



ORIGINALES

The university as a healthy setting: a cross-sectional survey study

La universidad como un entorno saludable: un estudio transversal

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ABSTRACT:

Introduction: University students are at a crucial time in their lives as regards acquiring a healthy lifestyle. For this it is necessary that they obtain a balance between the times used to the university demands (academic engagement) and the leisure time, as recovery time.

Objectives: To describe the relationships between leisure, engagement and health.

Method: We employed a quantitative, non-experimental survey design. 1.142 students completed the questionnaires on leisure, health and engagement. Descriptive, linear correlation and ANOVA analyses were performed on the data obtained.

Results: 960 students engaged in active leisure with physical activity during the week (3–9 hours) and 1.021 at the weekend (3–8 hours); 1.084 engaged in active leisure without physical activity from Monday to Friday (4–14 hours) and 1.109 at the weekend (7–16 hours); 1.049 engaged in passive leisure every day (2–7 hours) and 997 at the weekend (3–8 hours) idleness, while 748 were idle during the week (1–5 hours) and 745 at the weekend (2–4 hours). Women spent less time of leisure during the week, scored higher of engagement and had poorer perceived health. We found a negative relationship between health and engagement and leisure.

Conclusions: Students were engaged and in good health, indicating that high engagement and leisure activities are associated with better perceived health. Universities should strive to become healthier settings by revising their curricula, promoting engagement and offering an attractive leisure programme.

Key words: Health; University students; Engagement; Leisure activities; Student health; Life style

RESUMEN:

Introducción: Los estudiantes universitarios se encuentran en un momento crucial de sus vidas en lo que respecta a la adquisición de un estilo de vida saludable. Para esto es necesario que obtengan un equilibrio entre las demandas universitarias (compromiso académico) y el tiempo libre.

Objetivos: Describir las relaciones entre ocio, engagement y salud.

Método: Diseño de encuesta cuantitativa, no experimental. 1.142 estudiantes completaron los cuestionarios sobre ocio, salud y engagement. Se realizaron análisis descriptivos, de correlación lineal y ANOVA sobre los datos obtenidos.

Resultados: 960 estudiantes participaron en actividades de ocio activo con actividad física durante la semana (3–9 horas) y 1.021 los fines de semana (3–8 horas); 1.084 se dedicaba al ocio activo sin actividad física de lunes a viernes (4–14 horas) y 1.109 los fines de semana (7–16 horas); 1.049 se dedicaron al ocio pasivo todos los días (2–7 horas) y 997 los fines de semana (3–8 horas) de inactividad, mientras que 748 estuvieron inactivos durante la semana (1–5 horas) y 745 los fines de semana (2–4 horas). Las mujeres pasaron menos tiempo libre durante la semana, obtuvieron puntajes más altos de engagement y una peor salud percibida. Encontramos relación negativa entre la salud y el engagement y el ocio.

Conclusiones: Los estudiantes estaban comprometidos y gozaban de buena salud, lo que indica que un alto engagement y actividades de ocio están asociadas con una mejor salud percibida. Las universidades deben esforzarse por convertirse en entornos más saludables revisando sus planes de estudio, promoviendo el compromiso y ofreciendo un programa de ocio atractivo.

Palabras clave: Salud; Estudiantes universitarios; Engagement; Ocio; Salud del estudiante; Estilo de vida.

INTRODUCTION

In the European Region section of its report “Health for All in the 21st Century”, the World Health Organization (WHO) ⁽¹⁾ states that health actions should be implemented in health-promoting settings, which it defines as the places where people live, work and relax.

Besides their academic role, universities can also influence health because university life entails daily activities that include environmental, organizational and personal factors which affect health and well-being. It is therefore important for universities to promote health among the people who work and study there, in accordance with the strategies devised by the WHO. As a health setting, universities are considered health promotion institutions, defined as places that constantly reinforce their capacity as healthy locations to live, learn and work ⁽²⁾.

In parallel with the WHO “Healthy Cities” project, part of the “Health for All” strategy that focuses on cities, the Spanish Network of Healthy Cities⁽³⁾ was created, which includes the “Healthy Universities” project and its corresponding “Spanish Network of Healthy Universities (REUS)”⁽⁴⁾. The fundamental principle is that health is heavily influenced by the environment in which people in general, and in this case university students in particular, live, work, study, eat, move and relax. In line with the WHO and in particular with the idea of health promotion, the universities that have joined the REUS have launched a strategic plan that reflects the importance of implementing actions aimed at strengthening people’s capacity to modify the social, environmental and economic determinants of health, as established in the 1987 Charter of Ottawa⁽⁵⁾. The REUS objectives highlight “the role of universities as promoters of health and well-being in the university community and society as a whole”, and “agreement on strategic approaches and work to implement a health-promoting university” project. One of its strategic approaches is “to offer services and activities on campus aimed at promoting health among the university community”⁽⁴⁾.

Universities that strive to offer a quality education should take into account variables related to the teaching-learning process⁽⁶⁾, one of the most important of which is health.

For years, concerns have been raised that degree courses and curricula are so overloaded that class hours may be longer than a normal working day⁽⁷⁾. A priori, this implies that university students lack any free time to pursue leisure activities. An educational system should include leisure time, since to maintain health and perform well, it is necessary to alternate periods of activity with periods of rest⁽⁸⁾ and especially active rest^(9,10). This is particularly true in the case of university students, who not only have to learn how to manage their study time but also their leisure time⁽¹¹⁾. In general, because they are young, university students consider their leisure time one of the most important aspects of their lives, as it allows them to relax, recover⁽¹²⁾ and also build a network of close social relationships⁽⁹⁾. These, in turn, according to analysis studies of social networks, influence as a support group in the commitment to their university studies⁽¹³⁾, knowing that their personal interactions, intervene in different learning situations⁽¹⁴⁾. This inner drive to invest such effort is known as engagement. The concept of student engagement is similar to that of psychological investment in work⁽¹⁵⁾ and by extension, in learning⁽¹⁶⁾. On the other hand, research indicates that practicing some physical activity (active leisure) positively influences both academic performance and student self-efficacy, promoting both healthy lifestyle and good academic performance⁽¹⁷⁾.

Universities are currently undergoing multiple changes that require students to constantly adapt and respond. It is therefore of interest to explore the factors that influence positive attitudes towards change that motivate students to tackle and overcome continuous challenges, persevere in their ambition to complete their chosen degree course, seek a balance between study and leisure time and maintain good health while at university⁽¹⁸⁾. For all these reasons, the implementation of organizational preventive measures in universities can be important to guarantee a healthy and favorable academic performance for students.

The goal of the present study was to describe and analyze the relationships and associations between the variable's leisure activities, engagement and health of university students.

MATERIALS AND METHODS

Participants

We employed a quantitative, non-experimental survey design. The study population was 1.749 students belonging to six different disciplines from a Public University of Spain. Participants comprised 1.142 students, of whom 37% were male and 63% female. Table 1 shows the distribution by sex for each of the disciplines surveyed. Participants age ranged from a minimum of 18 years to a maximum of 52 years, with and mean of 21.7.

Table 1. Sample distribution by sex and university degree course

Degrees	sex		Total n (%)
	Male	Female	
Degree course	31	239	270(24%)
Enfermería (Campus 2)	22	96	118(10%)
Nursing (Campus 1)	4	124	128(11%)
Nursing (Campus 2)	7	33	40(3%)
Pre-School Education	204	100	304(27%)
Educational Psychology	119	42	161(14%)
Physical Activity and Sports Science	35	86	121(11%)
Engineering	422(37%)	720(63%)	1142(100%)

Data sources and instruments

The Free Time and Leisure Questionnaire (Spanish initials: ETLO), was adapted from the questionnaires developed by Ponce de León⁽¹⁹⁾ and Sánchez-Herrero et al.⁽²⁰⁾. This questionnaire has been favourably assessed by experts and performed well in pilot tests⁽²¹⁾. The ETLO questionnaire presents a list of specific activities associated with the categories active leisure with physical activity (AL+PA), active leisure without physical activity (AL-PA), passive leisure (PL) and idleness (ID). Active leisure refers to the activities in which the person is the protagonist with substantial participation of the cardiorespiratory system and neuro-muscular coordination. Active leisure without physical activity, includes artistic activities, literature, board games, among others. Passive leisure is understood as that in which the person is a mere receiver or spectator of the action of others, and finally, idleness or inactivity, is doing nothing. Respondents are asked to estimate the time (in hours and minutes) they devote to 19 leisure activities during the week (MF) and at the weekend (WE).

The General Health Questionnaire (GHQ-12)⁽²²⁾ is a psychometric screening tool developed to identify perceived health ($\alpha=0.85$). Respondents scored each of the 12 items using a 4-point Likert-type scale, where a higher score indicates poorer perceived health

The Utrecht Work Engagement Scale (UWES-Student)⁽²³⁾ validated in the Spanish population⁽¹⁶⁾ consists of 17 items that measure the three dimensions of the construct: vigor ($\alpha=0.85$), dedication ($\alpha=0.83$) and absorption ($\alpha=0.84$). Vigor refers to high energy levels with tasks performed (e.g. "I can continue studying for long periods of time"). The dedication dimension responds to high levels of meaning in the tasks performed (e.g. "My career is challenging for me"). Finally, absorption involves high levels of concentration and happiness while doing an activity (e.g., "Time flies by when I do my homework as a student"). Respondents rated each item using a 7-point Likert-type scale. High scores indicate strong levels of engagement.

Procedure

Having obtained students' consent to voluntarily participate, data were collected using the online LimeSurvey tool. Data was collected in the presence of the principal investigator. The meaning of each variable was explained, thus homogenizing its understanding among the participants. Once the questionnaires had been completed, all students who had requested this were informed of the study objectives and procedure.

Data analysis

Statistical analyzes were performed with SPSS 26.0. We performed descriptive and linear correlation analyzes using the Pearson correlation coefficient. To determine the existence of significant differences between groups, an analysis of variance ANOVA was performed. In addition, the reliability of the instruments is calculated using the Cronbach's alpha coefficient, which measures internal consistency.

Ethical Considerations

The surveys were accompanied by an information sheet and written consent. At all times we considered the anonymity of the subjects who were part of the study and we also ensured that participation was voluntary. During the study, we followed national and international guidelines (Code of Ethics and Declaration of Helsinki), and we followed the legal regulations on data confidentiality. The study was approved by the university's ethics committee, thereby ensuring that there was compliance regarding ethical and legal matters.

RESULTS

Table 2 shows the descriptive statistics of the students who carried out the activities listed (active leisure with physical activity, active leisure without physical activity, passive leisure and idleness) and the time they spent on each (Monday to Friday and Weekend).

Table 2. Descriptive values for leisure activities.

		Students (n)	Percentage (%)	Minimum Time	M± ST
MF	AL+PA	960 (84.1%)	0.17	35	6.7±5
	AL-PA	1.084 (4.9%)	0.25	148.5	10.4±9.4
	PL	1.049 (91.9%)	0.02	32	5.7±4.5
	ID	748 (65.5%)	0.02	40	3.4±3.6
WE	AL+PA	1.021 (89.4%)	0.33	35	6±4.5
	AL-PA	1.109 (91.7%)	0.07	69	12.2±8.1
	PL	997 (87.3%)	0.05	35	5.1±3.5
	ID	745 (65%)	0.02	304	3.5±2.9

Note: M±ST: Media± Estándar desviación. AL+PA: active leisure with physical activity. AL-PA: active leisure without physical activity. PL: passive leisure. ID: idleness. MF: Monday to Friday. WE: Weekend

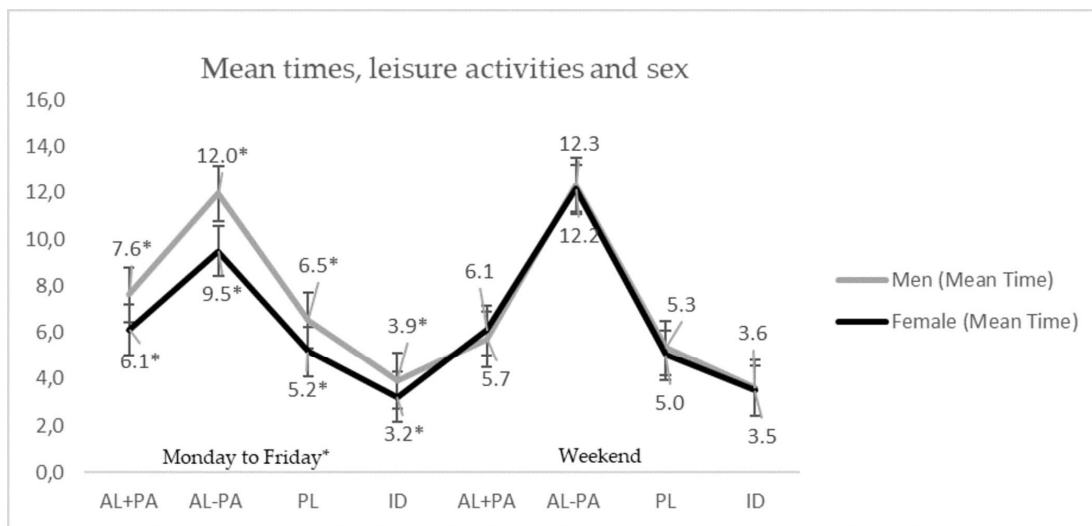
The analysis of Table 2 shows that the highest percentage of students devoted their free time to active leisure without physical activity, both during the week and at the weekend. Some 50% of respondents spent between four and fourteen hours on this type of activity during the week and between seven and sixteen hours at the weekend. From Monday to Friday, these activities were followed in second place by passive leisure activities, which occupied third place at the weekend, with 50% spending between two and seven hours on these activities during the week and between three and eight hours at the weekend. The category of active leisure with physical activity occupied third place during the week and second place at the weekend, with 50% spending between three and nine hours during the week and between three and eight hours at the weekend. The category of idleness occupied last place from Monday to

Friday and at the weekend, with 50% of students spending between one and five hours during the week and between two and four hours at the weekend.

In general, free time increased at the weekend, as did all forms of occupying or not that time. However, this increase was not proportional in all categories; instead, considering the range of the lowest 25%, 50% and the highest 25%, it can be seen that the highest increase at the weekend occurred with active leisure without physical activity. The time spent on the rest of the leisure categories remained more or less stable.

As shown in Figure 1, from Monday to Friday, women spent less time than men on all categories of leisure activity, and these differences were statistically significant ($p < 0.05$). In contrast, at the weekend, no statistically significant differences were detected between men and women in any of the categories.

Figure 1. Distribution of times and relationship to sex, according to the leisure activities categorized



. Note: * $p < 0.05$ (ANOVA). AL+PA: active leisure with physical activity. AL-PA: active leisure without physical activity. PL: passive leisure. ID: idleness.

As the ANOVA test shows, women obtained mean scores in the total value and in all dimensions of engagement, significantly higher ($p < 0.05$) than men (Table 3).

Table 3. ANOVA of engagement in relation to female and male respect to age

Engagement	Género	Edad	p-valor
Vigour	Male	3.46±1.31	0.001
	Female	3.85±1.36	
Dedication	Male	4.66±1.19	0.016
	Female	4.99±1.14	
Absorption	Male	3.43±1.24	0.008
	Female	3.89±1.30	
Total	Male	3.85±1.10	0.001
	Female	4.24±1.12	

With regard to the GHQ-12, the mean score was 12.74 with a standard deviation of 5.58. These values reflect very good perceived health. Women scored significantly

higher than men (13.48 vs 11.47; $p < 0.05$), indicating that they had poorer perceived well-being.

The relationship between health and leisure activities, the results of the correlations showed a negative trend for all activities. Thus, the more time spent on the different activities, the lower the GHQ-12 score and therefore the better the perceived health. These relationships were statistically significant for the variables active leisure with physical activity ($r = -0.112$), active leisure without physical activity ($r = -0.092$) and passive leisure ($r = -0.080$), for Monday to Friday, and active leisure without physical activity ($r = -0.111$) at the weekend ($p < 0.01$).

The differences in means (ANOVA) were also statistically significant ($p < 0.01$) in an analysis of groups with higher and lower perceived health (lower ≤ 8 , highest ≥ 16) for the variables active leisure with physical activity during the week and active leisure without physical activity at the weekend (Table 4). GHQ-12 values are categorized into three groups. The first and lowest refers to the values of the lowest 25th percentile (Poorer perceived health). Second, the highest values refer to the top 25th percentile (Better perceived health) and the third group refers to the intermediate scores (Average perceived health). Thus, students who engaged in active leisure with physical activity during the week presented better perceived health. The same was the case for students who engaged in active leisure without physical activity at the weekend. Regardless of the category, leisure was associated with better perceived health.

Table 4. ANOVA of general health in relation to active leisure with and without physical activity

Perceived health (GHQ-12)			MF active leisure with physical activity	WE active leisure without physical activity
Poorer perceived health (lower ≤ 8)	M \pm SD (n)		5.79 \pm 4.16 228	11.25 \pm 7.50 286
Average perceived health (8-16)	M \pm SD (n)		6.80 \pm 5.29 471	12.08 \pm 8.33 544
Better perceived health (highest ≥ 16)	M \pm SD (n)		7.43 \pm 5.01 261	13.52 \pm 8.31 279
p-value			0.001	0.004

Note: M: mean. SD: standard deviation. MF: Monday to Friday. WE: Weekend.

Health was related negatively with engagement ($r = -0.102$, $p = 0.01$), dedication ($r = -0.139$, $p = 0.01$) and vigour ($r = -0.112$, $p = 0.01$). This negative trend in the correlation indicates that the higher the scores for engagement, dedication and vigour, the lower the score for the GHQ-12; therefore, students who scored high in engagement presented the best perceived health. The results of an ANOVA (Table 5) of groups with higher and lower perceived health (lower ≤ 8 , highest ≥ 16) mirrored this trend, with significant differences between means ($p < 0.01$). Thus, students with higher engagement presented better perceived health.

Table 5. ANOVA of general health in relation to engagement, vigour and dedication

GHQ-12			Vigour	Dedication	Engagement
Poorer perceived health (lower ≤ 8)	M \pm SD (n)		3.52 \pm 1.35 298	4.62 \pm 1.31 298	3.94 \pm 1.18 298
Average perceived health (8-16)	M \pm SD (n)		3.66 \pm 1.33 558	4.92 \pm 1.10 558	4.09 \pm 1.10 558
Better perceived health (highest ≥ 16)	M \pm SD (n)		3.97 \pm 1.37 286	5.02 \pm 1.10 286	4.28 \pm 1.12 286
p-value			0.000	0.000	0.002

Note: M: mean. SD: standard deviation

DISCUSION

Although most previous studies have been performed on populations with different ages to the present study sample and there is no consensus on how to categorize different leisure activities in a young population, it has been shown that youngest people tend to engage in the same activities⁽²¹⁾ and that it is the practice of leisure activities with physical exercise that are related to better academic results⁽¹⁷⁾, with better recovery⁽¹²⁾ and greater perception of health⁽²⁴⁾. Further analyses could be conducted on the differences obtained by sex in order to tailor interventions to the specific needs of men and women, since according to different investigations⁽²⁰⁾, men and women present different leisure activity preferences. Our results indicate that while men and women presented different values for active leisure with or without physical activity, passive leisure and idleness, both sexes clearly engaged in the same type of activities, but to a different extent, according to the characteristics of the young population studied⁽²⁵⁾. These results are consistent with those reported in previous studies⁽²⁶⁾, in that over half of the young population analysed regularly engaged in physical activity, and that listening to music and watching television were the daily leisure activities that young people engaged in most frequently.

Our data suggests that our study sample consisted of engaged and motivated students, in addition, as in other studies, they present creative capacity to successfully cope with change⁽¹⁸⁾. The values obtained are similar to those reported in other studies conducted in university settings^(13,27). In relation to age and engagement, several studies have found significant differences according to age and sex, whereby older students and women obtain higher values for engagement⁽²⁷⁾; the results of the present study confirm these differences.

In agreement with other studies, we found that students in general presented good perceived health^(27,28) and, in particular, the group of women, reported worse perceived health⁽²⁷⁾.

Students who obtained high scores for engagement, vigour and dedication obtained low scores in the Goldberg test, indicating better perceived health. These results are consistent with those reported by other authors⁽²⁹⁾, who have argued that engagement triggers positive attitudes and these in turn enhance people's health and well-being.

In recent years, free time and leisure —and especially active leisure with or without physical activity— have been directly related to health, due to the protective role they play against harm to health. Physical activity has been shown to be very effective in

promoting health⁽³⁰⁾ also, it improves academic performance, self-efficacy and promotes healthy lifestyles⁽¹⁷⁾, it is even a good predictor of these variables⁽²⁵⁾. The present study confirms the existence of a relationship between leisure and perceived health. Although the value obtained for Pearson's correlation was small, it should be noted that multiple variables influence perceived health, each with a partial impact and therefore little weight in the overall picture. Active leisure with physical activity during the week was the category that yielded best perceived health, in agreement with the results of other studies indicating the benefits of using free time to engage in active leisure with physical activity⁽¹⁷⁾. Our findings go further, indicating that it is leisure in general that directly influences better perceived health, even when this is passive leisure, provided that this is not the principal or only kind, due to its restorative and recovery effect⁽¹²⁾.

This research had limitations, our results should be interpreted with caution since we only been obtained data on students from six degree courses, albeit from different disciplines (humanist and technical) and of varying durations. In future research, it would be interesting to include a wider range of degree courses in order to obtain more representative results. In addition, the cross-sectional nature of our study rendered it impossible to make causal inferences concerning the relationships detected. The composition of the students in our study sample presented a clear bias towards women. This was to be expected because women currently predominate numerically in Spanish universities.

CONCLUSIONS

This study underlines the importance of the university as a healthy setting. Lifestyle interventions are among the most effective actions in terms of disease prevention and health promotion, and our results indicate that promoting active leisure with physical activity would improve perceived health.

Our findings highlight the importance of leisure as a factor in recovery-compensation that is associated with better perceived health. Students who present better recovery are more committed to their studies —thus closing the circle between these variables— and this in turn contributes to greater success at university and in the personal and professional sphere.

Consequently, universities should revise study plans that demand excessive hours of study in order to not overload students. Another measure would be for universities to programme, promote and incentivise qualitatively attractive and healthy leisure activities, mainly those that include physical exercise since they are the most effective in ensuring complete recovery and healthy lifestyles.

REFERENCES

1. World Health Organization Regional Office for Europe. Health 2020: A European policy framework and strategy for the 21st century [Internet]. Copenhagen; 2013 [cited 2020 Apr 10]. 190 p. Available from: http://www.euro.who.int/__data/assets/pdf_file/0011/199532/Health2020-Long.pdf

2. Martínez-Riera JR, Gallardo Pino C, Aguiló Pons A, Granados Mendoza MC, López-Gómez J, Arroyo Acevedo HV. La universidad como comunidad: universidades promotoras de salud. *Informe SESPAS 2018. Gac Sanit.* 2018;32(S1):86–91.
3. Llorca E, Amor MT, Merino B, Márquez FJ, Gómez F, Ramírez R. Healthy cities: A reference strategy in local public health policies. *Gac Sanit.* 2010;24(6):435–6.
4. Red Española de Universidades Saludables (REUS). La Universidad como entorno promotor de salud. [Internet]. 2011 [cited 2019 May 12]. Available from: <https://www.unisaludables.es/es/>
5. World Health Organization (WHO). WHO Traditional Medicine Strategy 2014-2023. World Heal Organ [Internet]. 2013, 1–76. Available from: http://apps.who.int/iris/bitstream/10665/92455/1/9789241506090_eng.pdf?ua=1
6. De-la-Fuente J, Zapata L, Martínez-Vicente JM, Sander P, Cardelle-Elawar M. The role of personal self-regulation and regulatory teaching to predict motivational-affective variables, achievement and satisfaction: A structural model. *Front Psychol.* 2015;6(339).
7. Tembo C, Burns S, Kalembo F. The association between levels of alcohol consumption and mental health problems and academic performance among young university students. *PLoS One.* 2017;12(6):e0178142.
8. BurgessA, Senior, C, Moores E. A 10-year case study on the changing determinants of university student satisfaction in the UK. *PLoS One.* 2018;13: e0192976.
9. Lazcano Quintana I, Madariaga Ortuzar A. The leisure experience of young people with disabilities. *Pedagog Soc Rev Interuniv.* 2018;31: 109-121.
10. Sandoval N. Diagnosis about the use of leisure and free time among the students of the university. *Pedagog Soc Rev Interuniv.* 2017; 30: 163-180.
11. García-Cué JL, Santizo JA. Análisis de la relación entre la gestión del tiempo libre, el ocio y los estilos de aprendizaje. *Rev Estilos Aprendiz.* 2010;3(5):2-25.
12. Sonnentag S, Venz L, Casper A. Advances in recovery research: What have we learned? What should be done next? *J Occup Health Psychol.* 2017; 22(3): 365–80.
13. Fernández-Martínez E, Andina-Díaz E, Fernández-Peña R, García-López R, Fulgueiras-Carril I, Liébana-Presa C. Social Networks, Engagement and Resilience in University Students. *Int. J. Environ. Res. Public Health.* 2017; 14(12): 1488. doi: 10.3390/ijerph14121488.
14. De la Fuente J, La Hortiga-Ramos F, Laspra-Solís C, Maestro-Martín C, Alustiza I, Aubá E, et al. A structural equation model of achievement emotions, coping strategies and engagement-burnout in undergraduate students: A possible underlying mechanism in facets of perfectionism. *Int J Environ Res Public Health.* 2020 ;17(6):2106. doi: 10.3390/ijerph17062106.
15. Keyko K, Cummings GG, Yonge O, Wong CA. Work engagement in professional nursing practice: A systematic review. *Int J Nurs Stud.* 2016; 61: 142–164.
16. Schaufeli W, Bakker A. UWES-Utrecht Work Engagement Scale. Preliminary Manual. Escala Utrecht de Engagement en el trabajo. Occupational Health Psychology Unit Utrecht University, 2009. Available from: <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Utrecht+work+engagement+scale#0>
17. Keating XD, Castelli D, Ayers SF. Association of weekly strength exercise frequency and academic performance among students at a large university in the United States. *J Strength Cond Res.* 2013; 27(7); 1988–93.

18. Duncan JM, Withers MC, Lucier-Greer M, Ferraro AJ, Reed-Fitzke K. Research note: social leisure engagement, peer support, and depressive symptomology among emerging adults. *Leisure Studies*. Routledge. 2018; 37(3): 343–51. doi:10.1080/02614367.2017.1411968.
19. Ponce de León A. Tiempo libre y rendimiento académico. [Internet]. La Rioja: Universidad de La Rioja; 1998. 12. Available from: <https://dialnet.unirioja.es/servlet/libro?codigo=12786>
20. Sánchez-Herrero Arbide S. La importancia de la perspectiva de género en la psicología del ocio. *An Psicol*. 2008, 24, 64-76.
21. López-Alonso AI, López-Aguado M, González-Millán I, Fernández-Martínez E. Leisure and approaches to learning in nursing students. *Rev Investig Educ*. 2012;30(1):53–70.
22. Sánchez-López M del P, Dresch V. The 12-item general health questionnaire (GHQ-12): Reliability, external validity and factor structure in the Spanish population. *Psicothema*. 2008; 20: 839-843.
23. Schaufeli WB, Salanova M, González-Romá V, Bakker AB. The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *J Happiness Stud*. 2002;3(1):71–92.
24. López-Alonso AI, López-Aguado M, Fernández-Martínez ME, Liébana-Presa C, Gutiérrez-Provecho ML. Los enfoques de aprendizaje, el “engagement”, el ocio y el rendimiento anterior. Propuesta de un modelo. *Bordón Rev Pedagog*. 2016;68(4):67–88
25. Lanuza Brosted R, Ponce de León Eliozone A, Sanz Arazuri E, Valdemoros San Emeterio MÁ. La clase de educación física escolar como generadora de un ocio físico-deportivo. *Retos Nuevas tendencias en Educ Física, Deport y Recreación*. 2012; 22:13–5.
26. Clemente FM, Nikolaidis PT, Martins FML, Mendes RS. Physical activity patterns in university students: Do they follow the public health guidelines? *PLoS One*. 2016;11(3): e0152516.
27. Fernández-Martínez E, López-Alonso AI, Marqués-Sánchez P, Martínez-Fernández MC, Sánchez-Valdeón L, Liébana-Presa C. Emotional intelligence, sense of coherence, engagement and coping: A cross-sectional study of university students' health. *Sustain*. 2019;11(24): 6953. doi:10.3390/su11246953.
28. De-Mateo-Silleras B, Camina-Martín MA, Cartujo-Redondo A, Carreño-Enciso L, de-la-Cruz-Marcos S, Redondo-del-Río P. Health Perception According to the Lifestyle of University Students. *J Community Health*. 2019;44(1):74–80.
29. Carrasco AM, de la Corte de la Corte CM, León Rubio JM. Engagement: un recurso para optimizar la salud psicosocial en las organizaciones y prevenir el burnout y estrés laboral. *Rev Digit Prevención*. 2010;1(1):1–22.
30. Calestine J, Bopp M, Bopp CM, Papalia Z. College Student Work Habits are Related to Physical Activity and Fitness. *Int J Exerc Sci*. 2017;10(7):1009–17.

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