

ANALYSIS OF OUT-OF-SCHOOL SPORTS PRACTICE IN SPANISH CHILDREN AGED 6 TO 12 YEARS OLD

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ABSTRACT

Background: The change of habits in the occupation of young people's leisure time in the Spanish society has led to an increase in sedentary activities, as opposed to physical and sporting activities outside the school context. The occupation of leisure time in motor activities not only favours health, as indicated by important institutions, such as the World Health Organisation, but they are also fundamental for motor, psychological, social, and affective development. **Aim:** The main objective of this research is to analyse the levels of extracurricular sports practice on a sample of Spanish children. **Methods:** A descriptive, cross-sectional, quantitative study was carried out. An ad hoc validated questionnaire was used to collect the data. **Results:** The results obtained show that a large part of the infant-juvenile population (71.6%) participates in federated sport; however, the average number of days spent practicing sports does not exceed 3.37 days. Differences in participation were found in terms of gender, with a predominance of team activities in the case of boys and individual activities in the case of girls. A 22.5% overweight and obesity rate was also found, with higher values in boys. **Conclusion:** The levels of extracurricular sport practice are higher in boys than in girls, with differences also found in the type of sport practised in relation to gender, with football being more predominant in boys and basketball and gymnastics in girls.

Keywords: primary education, physical and sporting activity, extracurricular activities

INTRODUCTION

Currently, young people spend a large number of hours sitting or doing sedentary activities, not only in school, but also outside of it, either doing

homework or leisure activities. Despite the fact that the educational sphere promotes and favours collaborative work as a methodological strategy that facilitates learning (Sagredo et al., 2020), the educational institution sometimes gives students numerous responsibilities that unconsciously submerge them in a competitive environment (Venga, 2020).

Within this framework, it is worth highlighting the importance of physical and sporting activity which, according to Gutiérrez (2004), in addition to favouring motor development, has social and psychological repercussions. Despite all the benefits of physical activity and sport (PSA), the current lifestyle of young people is characterised by “sedentary lifestyles, stress, tobacco, alcohol, and drug consumption, diet and more hours of television” (Montil et al., 2004).

The World Health Organisation (WHO) (2020) recommends at least 60 minutes of moderate to vigorous intensity aerobic physical activity every day and at least three days a week of vigorous intensity aerobic activities, as well as activities that strengthen muscles and bones. It is also advisable to reduce the time reserved for sedentary activities, and with particular relevance to the time that people in this age group spend during their leisure time using screen-based technologies (WHO, 2020).

According to the National Health Survey (ENSE), carried out in Spain in 2017 by the National Statistics Institute (INE), 14% of children spend their leisure time in an almost totally sedentary way. Moreover, 73.9% of this group spends at least one hour of their leisure time in front of screens every day. Along the same lines, the PASOS study carried out by the Gasol Foundation (2019) shows that only 36.7% of the Spanish population between 8 and 16 years of age follows the physical activity recommendations given by the WHO. The decrease in DFA increases as the age of the subjects increases and is greater in girls. On the other hand, Rodríguez-Fernández et al. (2021) have carried out a recent study in Galicia in which they state that 86.4% of pupils aged between 10 and 12 years perform regular voluntary physical activity, coinciding in the fact that females practice a lower amount of voluntary physical activity.

Another noteworthy fact is the decrease in the levels of physical activity recorded as school age increases, with a decrease in physical activity in 12-year-olds compared to 11-year-olds, and 11-year-olds compared to 10-year-olds (Navarro-Patón et al., 2021). The highest sedentary behaviour was found in boys and girls aged between 12 and 14 years (García-Soidán et al., 2020).

According to Nuviala and Nuviala (2005), some of the reasons for dropping out of sport have to do with lack of interest, poor supply or lack of peers. However, the main motivation for taking up PES is mainly generated by parents, and the younger the children are, the greater the influence. Even so, the media also have an impact on DFA in the general population (Latorre et al. 2009). In addition to the relationship between the DFA habits of parents and offspring, joint activities between parents and offspring are an important factor in the creation and establishment of lifelong healthy habits (Castillo et al., 2018).

It should be noted that the above data worsened during the period of home confinement as a measure to prevent the spread of the SARS-CoV-2 virus in the Spanish population (Ramos et al., 2021). This measure led to a change in habits that reduced the number of hours dedicated to the practice of DFA outside the educational context as well as its frequency, with a consequent worsening of their levels of physical fitness.

AIM

The main objective is to determine the levels of sport practice in the out-of-school environment of children between 6 and 12 years of age. Additionally, the study analysed the difference between these levels in terms of gender.

METHODOLOGY

Study design and sample

A descriptive, cross-sectional, quantitative study was carried out. For this purpose, a questionnaire called NYCAFIN (The Levels and Quality of Physical Activity in Infancy and Childhood) was designed ad hoc to collect the levels of physical activity practice of the population from three to twelve years of age in different scenarios: school, out-of-school, family, and social settings.

The study population consisted of Spanish families with children between the ages of six and twelve, from which a sample of 285 children was obtained. The distribution of the sample according to the sex of the participants was 48.8% girls and 51.2% boys. The sample was selected by convenience. The sample was 8.8 years old at the time of data collection (SD: ± 2.2).

In order to estimate the sample size, the latest data published by the Ministry of Education and Vocational Training of the Spanish Government (2022) were used in relation to schooling in primary education, with a total of 2,7927,597 children throughout Spain. With a confidence level of 90% and a margin of error of 5%, the sample size was 273 subjects, resulting in a total of 285 subjects in this study. The participating subjects are enrolled in public, state-subsidised and/or private primary schools in Spain.

Data collection instrument and variables

For data collection, a questionnaire based on validated questionnaires such as the APALQ, YACH or PAQ-C

has been developed. This questionnaire is called Levels and Quality of Physical Activity in Childhood and Infancy (NYCAFIN). For content validation, a panel of experts composed of six professionals in the field of physical activity and infancy and childhood was convened. The experts evaluated each item of the questionnaire in terms of relevance, clarity and representativeness of the dimensions to be measured. In addition, their feedback was solicited and modifications were made to the questionnaire according to their recommendations.

After a brief introduction, which includes the informed consent to fill in the questionnaire and some brief guidelines for completing the questionnaire, a series of socio-demographic data (date of birth, age, sex, current grade of primary education, height, and weight) are requested to be filled in.

Subsequently, a record was made of physical activity in the different areas of the daily life of primary school pupils within the school context: in Physical Education classes, breaks and playgrounds, active breaks, and physical activity programmes. In the out-of-school context, and focusing on federated sport, information was obtained on the sport practised and whether they participate in competitions, also measuring the weekly frequency (number of times per week a given activity is carried out), daily time (measured in minutes) and intensity of physical activity (on a scale of 1 to 4, with 1 corresponding to mild intensity, 2 to moderate, 3 to intense or vigorous and 4 to very intense or very vigorous).

PROCEDURE

The questionnaire was distributed in two ways. The first was to send the questionnaire online to teachers in several schools in a region in the north of Spain so that they could distribute it to the families in their schools. These schools were public, state-subsidised and private schools in urban, semi-urban and rural areas.

On the other hand, it was distributed through two social networks: Facebook and Twitter, being shared in groups and pages linked to the education of primary school children.

The questionnaire was disseminated for 30 days, between 1st April and 30th April 2022

ETHICAL ASPECTS

Throughout the research, the ethical principles reflected in various official documents, and treaties on research ethics were taken into consideration, guaranteeing the anonymity of participants, confidentiality of data and other ethical considerations related to research in education (American Psychological Association, 2020; Sañudo, 2006).

DATA ANALYSIS

In the descriptive analysis, the characteristics of the participants were determined using the mean (M), standard deviation (SD) and frequencies (%). For the data analysis, we first used a data dump from Google Forms to Excel and then from Excel to the statistical program SPSS 28.0. All data were cleaned during filtering.

RESULTS

In relation to the results obtained for the anthropometric variables, the values of weight, height and BMI were obtained from the sample (Table 1):

Table 1: Average weight, height, age, and BMI

Weight (in kilograms)	Height (in cm)	BMI
33.4 ± 9.6	137.2 ± 13	17.5 ± 2.7

Note: Data presented in mean and standard deviation.

The sample was categorised according to their weight and the recommended percentiles for their age (Table 2), with the following results:

Table 2 : Underweight, normal weight, overweight or obese students

	Boys	Girls	Total
Underweight	3.4%	5.8%	4.6%
Normal weight	69.9%	76.2%	72.9 %
Overweight	16.4%	15.1%	15.8%
Obese	10.3%	2.9%	6.7%

With reference to the characteristics of the educational centres, 170 subjects studied primary education in public schools (60%), 106 in state-subsidised schools (37%) and 9 in private schools (3%). Likewise, the distribution of the sample according to the location of

the centre was 206 students (72%) who attended an educational centre in an urban environment, 63 (22%) in a semi-urban environment, while 16 (6%) attended school in a rural environment.

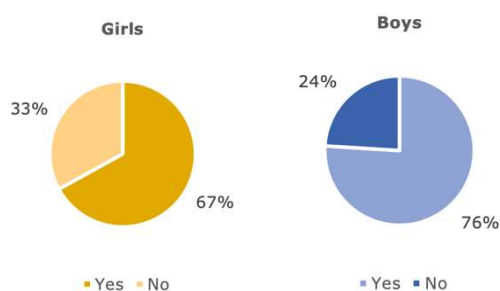
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Outcomes of physical activity levels in the out-of-school environment

The results related to the practice of federated sport in the out-of-school environment show that 28.4% of the total sample does not practise any type of federated sporting activity, compared to 71.6% of the sample that does practise some type of federated sporting activity. In addition, out of this percentage who practice some kind of sport, there are more boys in the sample who practice some kind of federated sport than girls, 54% of boys compared to 46% of girls.

These data according to gender show that 76% of boys do sport in their free time. However, this figure drops by 9% in the case of girls (Figure 1).

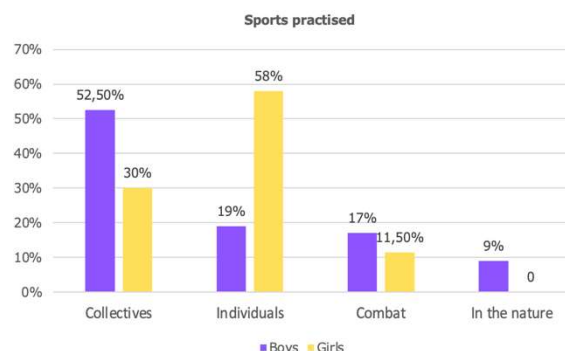
Figure 1 : Federated sports practice in boys and girls



For the analysis of the type of sport they practise, the decision was taken to group them according to the classification of Durand (1968, in Martín-Albo et al., 2002), who proposed a grouping of sports into categories according to the teaching-learning situation. Thus, the categories established are individual sports, collective sports, combat sports, and outdoor sports.

According to this classification, Figure 2 shows that boys prefer to play collective sports, while girls choose individual sports. Combat sports are more equally represented, although they are slightly preferred by boys. Outdoor sports are the least practised in general terms, with only boys opting for this type of sport.

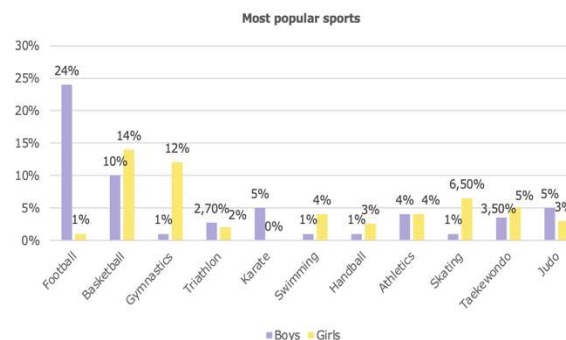
Figure 2 : Sports practised according to Durand's classification (1968)



Note. The purple colour illustrates the results of the male gender and the yellow colour illustrates the results of the female gender

Figure 3 shows the federated sports with the highest number of participants.

Figure 3: Sports most practised by pupils



Note. The purple colour represents boys and the yellow colour represents girls.

In terms of the frequency of workouts performed calculated in days/week, the mean is 3.37 (SD: ± 5.2) days per week. However, most of the young people exercise two days per week (Figure 4).

Figure 4: Weekly training days



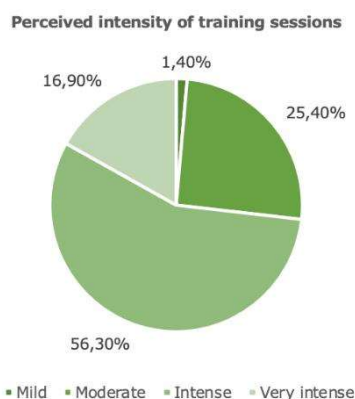
These workouts have a mean duration of 77.6 (SD: ± 32.3) minutes. As shown in Figure 5, the majority of the sample studied have workouts whose duration varies between 60 and 90 minutes per session. However, there are cases where the duration is less than half an hour and others where it exceeds 180 minutes.

Figure 5: Minutes per training session



In relation to the results obtained from the intensity of the training sessions (Figure 6), 56.3% perceive the load of the sessions as intense, 25.4% say that it is moderate and 16.9% feel that it is very intense. Only 1.4% perceived it as light.

Figure 6: Perceived intensity of training sessions



Finally, 70% of the sample, in addition to training, participate in federated competitions, compared to 30% who only attend training sessions.

DISCUSSION

With regard to the number of students who practice federated sport, it was found that almost three quarters of students (71.6%) practice federated sport in their free time, a higher percentage than other studies such as those carried out by Luengo (2007)

and Reverter et al. (2014), although lower than that developed by Sánchez-Urrea et al. (2019), who reflect that 76% of their sample does practice sport or the 90% reached in another study with Spanish children (Chacón et al., 2017). It should be noted that, according to data obtained in other studies (Luengo, 2007; Latorre et al., 2009; Sánchez-Urrea et al., 2019; Zurita-Ortega et al., 2018 and Reverter et al., 2014), the number of boys who devote their extracurricular time to sport is higher than girls (54% versus 46% in this study). For this reason, there is a need to develop programmes and initiatives aimed at promoting the practice of sport among young girls, such as increasing the visibility of female athletes in sporting events so that girls will have a visible reference point or reducing the negative stereotypes held towards them (Poll, 2021).

With regard to the type of physical exercise practised, it should be noted that boys show a clear preference for group sports, while individual sports are selected by girls. These differences may be determined by the type of goals pursued by individuals according to gender. While males seek fun, competition, contact, and body strength, females strive for a desired body image or health maintenance, the latter being associated with individual sports, while the former are linked to team sports (Chacón et al., 2016; Isorna et al., 2014). Moreover, the type of motivation is of utmost importance in the selection of activities, as well as in the involvement in them (Isorna et al., 2014). Further research on the motivations that determine sport practice among girls would be advisable.

Among boys, the sports most practised by boys are football, basketball and karate, in contrast to girls, who choose basketball, gymnastics and skating. Therefore, it can be seen that boys opt for team sports as in other studies (Luengo, 2007; Reverter et al., 2014) and combat or contact sports (Luego, 2007). On the other hand, as reported by Reverter et al. (2014), girls prefer to practice basketball or individual activities (Luengo, 2007).

In reference to the frequency of training, most of the subjects attend their training sessions two days a week, followed by three days, results similar to those extracted by Reverter et al. (2014) or Sánchez-Urrea et al. (2019) who reflect that almost half (48%) of their sample practice physical activity three days a week or Luengo (2007), as in his case the majority of his respondents (92.1%) attend their training sessions two days a week. There is an equality between students who attend one, four or five days of their activity, while others attend six or seven days, although this percentage represents a minority. In the latter case, although no concrete limits have been established between the amount of physical exercise that is healthy and that which can be counterproductive in young athletes, it is advisable to pay attention to this high frequency of training in order to avoid different types

of injuries derived from overtraining or overuse of any musculoskeletal structure (Brenner, 2007).

The average time of each of these training sessions is about 77.6 (SD: ± 32.3) minutes, so most of the athletes exercise between sixty and ninety minutes each time they attend their training session, which coincides with the studies of Luengo (2007), as most of his sample trains between one and two hours in each session.

In turn, as reflected by Reverter et al. (2014), more than half of the students who engage in physical-sports practice participate in some type of competition, with 70% of those surveyed in this study doing so.

The results of this study should be taken into consideration in a prudent manner and not extrapolated to the world population.

CONCLUSIONS

Through this research, it is concluded that 3 out of 10 children do not practice any extracurricular sport, with around 25% being overweight and/or obese, and more boys than girls. There are also differences in terms of gender and sporting practice, with boys playing more sport than girls, and girls preferring certain sports, such as gymnastics, basketball or skating, as opposed to football, basketball or karate, which predominates among boys. Educational and sports policies are needed to promote equal participation of boys and girls in all sports, increasing the levels of practice.

REFERENCES

1. American Psychological Association (2020). Publication manual of the American Psychological Association (7^a Ed.). United States: American Psychological Association. <https://doi.org/10.1037/0000165-000>
2. Brenner, J. S. (2007). Overuse injuries, overtraining, and burnout in child and adolescent athletes. *Pediatrics*, 119(6), 1242-1245. <https://doi.org/10.1542/peds.2007-0887>
3. Castillo, E., Tornero, I., & García, J.A. (2018). Relación entre actividad física, alimentación y familia en edad escolar. *Retos: nuevas tendencias en educación física, deporte y recreación*, 34, 85-88. <https://doi.org/10.47197/retos.v0i34.52782>
4. Chacón, R., Arufe, V., Cachón, J., Zagalaz, M. L., & Castro, D. (2016). Estudio relacional de la práctica deportiva en escolares según el género. *SPORT TK-Revista EuroAmericana de Ciencias del Deporte*, 5(1), 85-92. <https://doi.org/10.6018/249161>
5. Chacón, R., Arufe, V., Espejo, T., Cachón, J., Zurita, F., & Castro, D. (2017). Sports practice, leisure-time activities, and notion of physical education in schoolchildren from A Coruña. *Retos*, 32, 163-166. <https://doi.org/10.47197/retos.v0i32.52346>
6. Fundación Gasol. (2019). Estudio PASOS. <https://www.gasolfoundation.org/es/estudio-pasos/>
7. García-Soidán, J. L., Leirós-Rodríguez, R., Romo-Pérez, V., & Arufe-Giráldez, V. (2020). Evolution of the habits of physical activity and television viewing in Spanish children and pre-adolescents between 1997 and 2017. *Int. J. Environ. Res. Public Health*, 17, 6836. <https://doi.org/10.3390/ijerph17186836>
8. Gutiérrez, M. (2004). El valor del deporte en la educación integral del ser humano. *Revista de educación*. <https://redined.educacion.gob.es/xmlui/handle/11162/67978>
9. Instituto Nacional de Estadística. (2017). Encuesta Nacional de Salud. (2017). Ministerio de Sanidad, Gobierno de España. https://www.sanidad.gob.es/va/estadEstudios/estadisticas/encuestaNacional/encuestaNac2017/ACTIVIDAD_FISICA.pdf
10. Isorna, M., Rial, A., & Vaquero-Cristóbal, R. (2014). Motivaciones para la práctica deportiva en escolares federados y no federados. *Retos. Nuevas tendencias en educación física, deporte y recreación*, (25), 80-84. <https://doi.org/10.47197/retos.v0i25.34485>
11. Jurado-Castro, J. M., Llorente-Cantarero, F. J., & Gil-Campos, M. (2019). Evaluación de la actividad física en niños. *Acta Pediátrica Española*, 77(5/6), 94-99.
12. Latorre, P. A., Gasco, F., García, M., Martínez, R. M., Quevedo, O., Carmona,
13. F. J., Rascón, P. J., Romero, A., López, G. A., & Malo, J. (2009). Análisis de la influencia de los padres en la promoción deportiva de los niños. *Journal of Sport and Health Research*, 1(1), 12-25.
14. Luengo, C. (2007). Actividad físico-deportiva extraescolar en alumnos de primaria.
15. *Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte*, 7(27), 174-184.

16. Martín-Albo, J., Navarro, J. G., & Núñez, J. L. (2002). Clasificación de los deportes en función de la evolución de los motivos atendiendo al tiempo de práctica y al género. *Revista Electrónica de Motivación y Emoción (REME)*, 5(11).
17. Ministerio de Educación y Formación Profesional. (2022). Datos y cifras. Curso escolar 2022/2023. <https://www.educacionyfp.gob.es/dam/jcr:23ffe4f5-a212-4f99-aea4-dd1baac84bd4/datos-y-cifras-2022-2023-espanol.pdf>
18. Montil, M., Aznar, S., & Barriopedro, M. (2004). Cumplimiento de las recomendaciones de actividad física en una muestra de niños de la Comunidad Autónoma de Madrid. *Comunicaciones del III Congreso de la Asociación Española de Ciencias del Deporte*. <https://cienciadeporte.eweb.unex.es/congreso/04%20val/pdf/c24.pdf>
19. Navarro-Patón, R., Arufe-Giráldez, V., Sanmiguel-Rodríguez, A., & Ramos-Álvarez, O. (2021). Differences on Habitual Physical Activity Index in primary school children according to age and gender. *Sustainability*, 13, 7806. <https://doi.org/10.3390/su13147806>
20. Nuviala, A. N., & Nuviala, R. N. (2005). Abandono y continuidad de la práctica deportiva escolar organizada desde la perspectiva de los técnicos de una comarca aragonesa. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, 5(20), 295-307.
21. OMS. (2020). Directrices de la OMS sobre actividad física y hábitos sedentarios, p. 3. <https://apps.who.int/iris/bitstream/handle/10665/337004/9789240014817-spa.pdf>
22. Poll, S. (2021). Empoderar mujeres y niñas mediante el deporte y la tecnología. *Actualidades de la UIT*, 6, 30-48. <https://dialnet.unirioja.es/servlet/articulo?codigo=8369734>
23. Ramos-Álvarez, O., Arufe-Giráldez, V., Cantarero-Prieto, D., & Ibáñez García, A. (2021). Changes in physical fitness, dietary habits and family habits for Spanish children during SARS-CoV-2 lockdown. *International journal of environmental research and public health*, 18(24), 13293. <https://doi.org/10.3390/ijerph182413293>
24. Reverter, J., Plaza, D., Jové, M. C., & Hernández, V. (2014). Actividad físico-deportiva extraescolar en alumnos de primaria: el caso de Torrevieja (Alicante). *RETOS. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 25, 48-52. <https://doi.org/10.47197/retos.v0i25.34476>
25. Rodríguez-Fernández, J. E., Rico-Díaz, J., Neira-Martín, P. J., & Navarro-Patón, R. (2021). Actividad física realizada por escolares españoles según edad y género. *Retos. Nuevas tendencias en educación física, deporte y recreación*, 39, 238-245. <https://doi.org/10.47197/retos.v0i39.77252>
26. Sagredo, E. J., Bizama, M. P., & Careaga, M. (2020). Gestión del tiempo, trabajo colaborativo docente e inclusión educativa. *Revista Colombiana de Educación*, (78). <https://doi.org/10.17227/rce.num78-9526>
27. Sánchez-Urrea, A., Fuensanta, M., & Alavés-González, V. (2019). Práctica físico-deportiva extraescolar y estado nutricional en estudiantes de educación primaria. *EmásF: revista digital de educación física*, 58, 92-107.
28. Sañudo, L. E. (2006). La ética en la investigación educativa. *Hallazgos*, 3(6). <https://doi.org/10.15332/s1794-3841.2006.0006.05>
29. Venga, S. Competitividad en el Aula: Un Estudio de Caso con Grado Séptimo. *Educación y Ciencia*, 26. <https://doi.org/10.19053/0120-7105.eyc.2022.26.e10345>
30. Zurita-Ortega, F., Ubago-Jiménez, J. L., Puertas-Molero, P., González-Valero, G., Castro-Sánchez, M., & Chacón-Cuberos, R. (2018). Niveles de actividad física en alumnado de Educación Primaria de la provincia de Granada. *RETOS: nuevas tendencias en*