

# Physical Activity at School Recess: A Key Element in Balancing Social Disparities

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## ABSTRACT

**BACKGROUND:** Since children are generally not achieving desirable levels of physical activity (PA), schools can provide an opportunity to increase their active time. This study aimed to describe individual- and social-level variables associated with PA at school recess in a culturally diverse primary school.

**METHODS:** This observational cross-sectional study included 131 children attending primary school. PA data were measured via accelerometry during school recess and analyzed in relation to data on sociodemographics, anthropometrics, and PA outside school. Data were analyzed using generalized linear modeling and logistic regression.

**FINDINGS:** Girls were more sedentary and engaged in less moderate to vigorous physical activity (MVPA) than boys ( $p < .001$ ), while older girls were less active than younger girls ( $p < .001$ ). Also, non-Caucasian children were less sedentary ( $p < .001$ ) and engaged in more MVPA ( $p = .007$ ). Belonging to ethnic minorities was also associated with lower socioeconomic status, higher body mass index, and less PA outside of school and on weekends.

**CONCLUSIONS:** Girls (especially older girls) and children from lower socioeconomic contexts should be prioritized when promoting PA.

**IMPLICATIONS FOR SCHOOL HEALTH POLICY:** School recess can be used as an effective strategy aimed at increasing PA and reducing social inequalities.

**Keywords:** children; ethnicity; physical activity; school recess; sex.

**Citation:** Ariz U, Fernández-Atutxa A, Rivas-Fang O, Ruiz-Litago F. Physical activity at school recess: a key element in balancing social disparities. *J Sch Health*. 2022; 92: 1005-1012. DOI: 10.1111/josh.13234

Received on March 11, 2022

Accepted on July 8, 2022

Physical activity (PA) is essential for the development of children as it provides physical, mental, and social benefits.<sup>1</sup> Physical benefits include musculoskeletal development, improved cardiovascular and respiratory system function, and obesity prevention.<sup>1-3</sup> Moreover, among the mental and social benefits of PA, reductions in depressive symptoms and improvements in cognitive and academic development have been observed.<sup>4,5</sup> To obtain these benefits, the World Health Organization (WHO) recommends at least 60 minutes

of moderate to vigorous PA per day for children aged 5-17 years.<sup>6</sup>

Recent work by Steene-Johannessen et al analyzed accelerometer data from children and adolescents across 18 European countries and showed that only 29% of the studied children met these criteria. Also, country-specific differences showed a north-south gradient, with southern countries exhibiting lower levels of PA. In particular, only 25% of Spanish children had sufficient levels of physical

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We would like to thank Mujika Eskola for their readiness to carry out the project.

activity.<sup>7-10</sup> Other studies conducted in Spain have shown disparities in the practice of PA by social class and sex, with girls and children from lower socioeconomic environments engaging in lower levels of PA.<sup>11,12</sup> Therefore, promoting PA among children with a focus on girls and children from disadvantaged contexts should be a main concern for governments and public administrations.

In light of this situation, schools offer opportunities to engage in PA since children spend a large proportion of their weekday time at school. There are different ways to increase PA at schools, such as more active lessons, physical education classes, and unstructured recess playtime. In recent years, a great effort has been made to elucidate the characteristics surrounding PA at school recess.<sup>13,14</sup> It is essential to continue investigating the factors affecting recess PA in different contexts to provide information regarding the target population and define suitable approaches for increasing PA in children.

This study aimed to describe the individual- and social-level variables associated with sedentary behavior and different intensities of PA at school recess in a culturally diverse urban public primary school.

## METHODS

### Setting and Participants

This was a cross-sectional observational study performed in a primary school in Bilbao (a city in northern Spain) between March and June of 2021. The inclusion criteria were being at least 5 years old and regular use of the school playground at morning recess. A total of 131 children (71 girls and 60 boys) participated in the study after providing written informed consent from their families or guardians.

The playground was a partially covered space (approximately 330 m<sup>2</sup>) located on the last floor of the building without any fixed playing equipment. The playground was used by a maximum of 50 children simultaneously and some loose equipment was allowed (jump ropes, balls, and similar).

### Instrumentation

**Sociodemographic data.** Birthdate, sex, race/ethnicity, and socioeconomic status (SES) were obtained from school records. Race/ethnicity was categorized as Caucasian or other. SES was based on whether the student was enrolled in the school's free lunch program provided by the Education Department of the Basque Government.

**Anthropometry.** Anthropometric measurements were performed by qualified personnel according to the International Standards for Anthropometric Assessment (ISAK) recommendations.<sup>15</sup> Height was recorded with a portable stadiometer (T-226 Marsden,

UK) and rounded to the nearest 0.1 cm, while weight was measured without shoes using a portable digital scale (Medisana BS444 Connect, Germany) and rounded to the nearest 0.1 kg. Also, triceps skinfold thickness and upper arm circumference were measured using a caliper (Holtain, UK) and a measuring tape (Kawemed, Germany), respectively. Body mass index (BMI) was calculated (mass [kg]/height [m]<sup>2</sup>) and children were then classified as underweight, normal weight, overweight, or obese according to WHO standards.<sup>16</sup>

**Physical activity.** PA was objectively measured with triaxial ActiGraph (wGT3X) accelerometers during morning school recess (30 minutes) over 5 to 6 consecutive days. On each measurement day, a researcher helped children fasten the accelerometer to their waist. Children started wearing the accelerometer in the morning as soon as they arrived at school to avoid reactivity at school recess. Also, they were not informed of the purpose of wearing the accelerometer.

For each child, an accelerometer was programmed according to their sex, age, height, and weight. Accelerometers were set at 30 Hz and 1-second epoch.<sup>17</sup> Data were analyzed by ActiLife 6 software (ActiGraph) and the PA cutoff points selected for determining the type of PA were the child-specific points described by Evenson et al.<sup>18</sup>

Also, PA after school and on weekends was evaluated by questions that researchers asked the children on the same day that anthropometric data were obtained. Researchers took the required time with each child to explain each of the questions and ensure that they understood them. These questions were as follows:

- Where do you usually go after school? Go home or stay outdoors.
- Do you engage in any type of scheduled activity after school, such as music, swimming, drawing, English classes, etc.? Yes or no.
- If so, what kind of scheduled activity do you engage in? The answers were classified as active (dancing, football, gym, etc.) or sedentary (drawing, music, English classes, etc.).
- What type of plans does your family have on weekends? Options were offered as either staying home most of the time or different plans outdoors. Answers were classified as either active or sedentary.
- What type of activity do you do on weekends? Answers were classified as mostly staying home, light walking, active walking (if the child used a bicycle, roller skates, scooter, etc.), or sport (playing football, basketball, etc.).
- What is your favorite game? Depending on the answer, it was classified as either active (movement games with friends, team sports, etc.) or sedentary (watching TV, video games, jigsaw, chess, etc.).

## Data analysis

SPSS statistical software v.26 (IBM) was used for all analyses. The normality of data was assessed for the quantitative variables.

**Descriptive data.** Descriptive data are presented as mean  $\pm$  SD for quantitative data and as n (%) for qualitative data.

**Accelerometer data reliability.** To assess the reliability of measurements, single-day intraclass correlation (ICC) was calculated (one-way random) for each variable. The obtained ICC value was used in the Spearman-Brown prophecy formula to determine the number of days required to obtain reliabilities of 0.7, 0.8, and 0.9 for each variable. Finally, the number of children that met a reliability of 0.8 for each variable was also calculated. Also, to evaluate whether there had been reactivity while wearing the accelerometer during the first day, the Cronbach's alpha value was calculated for each variable if one of the days was deleted.<sup>19</sup>

**Physical activity at school recess.** PA at school recess was simultaneously compared by sex (boys and girls) and age (children were divided into two groups by the median value of age) using the Student's *t*-test. To evaluate variables affecting PA at school recess, generalized linear modeling was used. Two different models were conducted, where sedentary behavior (SED) and moderate-to-vigorous (MVPA) were the response variables, and all variables that were possible predictors were introduced as independent variables. Both models were controlled by sex and age. Also, variables were compared between Caucasian and non-Caucasian groups via logistic regression while controlling for sex and age.

A *p*-value of  $<.05$  was considered statistically significant.

## FINDINGS

A total of 131 children (60 boys and 71 girls) were accepted to participate in the study (response rate: 87%). Table 1 presents descriptive data for the sample. Briefly, the mean age was 8.5 years ( $\pm 2.0$ ), 45.8% were boys, 53.8% were Caucasian, and 63.6% received a lunch grant. Regarding anthropometric characteristics, 16.8% were overweight and another 22.9% were obese.

### Reliability of accelerometer data

All single-day ICC values ranged from 0.411 to 0.609. The number of days with recorded data was sufficient to achieve a reliability of 0.8 for 100% of the children for all analyzed variables—except for % light physical activity (LPA), for which 70% of the participants reached that value (average ICC measured for %LPA was 0.778) (Table S1). When Cronbach's

Table 1. Characteristics of the Sample

	n (%)	Mean (SD)
Sociodemographic characteristics		
Age (years)	131	8.5 (2.0)
Sex		
Boys	60 (45.8%)	
Girls	71 (54.2%)	
Free lunch program		
No	39 (36.4%)	
Yes	68 (63.6%)	
Race/ethnicity		
Caucasian	70 (53.8%)	
Arabic	27 (20.8%)	
African	12 (9.2%)	
Latino	18 (13.8%)	
Mixed	3 (2.3%)	
Anthropometric characteristics		
Weight (kg)	131	33.3 (13.7)
Height (cm)	131	132.4 (14.2)
BMI (kg/m <sup>2</sup> )	131	18.3 (3.8)
BMI category		
Underweight	3 (2.3%)	
Normal weight	76 (58.0%)	
Overweight	22 (16.8%)	
Obese	30 (22.9%)	
Triceps skinfold thickness (mm)	130	14.4 (6.3)
Physical activity at school recess		
% of time SED	129	48.8 (12.0)
% of time LPA	129	30.8 (6.3)
% of time MPA	129	8.9 (3.4)
% of time VPA	129	11.5 (6.4)
% of time MVPA	129	20.4 (8.8)
Physical activity outside of school		
After-school time		
Home	25 (19.8%)	
Outdoor	101 (80.2)	
After-school scheduled activity		
No	68 (53.5%)	
Yes	59 (46.5%)	
After-school sportive activity		
No	24 (40.7%)	
Yes	35 (59.3%)	
Active family		
No	80 (65.0%)	
Yes	43 (35.0%)	
Weekend activity		
Home	27 (22.0%)	
Walk	43 (35.0%)	
Active walk	15 (12.2%)	
Sport	38 (30.9%)	
Favorite game		
Sedentary	38 (30.9%)	
Active	85 (69.1%)	

BMI, body mass index; LPA, light physical activity; MPA, moderate physical activity; MVPA, moderate to vigorous physical activity; SED, sedentary behavior; VPA, vigorous physical activity.

alpha value was calculated for each variable if 1 day was deleted no reactivity was observed for any of the days (Table S2).

Table 2. Sex and Age Differences in Physical Activity (PA) During School Recess

	Younger children ( $\leq 8.37$ )		Older children ( $> 8.37$ )		Boys a vs c	Girls b vs d
	Boys (a)	Girls (b)	Boys (c)	Girls (d)		
%SED	41.03 (10.58)	51.35 (6.25)**	43.51 (11.28)	57.29 (12.62)**		†
%LPA	34.44 (5.12)	31.78 (4.57)*	32.17 (6.13)	25.30 (5.83)**		††
%MPA	11.31 (3.73)	8.13 (1.77)**	9.83 (3.87)	6.97 (2.49)**		†
%VPA	13.21 (7.53)	8.72 (3.29)**	14.49 (7.12)	10.44 (6.19)*		
%MVPA	24.53 (9.99)	16.85 (4.18)**	24.32 (9.66)	17.41 (8.14)**		

LPA, light physical activity; MPA, moderate physical activity; MVPA, moderate to vigorous physical activity; SED, sedentary behavior; VPA, vigorous physical activity.

\*Boys vs girls p-value  $< .05$ .

\*\*Boys vs girls p-value  $< .01$ .

†  $\leq 8.37$  years vs  $> 8.37$  years p-value  $< .05$ .

††  $\leq 8.37$  years vs  $> 8.37$  years p-value  $< .01$ .

### Physical activity at recess

Girls spent significantly more time engaging in SED than boys (54.12% and 42.36%, respectively). When dividing the sample by age, this difference was still observed in all age groups. Younger girls and boys ( $\leq 8.37$  years) spent 51.35% and 41.03% of their recess time being sedentary, respectively. Older girls and boys ( $> 8.37$  years) spent 57.29% and 43.51% of their recess time being sedentary, respectively. Also, girls of all ages spent less time than boys on LPA, moderate physical activity (MPA), vigorous physical activity (VPA), and MVPA. Notably, all of these differences were statistically significant (all p-values were  $< .001$ ) (Table 2).

Regarding age, it was observed that older girls were more sedentary than younger girls (%SED: 57.29% and 51.35%, respectively; p-value:  $< .01$ ). On the contrary, statistically significant differences in %SED by age were not observed for boys (43.51% and 41.03%, respectively). The same trend was observed for LPA. Older girls performed less LPA (25.30% and 31.78%, respectively; p-value  $< .01$ ) and MPA (6.97% and 8.13%, respectively; p-value  $< .05$ ) than younger girls, while no statistically significant differences were observed for boys in this regard. Regarding %VPA and %MVPA, no differences by age were observed for boys or girls (Table 2).

### Variables affecting physical activity at recess

Generalized linear models adjusted for sex and age showed that race/ethnicity was the only variable affecting SED during recess (p  $< .001$ ), Caucasian children were more sedentary than children from other ethnic minorities. For %MVPA, in addition to race/ethnicity (p = .007), the SES (p = .044), family PA (p = .038), and sporting activities during the weekend (p = .048) were also found to be significant. Children from ethnic minorities, those with lower SES, and those with less active families engaged in more MVPA at school recess, while children that engaged in sport on weekends showed lower levels of MVPA at school recess. These results are presented in Table 3.

The comparison of variables regarding race/ethnicity while controlling for age and sex

showed that being from an ethnic minority was significantly correlated with lower SES, overweight/obesity, thicker triceps skinfold, going home after school, less active families, and less PA during the weekend (Table 4).

### DISCUSSION

This observational study aimed to describe PA during school recess and identify the factors that influence it. For this purpose, PA was objectively measured via accelerometry during school recess along with other socio-demographic, anthropometric, and lifestyle parameters in a sample of 131 children attending a primary school in Bilbao (a city in northern Spain).

The evidence of sex disparity in the levels of PA at school and throughout the day is overwhelming. In a recent review,<sup>13</sup> 34 cross-sectional studies in different countries from around the world that evaluated PA at school recess via accelerometry were analyzed. In all of the studies (100%) that presented results differentiated by sex, it was observed that boys engaged in more MVPA than girls. Our results support this evidence and suggest that girls of all ages are more sedentary and engage in less light, moderate, and vigorous PA. While the reasons for this difference are not easy to address, some observational studies have provided some clues about them. Besides possible biological differences,<sup>20</sup> in playgrounds with different play areas, it has been observed that preferences differ by sex. Also, the areas in which boys and girls perform the majority of their MVPA are different. Notably, boys engage in MVPA in areas used for competitive team sports, while girls engage in MVPA in areas appropriate for climbing and balancing.<sup>21</sup> In playgrounds where space is dominated by areas for ball sports—as it has traditionally been in school playgrounds in Spain—no options are often left for girls to develop the type of MVPA they prefer.<sup>22</sup> This is an important issue that should be studied in depth for developing inclusive playgrounds.

Regarding age, we have observed that older children engage in less PA than younger ones, both boys and girls showed the same trend, but statistical

**Table 3. Variables Affecting Sedentary Behavior (SED) and Moderate to Vigorous Physical Activity (MVPA) at School Recess Adjusted for Sex and Age**

Variable	% SED				% MVPA			
	B	95% Wald CI		p-Value	B	95% Wald CI		p-Value
		Lower	Upper			Lower	Upper	
Race/ethnicity								
Caucasians	5.90	2.63	9.16	<.001**	-3.73	-6.44	-1.01	.007**
Non-Caucasians	Ref				Ref			
Lunch grant								
No	1.51	-2.42	5.44	.452	-3.36	-6.63	-0.09	.044*
Yes	Ref				Ref			
BMI category								
Overweight/obese	-2.28	-5.69	1.13	.191	1.49	-1.29	4.28	.292
Normal weight/underweight	Ref				Ref			
Triceps skinfold thickness(mm)	-0.13	-0.42	0.16	.382	0.06	-0.17	0.30	.603
After-school time								
Home	-3.75	-8.16	0.66	.095	3.37	-0.22	6.96	.066
Outdoor	Ref				Ref			
After-school scheduled activity								
No	3.31	-0.55	7.17	.092	-0.97	-4.17	2.22	.549
Yes	Ref				Ref			
Active family								
No	-3.66	-7.35	0.04	.052	3.20	0.18	6.23	.038*
Yes	Ref				Ref			
Weekend activity								
Sport	4.30	-0.51	9.11	.080	-3.96	-7.89	-0.03	.048*
Active walk	5.28	-0.79	11.36	.088	-4.67	-9.64	0.29	.065
Walk	1.47	-3.15	6.08	.533	-2.16	-5.93	1.62	.263
Home	Ref				Ref			
Favorite game								
Sedentary	-1.13	-4.89	2.64	.558	0.56	-2.52	3.64	.722
Active	Ref				Ref			

CI, confidence interval; BMI, body mass index; MVPA, moderate to vigorous physical activity; SED, sedentary behavior.

\* $p < 0.05$ .

\*\* $p < 0.01$ .

**Table 4. Comparison of Anthropometric and Physical Activity (PA)-Related Variables Between Caucasian and Ethnic Minorities Adjusted for Sex and Age**

Variables	Caucasians (70) n(%) or mean $\pm$ SD	Non-Caucasians (60) n(%) or mean $\pm$ SD	p-Value*
Lunch grant (yes)	25 (46.5%)	42 (82.4%)	<.001**
Overweight/obese	16 (22.9%)	35 (58.3%)	<.001**
Triceps skinfold thickness (mm)	12.5 ( $\pm$ 4.69)	16.5 ( $\pm$ 7.17)	.002**
After school time (outdoor)	59 (89.4%)	41 (69.5%)	.014*
After school scheduled activity (yes)	32 (48.5%)	26 (43.3%)	.567
After school scheduled sportive activity (yes)	20 (28.6%)	14 (23.3%)	.516
Active family (yes)	31 (48.4%)	12 (20.7%)	.005**
Weekend activity (light walk vs home)	19 (29.7%)	24 (41.4%)	.799
Weekend activity (active walk vs home)	5 (7.8%)	9 (15.5%)	.652
Weekend activity (sport vs home)	29 (45.3%)	9 (15.5%)	.011*
Favorite game (active)	41 (65.1%)	43 (72.9%)	.457

Note: p-value obtained by logistic regression adjusted for sex and age.

\* $p < 0.05$ .

\*\* $p < 0.01$ .

differences were only observed for girls. However, the results found in the literature are not fully conclusive on this point.<sup>13,14</sup>

Furthermore, it has been established that obese children engage in less PA than those with a normal

weight.<sup>23,24</sup> However, a systematic review by Ridgers et al that specifically analyzed PA at school recess did not find an association with obesity.<sup>14</sup> In our study, we did not observe this association based on BMI or % fat measured by triceps skinfold in boys or girls. We

should emphasize that the PA measured in this study only refers to that performed at morning school recess, which is only a small part of the activity for the entire day. Therefore, it cannot be concluded that obesity does not limit the PA children engage throughout the day.

In this sample population, SES and race/ethnicity were narrowly associated. According to studies conducted in Spain<sup>12,23</sup> and other countries,<sup>25-28</sup> children from lower socioeconomic contexts perform lower levels of PA throughout the day. The reasons for this are varied and could include economic limitations for participation in after-school activities, fewer spaces adequate for PA in the living environment (fewer playgrounds, heavy traffic, less sports infrastructure, etc.), parent work schedules, and so on.<sup>24,29,30</sup> On the other hand, studies that have aimed to relate SES or cultural background with PA during the school day or at school recess have provided mixed results.<sup>14</sup> Some of them have shown higher levels of PA in children with a higher SES<sup>31,32</sup> while others that compared race/ethnicity were inconclusive<sup>33</sup> or showed the opposite result.<sup>34,35</sup> In some of these studies,<sup>31,32</sup> schools' mean activity levels were compared instead of comparing children individually. Therefore, other factors could also have affected the results, such as the availability of fixed and loose playground equipment, presence of green areas, space availability, and recess time.

In our study, where all the children played in the same playground for the same amount of time, we observed that non-Caucasian children were less sedentary and engaged in higher amounts of MVPA at school recess. Since the non-Caucasian population in the sample is diverse (Arabic, Black African, Latino, and mixed), several statistical analyses were performed to verify that this association was not due to only one or a few ethnic subpopulations. Moreover, in an attempt to elucidate an explanation for such an association, we compared both ethnic groups (Caucasians and non-Caucasians) in relation to the other variables in the study. This comparison showed that children from ethnic minorities as a whole were associated with lower SES, higher BMI, going home more often after school, less active families, and lower PA levels on weekends. A possible explanation for non-Caucasian children being more physically active at school recess could be that they have fewer opportunities to engage in PA after school and on weekends, which makes them compensate for this through engaging in more PA at school to meet their needs.<sup>36,37</sup> Notably, other studies have observed a similar trend.<sup>20,38,39</sup> Despite this, there is no consensus about the physiological PA compensation theory.<sup>37,40</sup> This theory would suggest that variability in PA levels among children is biologically rather than environmentally dependent.

Upon analyzing our results, we hypothesize that mostly due to social disparities, children from

low-income contexts and culturally diverse backgrounds have fewer opportunities to engage in the PA they require outside of school and that they would engage in PA if given adequate conditions (eg, at school recess). This is also consistent with the theory of expanded, extended, and enhanced opportunities (TEO),<sup>41</sup> which states that offering more opportunities for PA will translate into more active time. For example, further opportunities could include lengthening the time allocated for PA (eg, recess) or modifying an activity to increase the amount of PA (eg, allowing portable equipment during recess).<sup>41</sup> Therefore, since all children spend a considerable amount of time at school, interventions that aim to increase PA during school time can be a key element used to counteract social inequalities.

### Limitations

A limitation of this study is that the sample size was limited and restricted to only one school. To compensate for this limitation, accelerometer data were recorded for 5 to 6 consecutive days for each child. Moreover, the reliability of the data was evaluated by statistical analysis to ensure good quality. In addition, all children played on the same playground for the same amount of time, which made child-level variables easier to compare. Also, SES was evaluated based on whether the children received a lunch grant. Although this could be a good SES indicator, we obtained this information from 107 (82%) out of the 131 children in the sample. The reasons behind this include some children going home for lunch (and not asking for this grant) or families not giving consent for this information being shared for the study. Also, there could be a number of children that were qualified to receive a lunch grant but did not obtain it due to problems with bureaucracy and public administration, which are often difficult. Finally, questionnaires regarding PA outside of school were completed by the children and not their families. Given the cultural diversity of the school's families, language difficulties among some of them, and a lack of availability to answer the questionnaires, the researchers decided to have the children answer them. Although it is more challenging to obtain accurate answers from younger children, their answers are not biased since they have fewer preconceived ideas of what life habits are considered culturally acceptable.

### Conclusions

In conclusion, this study supports existing evidence that suggests girls—especially older girls—are more sedentary and engage in less MVPA at school recess. Also, we observed that children with fewer opportunities to engage in PA outside of school (ie, children from ethnic minorities and socioeconomically

disadvantaged families) are less sedentary and engage in more PA at school recess, which could be an attempt to reach the PA levels they require. Therefore, since all children attend school independent of their socioeconomic background, school time provides an appropriate place to implement interventions that aim to increase PA levels and reduce socially based health disparities.

## IMPLICATIONS FOR SCHOOL HEALTH

Not achieving sufficient levels of PA during childhood may lead to health concerns in the middle and long term. The results of this study confirm that girls—especially older girls—engage in lower levels of PA during school recess. Also, children from ethnic minorities and lower socioeconomic contexts are less sedentary and engage in more MVPA during school recess; however, these children are less active outside of school. These results suggest that children with fewer opportunities to engage PA outside school would naturally compensate for it by being more active at school time if they had the opportunity. Therefore, schools should be a place where children have sufficient opportunities to develop the PA they require and thereby counteract socioeconomic disparities in terms of PA and subsequently in health. For this purpose, different strategies that aim to increase the levels of PA at school should be implemented to guarantee the development of all children. Examples of such strategies could include the following:

- Allow sufficient time during the school day for PA such as active breaks, physical education lessons, more active academic lessons, and sufficient recess time for structured and unstructured play.
- Provide playgrounds that offer active play opportunities for children to develop PA, such as sufficient outdoor space, different play areas, green spaces, as well as fixed and loose equipment.
- Consider gender and age interests when designing play facilities and selecting loose equipment provision to achieve attractiveness among less active children.
- Train teachers and recess staff on the importance of PA during childhood and provide them with the necessary educational tools to promote PA during school time.

Notably, more research is required to address the exact reasons for socioeconomically disadvantaged children not engaging in sufficient PA outside of school.

## Human Subjects Approval Statement

The study was previously approved by the Ethics Committee of the University of the Basque Country (M10/2020/252 RUIZ LITAGO).

## Conflict of Interest

All authors of this article declare they have no conflicts of interest.

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## SUPPORTING INFORMATION

The following Supporting Information is available for this article:

**Table S1.** Reliability outcomes for the different variables

**Table S2.** Reliability (Cronbach's alpha) if item deleted

Additional supporting information may be found online in the Supporting Information section at the end of the article.