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Analysis of physical and leisure practices carried out by scholars during lockdown

Actividad física y entretenimiento realizado por escolares durante el confinamiento

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Abstract. The decrease in physical activity among adolescents has become a global health problem. From the educational point of view, preventing sedentarism is of uttermost importance to avoid repercussions on economic and social levels. This study aims to analyze the characteristics and time dedicated to physical and leisure activities by adolescent during the lockdown caused by COVID-19 (2019, April 1 to May 1). The Minnesota Lesuire Time Physical Activity Questionnaire was used telematically on 4070 Canarian high school students (M=15.01; SD=3.53 years) during lockdown. 83.13% of the sample did not follow the WHO recommendations regarding physical activity, 63.64% did not keep ACSM recommendations to passive leisure, and 37% did not respect those regarding sleeping time. Likewise, as age increased there was a decrease in the amount of time dedicated to physical activity and thus failure to follow the recommendations of the relevant institutions. Also the time allotted to passive leisure was M=3.55 (SD=2.75) hours per day. It is concluded that the time dedicated to physical activity is insufficient according to the official bodies like as the use of screens acquires great predominance in the employment of adolescents' free time, causing the need to consider future interventions to mitigate the sedentarism level and its consequences.
Keywords. Physical activity, screen time, sedentarism, lockdown, COVID-19, MLTPAQ.

Resumen. La disminución de los hábitos de práctica física entre adolescentes se ha convertido en un problema de salud mundial. Desde el punto de vista educativo, la prevención del sedentarismo es de vital importancia por sus repercusiones tanto a nivel económico, social, como para la salud en general. Este estudio describe y analiza las características y el tiempo dedicado por escolares a actividad física y entretenimiento, durante el período de confinamiento por Covid-19 (1 de abril a 1 de mayo de 2019). Mediante el Minnesota Lesuire Time Physical Activity Questionnaire administrado de manera telemática a 4070 escolares (M=15,01; DT=3,53 años), se encontró que el 83,13% de la muestra no cumplieron las recomendaciones respecto a actividades físicas, el 63,64% las del tiempo de pantallas, y el 37% las horas de sueño. Asimismo, a medida que aumentaba la edad disminuían las horas de práctica física y por ende el incumplimiento de las recomendaciones de los organismos pertinentes. El tiempo destinado a ocio pasivo durante el confinamiento fue de 3,55 (DT=2,75) horas al día. Se concluye que el tiempo de actividad física es insuficiente según los parámetros establecidos, predominando el uso de pantallas en la ocupación del tiempo libre de los adolescentes, por tanto urge plantear intervenciones para mitigar los elevados niveles de sedentarismo.
Palabras Clave. Actividad física, pantallas, sedentarismo, confinamiento, Covid-19, MLTPAQ.

Introduction

There is a broad consensus within the scientific community over the benefits physical activity (PA) has on people's lives (ACSM, 2007; WHO, 2008; González & Rivas, 2018) and especially during the stages of development and growth (Martín-Bello et al., 2020; Warden et al., 2017). In that sense, since the 1980s there has been an increasing number of investigations which evaluate the benefits of practising PA concerning health (WHO, 2008; González & Rivas, 2018), which reveal the risks a sedentary lifestyle poses to the mental and physical health of the population at large, including children and adolescents (Rodriguez-Ayllon et al., 2019).

Furthermore, other studies have analyzed the financial expenditure that affects healthcare systems in relation to physical inactivity (Katzmarzyk et al., 2009), understood physical inactivity as the lifestyle of an individual who does not attain the recommended level of healthy activity according to the official bodies (ACSM, 2007; Rawlings et al., 2019; Wang & Zao, 2020). Found that its impact on an increase of premature deaths its almost doubled (Ekelund, et al., 2015), as well as its importance on an academic level during the stages of

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education and development (Rasberry et al., 2011; Iglesias, 2015). Several authors concur with the emergence of negative effects, such as the cases of Guthold et al. (2018), who consider that these should be analyzed more thoroughly.

Based on these considerations, there is a noticeable rise in physical inactivity in recent years, reaching 80% of the adolescent population who did not follow the PA minimum recommendations (Guthold et al., 2020; Iglesias, 2015; Serrano-Sánchez et al., 2009), that invade daily life (Guthold et al., 2018; Wu et al., 2017), which is translated into negative effects upon health. Moreover, screen time represents the most important source of sedentary habits (understood as spending a large amount of hours sitting down during the day) among young people, taking up almost 63% of discretionary leisure time (excluding sleep and school time) of teenage girls (Moreno-Villares & Galiano-Segovia, 2019).

Several studies analyzed the prevalence of sedentary habits in Spain among boys and girls (Mielgo-Ayuso et al., 2017). In this sense, Varo et al., (2003) find that, regarding sedentary lifestyle rates in Spain, boys have a rate of 68.5% and girls have a rate of 73.7%; this physical inactivity is related to a poorer quality of life. If to this we add that the effects of physical inactivity and sedentary lifestyle generated in lockdown (March 13 - May 2) will not be known until after a while, and considering the few studies related to the subject, but taking into account that the physical practice has been reduced, this can increase an already harmful panorama. More precisely, at least 30% of adolescents (Gómez et al., 2019) do keep to the PA recommendations, who are a long way from the 44% of adolescents who meet the recommendations in Switzerland (Steene-Johannessen et al., 2020). These rates increase as age rises (Mielgo-Ayuso et al., 2017), as is the case with the time of exposure to screens (Peiró-Velert et al., 2014). In the specific case of videogames, adolescents spend an average of 47.23 min per day, noting that those who dedicate more time during the week fail more subjects and those who dedicate more time on weekends get better school grades (Gómez-Gonzalvo et al., 2020). This implies a decline in sleeping time and increasing trouble to sleep (Ghekiere et al., 2019).

In addition, concerning the connection between the studies carried out about PA practice habits and leisure activities (LA), a greater prevalence was noticed among girls, as opposed to boys (Ferreira et al., 2013). In the geographic scope of this study, the Canary Islands, there are perceptible differences according to gender, 33% of girls do not follow with the PA recommendations for 16% of boys, just as 46% of girls do not follow the LA recommendations, for 26% of boys (Iglesias, 2015; Serrano-Sánchez et al., 2009).

In relation to another fundamental aspect in adolescent's mental health (López-Flores et al., 2020) and its implications in physical habits, it is necessary to refer to the sleeping time (ST). Concerning sleep on a national level, 30% of the child population and more than 50% of adolescents do not follow the recommendations (Gómez et al., 2019); more precisely 40.9% fail to sleep daily recommendations and 48.1% do not respect the 8 hours of sleep during the weekend (Gómez et al., 2019).

On the basis that lockdown has been an unprecedented phenomenon, and despite the recent publishing of some studies on the subject (Majumdar et al., 2020), given that the time of sedentary living is replacing the already insufficient time devoted to PA and that 80% of the student population performs PA exclusively in the academic environment (Eurydice, 2013), it seems necessary to know both practices and resources to reduce sedentary behaviors and increase PA levels.

COVID-19 and the pandemic that derived from it have added spatial barriers to the already existing ones, due to the compulsory lockdown of populations. All this has resulted in a decrease of PA, as well as an increase of sedentary leisure and the distortion of the rest routine. Consequently, worries have risen, as well as generalized panic attacks, anxiety and stress in people living all around the world (Majumdar et al., 2020; Wang & Zhao, 2020; WHO, 2020).

The impact of this pandemic in Spain has triggered changes in routines and the cancellation of activities, which are fundamental in the life of the individual, hence increasing sleep disorders and decreasing PA performance (Chtourou, 2020). This is why it is considered interesting to analyze the characteristics and engagement in PA performance under the lockdown conditions.

For all the above reasons, the aim of this study is to study their lifestyles habits analyzing the characteristics and time devoted to the practice of PA, LA and ST by Canarian high school students during lockdown. Considering as a hypothesis that during lookdown PA, LA and ST level will not reach the minimums recommended by official bodies and significant differences will be appreciated depending on the participants sex and age.

Materials and method

Sample

4299 high school students took part in this study, by completing a digitally-administered questionnaire between 1 April and 1 May 2020, that is, during the country's lockdown period. The response rate was over 90%, given that is was assessed as a school assignment for the online PE classes. To minimize the impact of errors due to this type of data, responses were filtered by deleting duplicated, incomplete, error-ridden questionnaires or questionnaires received after the end of the lockdown period. The sample ended up being made up of 4070 participants (1916 male students and 2068 female students), between 11 and 18 years of age (M=15 y DT=3.5 years), coming from 32 education centres of the Canary Islands. The distribution of the sample was tailored proportionally to the student population of each island (see Table I), obtained by the cluster sampling method. In the list of centres the proportionality concerning the data of existing centres was maintained: public (80.5%), charter school (14.5%) and private schools (5%) (Consejería de Educación de Canarias, 2020). Besides maintaining an equal gender representation of 47.1 and 51.1% for boys and girls, with 2.1% who preferred not to say.

Table 1.
Frequency and percentage of the total number of students segmented by island and gender. Experimental Design

Island	Total	nStu	Nstu (F)	Nstu (M)	%island	%Samp
La Palma	4295	323	159	164	7.5	8.1
El Hierro	475	54	28	26	11.4	1.4
La Gomera	931	105	60	46	11.3	2.6
Tenerife	46316	1715	891	824	3.7	43.1
Gran Canaria	46246	976	442	534	2.1	24.5
Fuerteventura	6857	426	227	199	6.2	10.7
Lanzarote	8779	385	207	178	4.4	9.7
Total	113899	3984	3.5	3.5	3.5	100

Legend: nStu= Amount of students surveyed (M=male and F=female). %island= Percentage of students surveyed in relation to the amount of students enrolled on the island; %Samp= Percentage of surveyed students in relation to the study sample.

The investigation has followed a descriptive cross-sectional design, being established as an instrumental study following a retrospective ex post facto design (Montero & León, 2007), with the endorsement of the University's Bioethics Committee (CEIBA2020-0388); proceeding by the Helsinki Declaration of 2013 considertations.

Instruments and material

The study was carried out through an adapted version of the Minnesota Leisure Time Physical Activity Questionnaire (MLTPAQ) (Taylor et al., 1978), instrument widely employed with high school students at both international (Slinde, 2003) and national levels (Ruiz et al., 2011). The auto-administered questionnaire evaluated the previous week to the survey, was distributed to students in a digital format, and it consisted of a series of questions which asked about the day on which the activity was carried out and the duration of said activity, such as: What Moderate activities have you carried out in the past week? (considering any activity that accelerates your heart rate, but that allows you to have a conversation); or: Have you regularly performed any Vigorous Physical Activity during this past week? (considering any activity that makes you breathe heavily and does not allow you to have a conversation). These were divided into two sections *(moderate or vigorous)* for PA and eight sections regarding LA *(TV, videogame, active videogame, PC, PC-homework, homework, phone, art, reading, sedentary family time). Regarding the MLTPAQ questionnaire, with a initial reliability á=0.73 (Slinde et al., 2003),* it consisted of 25 items concerning PA for each classification, albeit in this case, due to reasons inherent to lockdown, the quantity was reduced to 15 items *(walking at home, walking in the garden, walking, running games, going up/down the stairs, exercise bike with moderate breathing, exercise bike with light exertion, dancing, treadmill or elliptical rowing, bowling, table tennis, paddle tennis, darts, archery practice or billiard, home exercise routines on your own, personalised training - guided routines, other types of activities)* regarding the condition of moderate PA, and 13 items *(jogging, yard or garden running, stair climbing, stationary cycling, aerobics - dance, weight lifting, rowing, treadmill or elliptical rowing, racket and ball games, shooting hoops, skating, martial arts, doing vigorous exercise routines at home on your own, personalised training programmes - guided vigorous routines, other vigorous activities)* regarding vigorous PA, *obtaining for this* questionnaire *a reliability (á=0.84)*, all of this after taking into account the possibilities allowed by this environment and including some feasible specific activities that were carried out within the household.

To calculate the percentage of students who followed the recommendations of the relevant bodies about PA practice, LA and ST, the following was considered: fulfilment of at least six weekly PA practice sessions, with a minimum duration of 10 min, it is necessary to exceed 60 minutes a day to reach a weekly duration of at least 420 min (WHO, 2018). Regarding LA monitoring, the total sum of time devoted to watching television was considered, as well as video game use, leisure usage of computers, reading, art and/or spending time with family, following the recommendation those who did not surpass 120 min of daily use of the above mentioned (American Academy of Pediatrics, 2016). In

relation to ST, participants who claimed to sleep between 8-10 hours (for 13–18 year olds students), or 9–11 hours daily (in the case of younger children, <12 years) were considered to meet the requirements (Paruthi et al., 2016).

Procedure

Before proceeding to the data collection, a pilot test was carried out on 20 U13 grade students, through a survey to ascertain their comprehension of the questionnaire text. This initial contact showed us the need to change some elements, especially in the calculation of test appliance times.

Secondly, the sample was stratified considering the island of provenance, the type of education centre, gender and age. The two latter categories were taken into account for the subsequent analyses, by making incidental contact with the necessary centres who met the requirements, by attachment of a letter of invitation with information about the study and a request to the headteachers of the schools to grant their consent for its conducting.

Regarding its appliance, the participants moved forward in the questionnaire asynchronously, tackling it during one hour of virtual PE class with a prior explanation from the teachers of the subject, who were previously instructed to solve possible doubts. The students were informed that participation would not have an impact on the grade of the subject, requesting maximum accuracy in their answers.

Data analyses

Consequently, descriptive statistics were used to estimate the mean and standard deviation of each variable. The Shapiro–Wilk test was performed in order to evaluate the distribution of variables. Once the normality of the data had been verified, we proceeded to develop statistical tests of individual significance, as well as comparison of means (t-test) and the possible associations between PA practice and LA using a linear regression, calculating the effect size of this relationship using Cohen's *d* and Hedges's *h* correction. The significance level was set at á<0.05, using the SPSS statistical package version 24.0 (IBM Corp., Armonk, NY, USA, 2017) for analysis.

Results

Although the statistical analyses developed show differences concerning gender and age for almost all PAs, only the descriptive data of those activities that show significance and are most relevant in terms of the number of participants who claim to carry out that activity and the time devoted to it are shown in Table 2.

The Moderate PA (MPA) which adolescents say to have practised for longer during lockdown was «going up and down stairs», followed by «walking», an activity carried out by the 75% of the sample who did not follow the minimum recommendations. Moreover, it can be seen that there are more girls than boys who carried out any activity, just as those who meet the MPA recommendations (766 girls, as opposed to 500 boys) and VPA (607 girls, as opposed to 395 boys); just like there is a great difference in terms of gender concerning «dancing» and «aerobic», being these the main activities for girls but residual for boys.

When asking whether MPA and/or VPA was carried out in an autonomous or guided manner, it is seen that those who followed the PA recommendations issued by the WHO (2018) did not differ statistically between practising PA in an autonomous or guided manner, whilst significant differences are observed concerning the time devoted to practising them autonomously as opposed to guided ones, using more time in the former.

Table 2.
Participation of students in most representative physical activities during the COVID-19 lockdown period t-test mean according to gender.

PA	Girls						Boys					
	Follow the recommendations			Do NOT follow the recommendations			Follow the recommendations			Do NOT follow the recommendations		
	min	n	%	min	n	%	min	n	%	min	n	%
Walking	79.2^	289	25.8	22.0^	836	74.5	90.5^^	246	24.6	23.9^^	757	75.8
Dancing*	85.5^	274	23.0	30.7^	924	77.4	21.0^^	85	29.2	5.1^^	209	71.8
Stairs	44.0^	213	31.7	10.0^	464	69.0	44.1^^	169	58.1	9.2^^	389	70.2
Own MPA	98.0^	302	22.0	35.6^	1074	78.3	103.7^^	265	22.3	35.4^^	930	78.2
Guided MPA*	81.7^	280	26.6	24.8^	773	73.6	65.9	183	26.5	19.2	511	73.8
Jogging*	34.0^	208	31.2	7.4^	460	69.1	48.5^^	187	30.4	9.8^^	432	70.1
Aerobic*	64.8^	220	25.4	21.1^	649	74.9	11.7^^	56	30.3	3.1^^	131	70.8
Stairs	36.0^	179	32.8	7.5^	370	67.8	41.6^^	152	33.0	7.3^^	310	67.4
Own VPA	84.5^	277	22.9	31.1^	937	77.4	82.7^^	225	22.3	29.3^^	786	78.1
Guided VPA*	82.9^	267	24.8	29.8^	813	75.4	66.2	189	26.1	23.4	539	74.5
MVPA	1040.8	340	16.4	*282.9*	*1682*	81.1	1076.2	282	14.7	257.5	1683	84.0

Legend: n= participants who perform the activity. %= Percentage in relation to their gender who perform the activity. min= Average time of activity performance, own= any exercise or routine performed on your own. Guided= any exercise or routine performed following a monitor instruction (^ or ^^) Significance (p<.01) according to PA recommendations; (*) Significance (p<.001), according to gender.

As shown on Table 3, homework is the main activity that occupies students (almost three times more in the case of the female student for the segment who follows the screen time recommendations), in which female students claim to dedicate 188.9 min as opposed to the 169.3 min that male students claim to dedicate. Furthermore, no significant differences are observed, only in the case of time devoted to homework by high school students who follow screen time (TV, PC, VG, phone) recommendations and those who do not in both male and female students.

If we look at those who follow the PA time (WHO, 2018), LA time (Council on Communications and Media, 2013), and ST (Paruthi et al., 2016)

Table 3.
Descriptive of time devoted to leisure activities by students according to fulfillment or not of the screen time recommendations during the COVID-19 lockdown period and t-test mean according to gender.

Screen	Girls						Boys					
	Follow the recommendations			Do NOT follow the recommendations			Follow the recommendations			Do NOT follow the recommendations		
	min	n	%	min	n	%	min	n	%	min	n	%
TV*	66.2 (71.5)	630	39.1	163.0 (149.6)	984	61.1	66.7 (78.4)	429	30.0	175.6 (148.4)	1003	70.2
VG*	14.0 (52.3)	213	33.5	59.1 (154.9)	424	66.7	94.4 (111.9)	470	29.3	252.0 (169.6)	1139	71.1
PC*	22.5 (62.3)	328	35.4	90.1(150.3)	600	64.8	29.2 (80.1)	236	24.4	121.4 (156.7)	738	76.2
Phone*	80 (100.8)	564	36.0	264.8 (185.5)	1009	64.4	62.9 (80.3)	390	29.0	207.9 (179.1)	961	71.3
Homework^	188.9 (51.4)	1061	38.8	355.8 (128.0)	1681	61.5	169.3 (56.8)	784	30.7	317.8 (118.3)	1776	69.6

Legend: n= participants who perform the activity. %= Percentage in relation to their gender who perform the activity. min= Average time of activity performance (Standard deviation), (^) Significance (p<.05); (*) Significance (p<.001), according to gender.

recommendations (WHO, 2018), only 107 participants meet the three requirements simultaneously, which is a total 2.6% of the sample. When looking at the activities these people do, significant differences are observed on Figure 1 regarding time devoted to PA, such as dancing, guided (moderate and vigorous), and video games; learning that girls devote more time to PA and boys to LA.

Figure 1. *Average of time devoted to the considered activities according to sex (G=girls and B=Boys) and percentage of participant (%G=girls and %B=Boys) who followed the recommendations (Fig. 1a) or not (Fig. 1b) in PA, LA and ST, and (*) Significance p<.001), in t-test mean according to gender.*

As shown on Table 4, 83.1% (3383 high school students) do not follow the WHO's recommendations regarding the recommended amount of PA, 63.6% (2590 high school students) do not follow the recommendations regarding leisure screen time and 25.5% do not follow the recommendations regarding ST.

Moreover, it is worth noting the decrease in the amount of time destined to PA as age increases, in U13 grade 68.4% of students do not follow the recommendations, whereas in U18 grade it is observed that the amount rises to 99%. Meanwhile, the failure to follow the recommendations in LA decreases as age increases, observing in U13 grade that 73.9% of the sample does not follow the recommendations, increasing to 96.6% of students in U18 grade. The same happens with sleeping hours: in U13 grade 73.9% of the sample do not follow the recommendations, whereas in U18 grade this percentage becomes 96.5%.

Concerning the spaces the students had at their disposal for the practice of PA, just as it is shown on Figure 2, it can be observed that the 4070 participants had 9933 spaces (M=2.4 spaces per house) at their disposal for the practice of PA. The most used space for physical practice was the living room (3013 selections, 74% of participants); followed by the terrace (2077, 51% of participants). In contrast, it is worth mentioning that 270 (6.6%) of participants did not have any adequate space for PA practice at their disposal. However, no significant statistical differences are noted in PA between students who had space for physical practice and those who did not ($p>0.05$).

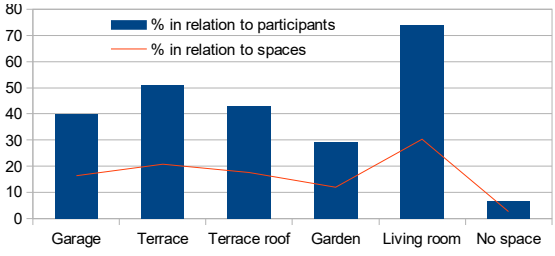

Figure 2. *Percentage of participants who had space to perform PA at their disposal.*

Table 4.
Amount and percentage of participants who fulfilled health recommendations: Physical Activity, Screen Time and Sleeping Time during the lookdown COVID-19 period.

Girls	nWHO	%	nSleep	%	nScreen	%	nRec	%
U13	78	12.6	302	11.4	224	18.0	22	20.6
U14	78	12.6	275	10.4	191	15.4	8	7.5
U15	68	11.0	270	10.2	148	11.9	12	11.2
U16	57	9.2	212	8.0	144	11.6	13	12.2
U17	46	7.4	244	9.2	112	9.0	6	5.6
U18	9	1.5	33	1.3	16	1.3	0	0.00
Total girls		336		1336		707		61
Boys	nWHO	%	nSleep	%	nScreen	%	nRec	%
U13	95	15.4	378	14.3	210	16.9	21	19.6
U14	64	10.3	274	10.3	136	10.9	12	11.2
U15	45	7.3	214	8.1	87	7.0	5	4.7
U16	34	5.5	162	6.1	81	6.5	2	1.9
U17	35	5.7	184	7.0	71	5.7	5	4.7
U18	4	0.7	61	2.3	25	2.0	0	0.0
Total boys		277		1273		514		45
Participants	619 (15.2%)		2649 (65.1%)		1244 (30.6%)		107 (2.63%)	

Legend: nWHO= Amount of participants who follow PA time recommendations (WHO, 2018). nSleep= Amount of participants who follow LA time recommendations (Council on Communications and Media, 2013), nScreen= Amount of participants who follow ST time recommendations (Paruthi et al., 2016). nrec= Amount of participants who followed PA, LA and ST recommendations.

Table 5 shows students' perception of whether they undertook more or less PA and LA during lockdown. There is a notable decrease in PA practice in the boys group of U18 grade and a slight drop in the whole of U14 grade.

Table 5.
Students' perception on physical activity performance and screen usage in comparison to no COVID-19 times.

By age	Girls				Boys				Total			
	+ PA	%	+LA	%	+ PA	%	+LA	%	+ PA	%	+LA	%
U13	176	39.3	198	44.2	180	34.3	238	45.3	361	36.2	444	44.6
U14	169	38.8	221	50.7	120	31.6	189	49.7	294	35.3	416	49.9
U15	160	40.9	202	51.7	107	32.3	171	51.7	269	36.4	381	51.6
U16	149	44.1	172	50.9	101	37.1	131	48.2	249	40.2	304	49.1
U17	169	42.6	199	50.1	101	34.0	163	54.9	270	38.5	364	51.9
U18	26	45.6	30	52.6	20	23.0	44	50.6	47	32.0	75	51.0
Total	851	41.2	1023	49.5	632	33.4	944	49.9	1502	37.7	2001	50.2

Legend: +PA +LA= Participants who perform more PA or more LA than in a usual week. %= Percentage in relation to subsample who meets the condition (+PA or +LA).

Finally, a simple regression test carried out between

performed PA and time spent on LA shows the following formula:

*AF = 723.64 + T_TV*0.09 + T_VG*-0.12 + T_PCHomework*0.30 +T_Homework*0.30 +T_read*0.28 + T_art*0.17 + T_family*0.25 * LA*

We obtained that the model explains the 6% (Adjusted R^2=0.06) of the variance in PA time. We also found an effect size calculated using the Cohen's test d= -1.07 (large).

*AF = 3.807e-16 + T_TV*0.03 + T_VG*-0.05 + T_PCHomework*0.11 + T_Homework*0.073 + T_read*0.061 +T_art*0.07 +T_family*0.11 * LA*

Discussion

Considering that the aim of this study was to analyze the characteristics and time devoted to the practice of PA, LA and ST by Canarian high school students during lockdown, we can observe that the average PA practice among students (388.49 min) is way below the 420 min recommended by the WHO (2018). In relation of time dedicated to LA, the results obtained, quadrupling the daily 120 min recommended by the American Academy of Pediatrics (2016). While regarding ST, the collected data are similar to the recommendations of Paruthi et al. (2016), and demonstrate that our initial concern about non-compliance with them as also find (Chtourou et al., 2020). This will undoubtedly have repercussions on students mental health (Alsalhe et al., 2020; Wang & Zao, 2020), For this reason, this information help to infer, as was proposed by Wang and Zhao (2020), the need to intervene from PE to promote healthy living habits related to the increase of PA practice and the decrease of time for LA.

Given these considerations and opposed to what was expected from previous studies (Merino & González, 2019; Veiga & Martínez, 2007), the collected data show that, on average, girls practised more PA than boys during the lockdown period (406 min vs. 374.74 min). These results are similar to those reported by Giustino et al. (2020), who found a higher PA index during confinement. This fact can be explained (Castañeda-Babarro et al., 2020; Giustino et al., 2020), by the greater reduction of PA at home on the part of the male group during confinement. However, these data could be conditioned by the available spaces to practice PA at home. Girls usually do aerobic, dance, corporal expression or gym-jazz, among others (Chillón et al., 2002), so they could continue practising these activities or, as they did not have socialization time with other girls, they engaged in said practices (Sallis et al., 2000).

On the other hand, as explained by Castañeda et al. (2014) and Iglesias (2015) regarding Canarian students, boys engage in PA and sport more frequently and with more intensity outside school, by enrolling in clubs and federated sports with more frequency than girls, in a 2 to 1 ratio. In this sense, we understand that the results of the participation of the male gender in PA, during lockdown, were lower due to the impossibility of practising sports outside the home context.

In the case of previous studies regarding LA and ST, and in opposition to what Gómez et al. (2019) reported, boys devote more time to these than girls, and fewer hours of sleep during the weekend than on week-days. Likewise, as age increases, the time devoted to LA also rises, whereas ST decreases. According to the data provided in this study, girls sleep less than boys during the week, but they sleep more during the weekend, which agrees with the results of the referred study, considering that by being at home and not being able to go out, boys have used their time to play video games or to use electronic devices, whereas girls devoted more time to play active video games, notably dancing games.

In keeping with the amount of time destined to PA practice by students in terms of age, it is noted that the former tends to decrease as age increases, resulting in similar outcomes as those presented in the Guide of Physical Activity during Childhood and Adolescence (Merino & González, 2019). It is interesting how the 2nd ESO students, with an average of 238.8 min, are the participants who practice the most MPA, while the 1st Bachillerato students practice the least (203.48 min), making us understand that this can be a result of biological, psychosocial and cultural factors (Úbeda, 2017).

When comparing whether the students, during a week of lockdown, did more, the same or less PA than in a typical week, it was observed that, just as Ingram et al. (2020), showed with an adult Scottish sample, the amount of participants who do less is greater than those who do the same or more PA. In this case, the collected data show that 37.69% of students did more PA, founding, in contrast to López-Bueno et al. (2020), a significant increase in physical practice during lockdown, whereas in terms of screen time, as well as of PA, observed in (López-Bueno et al., 2020), the latter increased during the first week of lockdown and then decreased significantly. These data do not resemble the data collected by Di Renzo et al. (2020), who did not find significant changes in the PA carried out before and

after lockdown in a random sample of the Italian adult population. Furthermore, the datum regarding the 270 students who claim not to have any available space to practice PA at home is particularly worrying.

Another remarkable aspect is that half the students destined more time to LA during the lockdown week, with higher values in girls than in boys. In any case, these values are well above those reported by Iglesias (2015) within a sample of Canarian students during a typical week; by the same token, it is again noted, as indicated by previous studies (Borges et al., 2012; Iglesias, 2015) that adolescents who claim to dedicate more time to PA practice devote also more time to LA.

To describe the kind of PA practised during lockdown in terms of available spaces for practice, it was proven that «walking» is the most popular activity, followed by «dancing» and other kinds of music-related activities practised majorly by the female gender. These data could not be contrasted with other studies regarding PA practice during lockdown periods.

It is worth mentioning that only 107 participants complied with the three recommendations simultaneously. Upon analyzing the differences existing between boys and girls who do or do not comply with the recommendations (PA, LA and ST), boys do more MPA and VPA than girls; almost tripling the amount of time of PA practice done by the group of participants who followed the recommendations as opposed to those who did not follow them. In terms of LA, more precisely regarding time dedicated to LA, it is observed that girls who follow the recommendations (PA, LA and ST) devote more time than boys.

In terms of ST, contrary to what was expected and reported by Iglesias (2015) and by Gómez et al., (2019), students slept less time during the weekend than on a daily basis, noting that in any case following or not the PA and LA recommendations is irrelevant to adolescents' ST. Additionally, one of the limitations of this study has been to solely consider ST and not its quality, since Ingram et al. (2020) found that lockdown has brought about a poorer quality of sleep, in a study that proves how adolescents claim to sleep less than in a typical week. This information offers an idea of the need for psychological assistance to students due to the repercussions of lockdown, and for future confinements, besides the necessity of providing tools to program activities from PE to mitigate its effects (Chtourou et al., 2020; Ingram et al., 2020; Wang & Zhao, 2020).

Likewise, one of the limitations of this study has been the use of self-administered questionnaires, which increases the risk of self-reporting bias. To this end, we tried to minimize the impact of said bias with the presence and guidance of the teacher during the completion of the form in the online PE classes. However, it is important to note that, thanks to the telematic distribution, it was possible to recruit a representative sample. Consequently, another of the strengths of this study was to verify that the time dedicated to mobile phone use did not influence the PA practice. This was only affected by the time dedicated to video games. Even so, we must be cautious with this statement, as the regression test carried out can only explain a 6% of the formula.

Conclusions

The results of this study show that the majority of students during lockdown did not meet the minimums regarding the recommended amount of time to dedicate weekly to PA, the most representative being dancing in the case of girls and walking in the case of boys. Moreover, they exceed by far the recommended amount of time devoted to LA, with particular emphasis on the amount of time boys dedicate to video games and girls spend on their mobile phones. These results point out the need to plan strategies aimed at the promotion of active healthy habits among adolescents.

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