum value: 0; maximum value: 24); "S - Sleep and stress" (minimum value: 0; maximum value: 12); "T – Work (in Portuguese, *Trabalho*)/ type of personality" (minimum value: 0; maximum value: 12); "I – Insight" (minimum value: 0; maximum value 12); "C - Health and sexual behavior" (in Portuguese, *Comportamento de saúde e sexual*) (minimum value: 0; maximum value: 12); and "O - Other behaviors" (minimum value: 0; maximum value: 8). The purpose of the ten domains is to evaluate positive, intermediate, or negative LS behaviors. According to the authors, the 30 items of the Fantastic Lifestyle Assessment questionnaire have three answer options, each with 0, 1, or 2 points. The sum of the points obtained in the ten domains is multiplied by two (with the minimum and maximum values mentioned above for each domain already resulting from this multiplication), providing a value that allows the LS to be quantified and categorized as follows: *Excellent* (from 103 to 120 points); *Very Good* (from 85 to 102 points); *Good* (from 73 to 84 points); *Fair* (from 47 to 72 points); and *Needs Improvement* (from 0 to 46 points). The lower the score, the greater the need for behavioral change. Overall, the results can be interpreted as follows: *Excellent* indicates that the LS has a major influence on health; *Very Good* indicates that the LS has an adequate influence on health; *Good* indicates that the LS brings many health benefits; *Fair* indicates that the LS brings some health benefits but also some health risks; and *Needs Improvement* indicates that the LS has many risk factors (Silva et al., 2014). The data can also be analyzed by item, selecting the options marked 0 - unhealthy behavior and 1 - behavior that needs improvement. This analysis allows identifying the intervention *foci*.

The statistical data analysis was performed using the IBM SPSS software, version 25. The sample's sociodemographic and clinical characteristics were analyzed considering the frequency and percentages for qualitative variables and the measures of central tendency (median) and dispersion (standard deviation) for quantitative variables. For inferential statistics, the Kolmogorov-Smirnov test was used to assess the normality of the distributions. Considering the results and given that all variables in the Fantastic Lifestyle Assessment questionnaire did not have normal distributions, the Mann-Whitney test, the Kruskal-Wallis test, or Spearman's rank correlation coefficient were also applied. A statistical significance level of 0.05 was set.

Results

The sample consisted of 522 students whose median age was 22. The median was considered instead of the mean due to the existence of outliers. Table 1 presents the participants' sociodemographic and clinical characterization.

Table 1

Participants' sociodemographic and clinical characterization

Variable		*n*	%
Gender	Female	409	78.4
	Male	113	21.6
Marital Status	Single	479	91.8
	Married or in a *de facto* union	38	7.3
	Divorced or Separated	4	0.8
	Widowed	1	0.1
Nationality	Portuguese	488	93.5
	Brazilian	26	5.0
	Other	8	1.5
Education institution	Fernando Pessoa University	195	37.4
	CESPU	70	13.4
	University of Minho	152	29.1
	ISAVE	61	11.7
	Other	43	8.2
	No answer	1	0.2
Cycle of studies	Bachelor's Degree	317	60.7
	Integrated Master	99	19.0
	Postgraduate Degree	2	0.4
	Master's Degree	76	14.6
	Ph.D. Degree	16	3.0
	No answer	12	2.3
Course	Physiotherapy	23	4.4
	Dental medicine	31	5.9
	Nursing	166	31.8
	Engineering	41	7.9
	Psychology	41	7.9
	Criminology	15	2.9
	Other	192	36.7
	No answer	13	2.5
Course Year	1st Year	141	27.0
	2nd Year	121	23.2
	3rd Year	89	17.0
	4th Year	95	18.2
	5th Year	25	4.8
	6th Year	3	0.6
	No answer	48	9.2

Changed address upon being admitted to university	Yes	167	32.0
	No	354	67.8
	No answer	1	0.2
Chronic disease	Yes	75	14.4
	No	444	85.0
	No answer	3	0.6
BMI	Underweight	19	3.6
	Healthy Weight	367	70.3
	Overweight	93	17.8
	Class 1 Obesity	21	4.0
	Class 2 Obesity	8	1.5
	Class 3 Obesity	4	0.8
	No answer	10	2.0

Note. % = Percentage; *n* = Sample size; BMI = Body Mass Index; CESPU = Polytechnic and University University Cooperative; ISAVE = Higher Institute of Health.

The total results regarding the quality of students' LSs (based on the total score of the Fantastic Lifestyle Assessment questionnaire) showed that 22.0% of the participants did not answer all the questions. Of those who answered, 11.3% achieved an *Excellent* score, 35.6% had *Very Good*, and only 0.5% had a low score.

Among the domains of the Fantastic Lifestyle Assessment questionnaire, the "Work/ type of personality" stood out negatively (mean = 6.82; standard deviation = 2.79; out of a maximum of 12; Table 2).

Table 2

Results from the Fantastic Lifestyle Assessment Questionnaire

The domains of the Fantastic Lifestyle Assessment Questionnaire	Mean (*SD*)	Minimum	Maximum
Family and friends	6.97 (1.71)	0	8
Activity/ associativity	7.19 (2.92)	0	12
Nutrition	7.19 (2.52)	0	12
Tobacco	6.18 (2.48)	0	8
Alcohol and other substances	21.98 (2.60)	8	24
Sleep and stress	7.61 (3.24)	0	12
Work/ type of personality	6.82 (2.79)	0	12
Insight	8.04 (3.13)	0	12
Health and sexual behavior	8.91 (2.60)	0	12
Other behaviors	7.34 (1.30)	2	8
Total	88.29 (13.68)	32	120

Note. *SD* = Standard deviation.

A statistically significant weak positive correlation was found between the variable age and the domain "Health and sexual behavior" ($rs = 0.13$; $p < 0.01$), as well as a statistically significant weak negative correlation between age and the domain other Behaviors ($rs = -0.10$; $p < 0.05$). Considering "Gender," statistically significant differences were also found in the domains Family and friends, Nutrition, Tobacco, Alcohol and other substances, Sleep and stress, and Health and sexual behavior and the total score of the Fantastic Lifestyle Assessment questionnaire ($p < 0.05$). In almost all domains of the Fantastic Lifestyle Assessment questionnaire, the mean scores of female students were higher than those of male students. The only exception was in the domain Sleep and stress, where male students had a higher mean score.

Statistically significant differences were also found in the domain Tobacco regarding the variable Cycle of studies ($U = 9397.00$; $p < 0.01$). Considering this domain of the

Fantastic Lifestyle Assessment questionnaire, Master's students had a higher mean score than undergraduate students.

When analyzing each item (Figure 1), there is a substantial prevalence of behaviors harmful to health in the areas of mental health, alcohol, tobacco, and other substance consumption (particularly "over the counter" drugs), dietary patterns, and physical activity. It is also worth noting that 48% of the participants seldom had periodic health examinations.

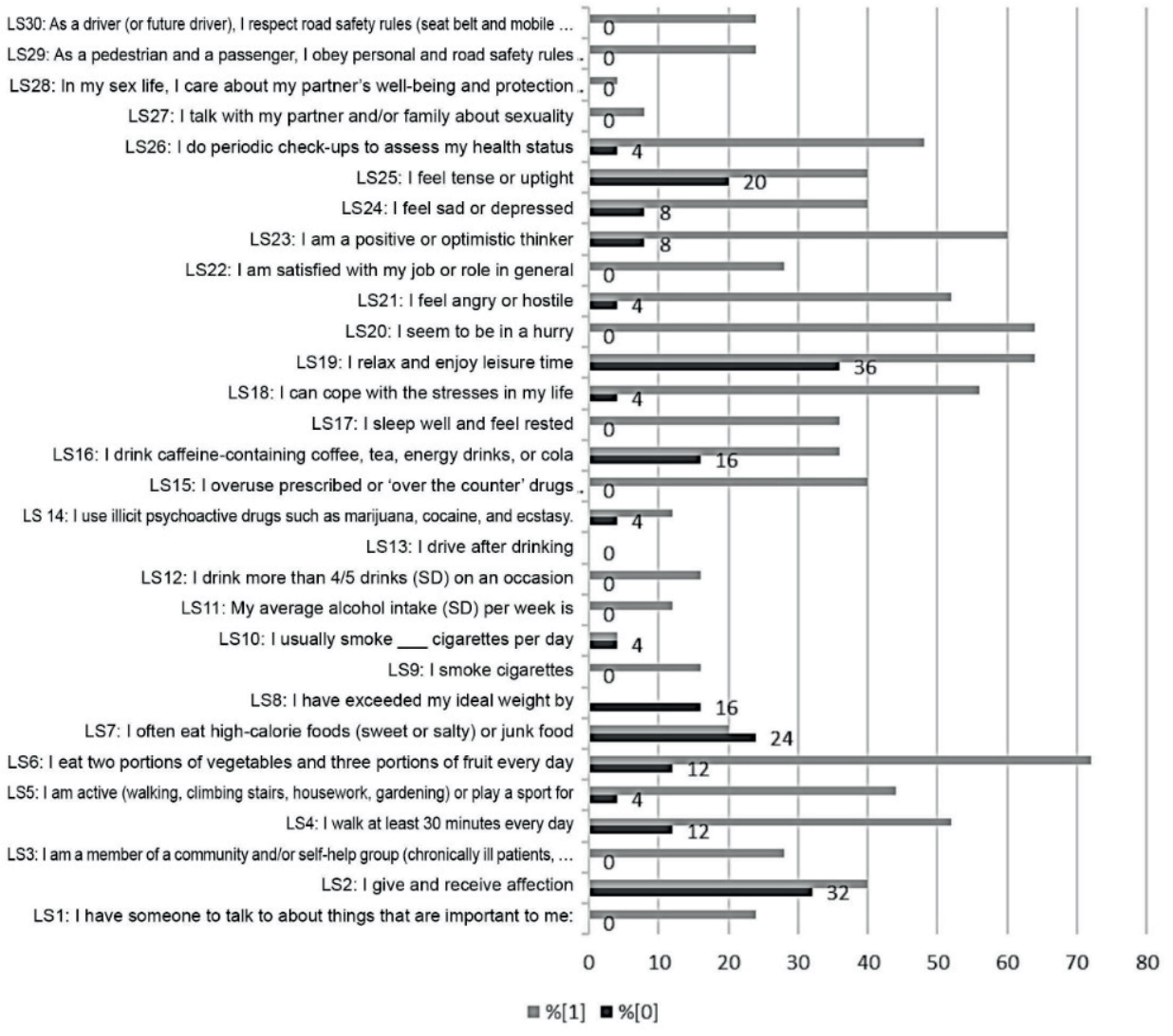
Regarding the total score of the Fantastic Lifestyle Assessment questionnaire, female students' results (mean = 89.06; standard deviation = 12.94) were higher than those obtained by male students (mean = 83.80; standard deviation = 17.00).

The total score of the Fantastic Lifestyle Assessment questionnaire also showed statistically significant differences between 1st- and 4th-year students (U = 2979.00; p < 0.01), with 4th-year students having better LSs (mean = 93.26; standard deviation = 13.41) than 1st-year students (mean = 87.03; standard deviation = 14.48).

Having or not having a chronic disease also produced statistically significant differences in the domains Nutrition (U = 11766.00; p < 0.01) and Work/ type of personality (U = 13847.50; p < 0.05). Students without chronic diseases tended to have higher mean scores in these two domains of the Fantastic Lifestyle Assessment questionnaire. Finally, the variable BMI has statistically significant negative correlations with the domains Family and friends, Nutrition," Work/ type of personality, and Insight and the total score of the Fantastic Lifestyle Assessment questionnaire. Nevertheless, all of these correlations were weak, except for the one established with the Nutrition domain (rs = -0.39; p < 0.01).

Figure 1

Prevalence (in %) of less healthy behaviors [0 and 1] based on the Fantastic Lifestyle Assessment questionnaire.



Discussion

This study aimed to assess the university students' LSs and understand the relationship between the LS profile and students' sociodemographic and clinical characteristics. The sample consisted of 522 students from different university institutions, most attending a Bachelor's Degree (60.7%). Of these, 41.3% were from health professions courses, with 31.8% of undergraduate Nursing students. This finding aligns with Silva et al.'s study (2014), in which health professions courses were also the most representative.

The participants had a median age of 22, and 78.4% were female students. Thus, the feminization of university observed by Brito et al. (2016) was also evident in the present study.

Of the students participating in the present study, 32% stated that they had moved away from home to attend university. Being away from their families and displaced from their communities and having to adapt to university significantly changes young people's daily routines and habits. Although this transition allows students to enter new social circles, adopt new values, and become responsible for their actions and decisions, they sometimes fail to reach the balance desired in a healthy LS (Luna et al., 2018).

One hundred and fifteen (115) students did not answer all the questionnaire items. Even so, the prevalence of behaviors potentially harmful to health was substantial. Examining the responses scored "0" or "1" showed prevalence values of over 20% in the areas of mental health, alcohol, tobacco, and other substance consumption (particularly "over the counter" drugs), dietary patterns, and physical activity. It also revealed that 48% of participants seldom had periodic health examinations. These results coincide with other studies done at university institutions in 2017 (Brito, 2018). It is worth highlighting that this questionnaire has the potential to obtain information on the outcome of interventions, that is, to be an indicator for assessing interventions aimed at behavioral change.

Based on the BMI calculation, 70.3% of the participants showed a healthy weight, 17.8% were overweight, and 6.3% were classified as having class 1, 2, or 3 obesity. Of the total participants, 14.4% had a chronic disease. The variable BMI established statistically significant negative correlations with the domains Family and friends, Nutrition, Work/ type of personality, and Insight and the total score of the Fantastic Lifestyle Assessment questionnaire. Nevertheless, all of these correlations were weak, except for the one established with the "Nutrition" domain (rs = -0.39; $p < 0.01$).

According to the DGS (2017), over half of the Portuguese population is overweight, which is directly associated with increased cardiovascular diseases and diabetes. Poor eating habits are at the root of obesity and are one of the main dimensions to be addressed in health promotion for this population group.

Having or not having a chronic disease also showed statistically significant differences in the domains Nutrition (U = 11766.00; $p < 0.01$) and Work/type of personality (U = 13847.50; $p < 0.05$). The WHO (2018) states that risk behaviors account for about 86% of premature deaths, with the causes being factors related to LSs and individual choices made throughout life. The data obtained in the present study align with those of the DGS (2015), confirming the importance of achieving health gains through adopting healthy LSs. These constitute an opportunity to influence health positively, particularly regarding non-communicable chronic diseases.

Based on the classification of university students' LSs proposed by Silva et al. (2014), the present study classified students' LSs according to their behaviors and observed that most participants had *Very Good* LSs (35.6%), followed by 20.1% *Good*, and 10.5% *Fair*. Only 11.3% of the participants had *Excellent* LSs. These results contradict Tassini et al.'s study (2017), with an overall rating of *Fair* and without any *Very Good* and *Excellent* scores.

Very significant statistical differences were found in the total score of the Fantastic Lifestyle Assessment questionnaire between 1st- and 4th-year students (U = 2979.00; p < 0.01), with 4th-year students having better LSs (M = 93.26; SD = 13.41) than 1st- year students (M = 87.03; SD = 14.48). Health students' education level is a key factor in acquiring and transmitting knowledge about a healthy LS. The results of the present study show that 4th-year undergraduate students have healthier LSs than 1st-year students, which aligns with the recommendations of the DGS (2015). In a study on students' alcohol consumption patterns at the University of Aveiro, Costa et al. (2016) found that the frequency of alcohol consumption decreased over the three years of students' undergraduate studies. This finding can be explained by the fact that students use alcohol to help with disinhibition and socialization, which may explain higher alcohol consumption during the first year of graduation. However, these results diverge from Brito et al. (2016), who found that the duration of undergraduate studies influences students' LSs and that the overall LS is unhealthy and worsens throughout their undergraduate studies.

The study also showed a low overall mean in the domain Work/ type of personality (6.82) and a statistically significant weak negative correlation between Age and the domain Other Behaviors (rs = -0.10; $p < 0.05$). Regarding the domain of Work/ type of personality, Canova-Barrios (2017) states that just over half of the students reported feeling happy or satisfied with their daily activities.

The present study found statistically significant differences ($p < 0.05$) regarding the variable Gender versus the domains Family and friends, Nutrition, Tobacco, Alcohol and other substances, Sleep and stress, and Health and sexual behaviors and the total score of the Fantastic Lifestyle Assessment questionnaire. Considering the total score of the Fantastic Lifestyle Assessment questionnaire, the results obtained by female students (mean = 89.06) were higher than those of male students (mean = 83.80). These results diverge from Montenegro and Ruiz (2019), who found no significant percentage differences between "Gender" and LSs. However, Lara et al. (2018) show that women present healthier LSs than men, highlighting the importance of education for health in university settings.

Also, awareness of the crucial role of LSs in maintaining good health is essential in patient education.

Regarding the domains Tobacco and Alcohol and other substances, a similar study conducted with university students showed high consumption of alcohol, low consumption of substances and stimulant drinks such as coffee, soft drinks, or similar, and a negligible increase in the prevalence of tobacco use (Luna et al., 2018). The present study observed statistically significant differences regarding the variable cycle of studies and the Tobacco"-domain ($p < 0.01$), where Master's students reached a higher mean score than undergraduate students. Despite the various studies in this field, no studies were found to corroborate or contradict these results.

Thus, the domains Tobacco and Alcohol and other substances must be monitored during students' journeys in university to promote health actions, specifically brief interventions aimed at preventing the use of these substances and focused on undergraduate students.

The present study has a limitation that needs to be considered before any conclusions are drawn. The procedures used in forming the study's sample lacked in controlling the students included in it, thus narrowing the interpretation and limiting the generalization potential of the results.

During students' learning process, school health must contribute to raising health literacy levels by developing understanding, management, and investment skills. These, in turn, will promote students' health and the adoption of healthier lifestyles (Brito, 2018; DGS, 2015a). Therefore, after examining university students' reality, there is an emerging need to empower young people's decision-making regarding their choices to promote healthier LSs and enable them to become more responsible, confident, and capable of performing their social roles.

Conclusion

During their journey in university, different factors interfere with students' ability to maintain healthy practices, such as sedentary LSs, sleep and rest patterns, stress management, eating habits, and alcohol and tobacco consumption. These factors contribute to the onset of chronic diseases, significantly impacting morbidity, mortality, well-being, and quality of life.

Most students perceive their LSs as *Excellent*, *Very Good*, or *Good*. Still, a significant part of them suggests implementing health promotion interventions aimed explicitly at university students in areas such as mental health, consumption of alcohol, tobacco, other substances, and "over the counter" drugs, dietary patterns, and physical activity.

Considering that it aimed to identify the relationship between university students' sociodemographic/clinical characteristics and their LSs, the present study shows that the duration of undergraduate studies influences students' LSs. Therefore, it recommends developing public health promotion policies in university institutions to encourage students' adoption of healthier behaviors.

This study for a university institution that aims to provide a health-promoting environment is one of the first stages of change and transformation within the scope of the health empowerment process. The results show the usefulness of applying self-monitoring instruments for LSs and the need to guide students from the moment of entering university toward behaviors that promote healthy LSs. University institutions must implement health programs, namely brief awareness-raising interventions, to promote and strengthen the adoption of healthy behaviors and reduce risk behaviors.

Author contributions

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