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Regional institutional strategies to promote physical activity in schools

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Keywords

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Abstract

In recent years, the high level of physical inactivity among schoolchildren has led public authorities to develop strategies to promote physical activity that place educational centers as the main intervention framework. In this work, the regional institutional strategies for promoting an active lifestyle were analyzed, from the perspective of a design evaluation. Through the institutional websites and official publications of the different autonomous administrations, a total of 17 strategies were identified, developed in 14 autonomous communities. The elements that literature identifies as key to promoting the effectiveness of the strategies were analyzed. The results showed some strengths such as its multicomponent design, planning of extracurricular activities, financial support, teacher training, and compensation and recognition of their work. However, the results also confirmed some weaknesses such as the shortage of actions in the subject of Physical Education or the lack of specific strategies for girls, as well as the need to delve deeper into the monitoring and evaluation mechanisms of the programs.

Estrategias institucionales autonómicas de promoción de la actividad física en los centros escolares

Palabras clave

Escuela
Programas de educación
Educación Física
Deporte
Salud

Resumen

Durante los últimos años, la elevada inactividad física de los escolares ha llevado a los poderes públicos a desarrollar estrategias de promoción de la actividad física que sitúan a los centros educativos como el marco principal de intervención. En este trabajo se analizaron las estrategias institucionales autonómicas de promoción de un estilo de vida activo, desde la perspectiva de una evaluación de diseño. A través de los sitios web institucionales y de las publicaciones oficiales de las diferentes administraciones autonómicas, se identificaron un total de 17 estrategias, desarrolladas en 14 comunidades autónomas. Se analizaron los elementos que la literatura identifica como claves para favorecer la eficacia de las estrategias. Los resultados mostraron algunas fortalezas como su diseño multicomponente, la planificación de actividades extracurriculares, el apoyo económico, la formación del profesorado y la compensación y el reconocimiento de su trabajo. No obstante, los resultados también constataron algunas debilidades, como la escasez de actuaciones en la asignatura de Educación Física o la falta de estrategias específicas para las chicas, así como la necesidad de profundizar en los mecanismos de seguimiento y evaluación de los programas.

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Engaging regularly in physical activity (PA) and, specifically, a sufficient level of moderate-vigorous physical activity (MVPA), is crucial for health (Bull et al., 2020). However, the majority of children and adolescents across the world can be considered inactive as they fail to do sufficient MVPA (Guthold et al., 2020) and show excessively sedentary behaviors over the week (Bull et al., 2020). The study by Guthold et al. (2020) on the worldwide prevalence of physical inactivity revealed that, in Spain, 69.8% of boys and 83.8% of girls aged between 11 and 17 are physically inactive. Additionally, recent studies conducted in Spain have reported a mean level of MVPA of 42 minutes per day among schoolchildren (Jiménez-Loaisa et al., 2023), which is far from the 60 minutes recommended by the World Health Organization (WHO). Compliance with the guidelines also fell by 6.6% between 2019 and 2022 (36% *vs.* 29.4%), as can be observed by comparing the findings of the two editions of the PASOS study (Gasol Foundation, 2023).

This scenario has been the subject of frequent analysis by the public authorities and demands effective policies designed to undertake programs to favor greater opportunities for youth to engage in PA (Aubert et al., 2018). In this line, the WHO (2019) launched the *Global Action Plan on Physical Activity 2018-2030*, urging states to ensure better conditions for the practice of PA in schools.

In Spain, initiatives in recent years include the NAOS strategy, which, among other actions, awards prizes to plans to promote an active and healthy lifestyle in schools. Another program is PERSEO, specifically designed to foster PA and healthy diet in schools. More recently, the Ministry of Education, Culture, and Sports presented their *2016-2020 Strategic Plan for School Health and Healthy Lifestyles 2016-2020,* complemented by the latest Spanish education law (LOMLOE, in its Spanish acronym), which presses educational authorities to adopt measures to encourage PA and healthy diet.

It can be seen that such strategies position schools as the central arena in which to seek to implement policies through a number of programs. The key role of the education system in developing preventive policies and promoting an active, healthy lifestyle has been highlighted now for some decades (Cornett et al., 2023; Sallis & McKenzie, 1991), in light of the great impact of this institution during childhood and adolescence (Naylor & McKay, 2009). Schools are a reference point in the lives of their students and should provide multiple opportunities for daily PA through Physical Education (PE) classes, break times, extracurricular activities, the commute to school, even by incorporating PA into classroom learning activities (García-Hermoso, 2024; Singh et al., 2017; Watson et al., 2017).

The division of the Spanish State into autonomous communities, together with the distribution of competences across the different levels of administration, gives the regional governments a crucial role in developing educational and health policies. Thus, within the autonomous community framework, different initiatives have emerged to promote PA and healthy habits among schoolchildren, often considering schools to be the main drivers of such interventions.

To the best of our knowledge, works have focused on specific aspects of these initiatives, but none has analyzed them overall. In this line, the study by Arufe-Giráldez et al. (2017) focused on identifying the agents involved in school sports programs, with a particular spotlight on the implication of education players. In short, it is unclear to what extent the design of regional policies for promoting PA is grounded in evidence, with it thus being necessary to explore these programs as a whole and to assess whether their designs incorporate the elements the specialized literature has identified in recent years as critical for them to be undertaken effectively.

In this sense, of interest are works such as that by Berta-Murillo et al. (2013), which point to the key elements for efficacious strategies to promote PA, including the type of design, the role of curricular PE and that of extracurricular activities and the need to incorporate measures specifically tailored to the needs of girls. Another interesting study is that by Rodrigo-Sanjoaquín et al. (2023), which identifies the barriers and the improvements that interventions should address, including teacher involvement and training, collaboration with agents and institutions in the community, and evaluation of programs.

In order to help better understand these initiatives, this study has a twofold purpose: on the one hand, to identify the regional strategies recently rolled out in Spain to promote an active lifestyle among schoolchildren and, on the other, to analyze the elements of their design that are key for their effectiveness. The results will make it possible to pool the regional public policies for promoting PA and may serve as a foundation for guiding and enhancing the planning of future strategies and forging synergies between the different administrations with responsibility in this area.

Method

Inclusion criteria

Using the institutional websites of the regional governments, we located the physical activity promotion strategies in place in Spain's different autonomous communities. Given the frequency over time with which the administrations promote health-related strategies of diverse types/and or purposes, the analysis was limited to the initiatives meeting the following inclusion criteria: 1) they explicitly propose the fostering of physical activity among school students in age groups corresponding to the stages of compulsory education, going beyond simply promoting and disseminating sports, and regardless of the inclusion of other objectives or lines of intervention; 2) the scope of application is regional, that is, the strategies are developed under the auspices of the regional administration and can thus be implemented anywhere within the autonomous community; 3) public information on the characteristics is available on the corresponding institutional websites; 4) they are not limited to one-off actions, without continuity over time.

Procedure

The data were collected by consulting regional government websites and the documents hosted or linked therein. The

information was gathered between August and October 2023 from the web pages of the regional ministries, departments, and directorate-generals for the areas of education, sport and health, all of which are responsible for the promotion of PA. We examined the institutional information provided on the websites, the programmatic or informational documents available and/or linked, and announcements published in the official gazettes of the respective regional governments.

To ensure the thoroughness of the process to locate the strategies, two researchers independently conducted the searches and applied the inclusion criteria. In a second stage, the results of the previous process were compared in order to jointly analyze them and resolve any divergences found. Once the strategies to be included in the study were established, their key elements were analyzed following a similar two-stage procedure.

Type of analysis

This work falls within the framework of public policy evaluation studies and is, specifically, a design evaluation study. Such works are of interest because they extend the evaluation not only to the results achieved, but also to the design of the policies themselves, since the results depend heavily on the previous level of which the design is part (Casillas et al., 2020).

Design evaluation involves the overall assessment of the planning of a program and, drawing on the model proposed by Bueno and Osuna (2013), can be based on two main axes: the evaluation of rationality, in which particular importance is given to the analysis of the context and the formulation of objectives; and the evaluation of coherence, where the adequacy and alignment of the resources to the aims and the compatibility of the strategies with other actions, policies, or objectives are analyzed.

Regarding the first of these axes, as underlined in the introduction to this work, the institutions currently have sufficient evidence of the widespread inactivity of school students and have set explicit objectives designed to increase PA in their intervention settings. Consequently, the evaluation herein is restricted to the second axis, which focuses on the coherence of the policy formulation and design. To assess this aspect of regional policies for the promotion of PA and to operationalize the analysis, we took as our reference the studies by Murillo et al. (2013) and Rodrigo-Sanjoaquín et al. (2023).

The abovementioned works identified the key elements that facilitate the effectiveness of interventions and which should be considered when planning and designing promotion policies. The review by Murillo et al. (2013) analyzed 73 works (52 studies and 21 reviews), extracting the essential elements for the efficacy of interventions. The work by Rodrigo-Sanjoaquín et al. (2023), meanwhile, was based on discussion groups, boasting the participation of professionals with experience and differing degrees of responsibility in projects to promote PA. The findings allowed the authors to define a series of keys to enhance the implementation of health-promoting schools, which, given their transversality, are suitable for any institutional strategy intended to promote active lifestyles.

Of all the elements proposed in these studies, only those difficult to assess in a design evaluation were excluded. Specifically, issues related to the limitations of the environment were omitted, as they greatly depend on the specific reality in which the actions are undertaken a posteriori; and those associated with the use of technological devices in developing and monitoring the interventions, due to the difficulties in guaranteeing that these resources can be extended and made available to all the individuals targeted by the strategies. Thus, the elements we analyzed in PA promotion strategies were as follows: 1) planning based on a multi-component design; 2) intervention within school PE; 3) extension of actions to extracurricular activities; 4) inclusion of strategies specifically oriented towards girls; 5) measures to foster the involvement of school leaders and teachers; 6) teacher training; 7) collaboration with agents and institutions in the autonomous community; 8) evaluation procedures.

Results

The website searches initially identified 41 strategies across the different autonomous communities, although 24 were discarded as they failed to meet the inclusion criteria. The strategy *Growing Healthily 0-3* (*Creciendo en Salud 0-3*), in Andalusia, was not included because it was aimed exclusively at ages corresponding to the first stage of early childhood education, while 23 other strategies were excluded because they concerned actions fundamentally designed merely to promote and disseminate sport or certain types of sports modalities and/or were based on specific actions. Consequently, the 17 strategies listed in the tables in Annexes 1 and 2 were those finally included in the study. Three different initiatives were located in Andalusia and two in Aragon. In all the other autonomous communities, only one strategy was identified, except in Cantabria, La Rioja, and Extremadura, where we found no proposals meeting the inclusion criteria.

The time scale of the projects varies between one and three years, although in most cases the strategies are implemented over a year. As for the educational stage, the vast majority of the strategies are aimed at the compulsory stages of primary and secondary education. In the case of the Autonomous Community of Madrid and in one of the strategies implemented in Aragon, the programs are intended exclusively for secondary school. Most of the strategies (47%) involve programs to be delivered during school hours, while 24% are for implementation outside such time. Meanwhile, 29% of the strategies undertake programs that involve actions both during and outside the school day.

Below, we describe the results for each of the elements listed in the method section.

Multi-component design

Our analysis revealed that most of the institutional strategies are implemented using a multi-component design, under which interventions are conceived as multifactorial and should involve the participation of various agents from the commu-

nity (teachers, families, healthcare workers, sports technicians, etc.). Moreover, they should be developed in different settings (educational, extracurricular, community, etc.) and should thus promote greater opportunities for being physically active and for achieving changes at both personal and collective level. Specifically, the data analyzed show that 12 of the 17 strategies involved a framework of this type.

On the one hand, it was observed that these multi-component strategies provide for different objectives, lines of work, areas of intervention, and settings (curricular-extracurricular) on which schools should build their PA promotion projects. In some cases, the actions are primarily aimed at increasing engagement in PA, although, in other cases, the focus is more extensive and the programs include the promotion of other healthy and preventive habits (e.g., nutrition, addictive substances), mental health, and educational and social inclusion, seeking to have an impact on behavioral factors of a personal, interpersonal, and social nature.

On the other hand, the strategies were found to promote the participation of the entire educational community, as well as the collaboration of other agents and professionals from the vicinity. This participation is structured through some of the actions or lines of intervention, although such collaboration is frequently fostered through the formation of teams of leaders or promotors, comprising different agents in the community. In this way, these teams bring together representatives from the school (management and/or counseling teams, project coordinator, teachers, students …), from the rest of the educational community (families, through the parents' associations), and from the wider community (social and healthcare professionals, sports and association networks, municipal leaders and technicians …).

Intervention in the PE curriculum

Few of the strategies included interventions in the curricular area of PE in their design, with those in Castilla-La Mancha and Asturias being the only examples. In the first case, the so-called *Healthy School Projects* (*Proyectos Escolares Saludables*) cover ten programs, one of which specifically involves the implementation of the Sport Education Model in the PE curriculum.

In Asturias, the Network of Schools Promoting PA and Health (*Red de Centros Promotores de la AF y la Salud*) harnesses various strategies to boosts the expansion of the PE curriculum. These proposals include offering optional subjects related to PA, incorporating PA into interdisciplinary or innovative projects, including it in the Tutoring Action Plan or in activities planned for when teachers are absent. In addition, the projects highlight organizational aspects of school that foster the curricular development of PE, such as avoiding timetabling PE at unsuitable times for PA or allowing time for hygiene to overlap with the following class.

Extracurricular activities

It was noted that the vast majority of the strategies include actions designed to implement extracurricular activities at schools. Only four of the proposals failed to include a line of action intended to stimulate extracurricular activities.

In most cases, such activities consist of encouraging the practice of PA during break time or on an active commute to school. In addition, the strategies of Andalusia, Castilla-La Mancha, Asturias, Murcia, and the Aragon Network of Health-Promoting Schools (RAEPS, in its Spanish acronym) promote the use of school spaces for sports or recreational activities outside the school day.

In other cases, such as the strategies rolled out in Catalonia, the Communities of Madrid and Valencia, and the *Active Schoolchildren, Vital Citizens* (*Escolares activos, ciudadanos vitales*) program in Aragon, the focus is specifically on this area of intervention, with the main aim being to increase the rates of participation in sports and physical activities beyond the school day.

Strategies specifically aimed at girls

Our analysis of the strategies revealed that the designs of only some of the initiatives make mention of the need to set out strategies specifically aimed at promoting PA among girls. In the programs *Growing Healthily 3-12* (*Creciendo en Salud 3-12*) and *Young and Fit* (*Forma Joven*), from Andalusia, there are explicit references to the gender approach to be adopted in order to propose specific actions and intervene to address the greater inactivity of girls. The Basque Country's strategy also explicitly refers to this negative aspect and provides for the specific promotion of PA among girls.

In other strategies, although no mention is made of actions expressly targeting girls, there are references that underline the importance of the gender gap in the practice of PA. For example, one of the four objectives of Aragon's Active Schoolchildren, *Vital Citizens* program is the reduction of disparities in sports participation between boys and girls. In the same line, the proposals for schools in the strategies of Castilla-La Mancha and Asturias highlight the importance of extending activities to the greatest number of beneficiaries, with a special focus on certain sectors of the school population, such as girls.

Measures to foster the involvement of leaders and teachers

The analysis identified various types of measures to encourage the activation of the strategies and the participation and involvement of those directly responsible and teachers. On the one hand, we found that 58% of the strategies provide for financial support for the actions to be developed by the schools. In several cases, the scope of this financial support was not specified, although five of the strategies establish funding ranging from €500 to €5,000. The amounts are allocated depending on the results obtained in the evaluation provided for in the calls for proposals, except in the case of Castilla-La Mancha, where all the schools favorably evaluated receive the same funding, which decreases over the first three years until being withdrawn completely in the fourth year.

On the other hand, the teachers' work was generally rewarded through the recognition of merits for their professional careers.

To this end, the administrations typically use two formats: the recognition of participation in such projects as in-service teacher training activities; or the series of actions implemented in schools are classified as educational innovation projects, with certification thus being awarded to teachers. At the same time, the strategies of several communities were also found to provide for a reduction in the teaching load or complementary activities (Andalusia, Aragon, Asturias, Canary Islands, Castilla-La Mancha, Navarre, and Murcia). In contrast, financial payment is less common, only being found in the Community of Madrid and in Catalonia, where the strategies provide for specific remuneration for project coordinators.

Teacher training

Only in Madrid and in one of the strategies in Aragon (*Active Schoolchildren, Vital Citizens)* do the programs not include in-service training for the staff involved. The training activities are diverse and it was noted that, in some cases, the offer already specifies concrete programs or lines of action while, in others, this is broader and can be further determined by the administration or the schools themselves. In this regard, the RAEPS took a prominent approach, with an extensive offer of up to 14 training days.

Collaboration with other agents and institutions

The collaboration between different agents in developing the strategies was analyzed at two levels. First, it was observed that the promoting bodies correspond, in some cases, to organizations from at least two or three areas, with competences, capacities and resources directly related to promoting PA: namely, education, sport, and health. In the strategies proposed in Andalusia, the Balearic Islands, and Murcia, the promoting bodies are those of the areas of education and health, while in Madid and Galicia, the role is taken by education and sport.

Second, as mentioned while discussing the multi-component design, all the strategies provide for collaboration with other agents and institutions in the community (families, sports organizations, healthcare professionals or institutions, municipal services, etc.) in order to implement certain actions. These agents may also even form part of the teams responsible for developing the plans.

Finally, it was found that, in several of Spain's autonomous communities, PA promotion strategies are integrated into other structures or programs. In Asturias, Castilla and Leon, Navarre, Murcia, and in one of the modalities in both Andalusia and Aragon, the strategies are part of the European Network of Health Promoting Schools, a platform that aims to support organizations and professionals in the field of school health promotion. Other programs, in Andalusia, Castilla and Leon, the Balearic Islands, the Canary Islands, Galicia, Navarre, and Murcia, are part of the lifelong learning and innovation programs of their respective educational administrations.

Evaluation of the strategies

Another aspect we analyzed was program monitoring and evaluation. The study distinguished between processes of internal and external evaluation. In this sense, internal evaluation is performed through a series of documents and evidence of activities implemented. Andalusia, Galicia, and Murcia require the activities conducted in open formats (websites, blogs…) to be documented, although in almost all the programs the only document provided for is a final report. Additionally, various of the initiatives (25%) include an initial assessment rubric that serves as a guide for constructing the projects.

Only in some of the strategies did we identify an external monitoring mechanism that complemented those mentioned above. In the case of Aragon, the RAEPS projects are evaluated by the Advisory and Resource System for Health Education, which, as well as being tasked with training and advisory activities, also monitors the different areas of the strategy. Hence, the performance of the work team is evaluated, as are teacher engagement, family participation, and the level of the student's development of skills for life.

In Galicia and Castilla-La Mancha, two platforms have been created to supervise the projects in collaboration with the schools. In these cases, teachers receive training on test administration and the monitoring of physical and sporting habits and students' health-related physical condition. In Galicia, the results are disseminated on DAFIS (Spanish acronym for Data on the Evaluation of Healthy Physical Condition), a portal administered by the Galician Sports Foundation, while in Castilla-La Mancha, this is done on OBAFI (Spanish acronym for the Physical Activity Observatory), developed by the University of Castilla-La Mancha.

Discussion

The aim of this study was to identify and analyze the strategies currently in place across the autonomous communities of Spain for the promotion of PA among schoolchildren. A total of 17 strategies were identified, located in 14 autonomous communities, with both Andalusia and Aragon boasting more than one initiative. Thus, despite the generalized inactivity of school students noted in the introduction and the continuous calls from the public authorities and from the field of research to implement policies that seek to reverse this situation, in three regions of the country, we found no initiative that complied with our inclusion criteria.

In these cases, it is worth noting the usefulness of national policies (Mâsse et al., 2012), under which the regional administrations could find resources to develop their policies for PA promotion in schoolchildren. In this sense, some reference frameworks of recent years are of interest, such as the Comprehensive Plan for PA and Sport at School Age 2010-2020 drawn up by the Spanish Higher Council for Sport; the guidelines for developing school sports projects (Lleixá et al., 2012); the Strategic Plan for School Health and Healthy Lifestyles (2016-2020), designed by the Ministries of Health and Education, Cul-

ture, and Sport; or the more recent *Guide for Health-Promoting Schools* proposed by the Ministry of Health (2023).

Regarding the design of the strategies, the results of our study reveal a great variation of programs across the autonomous communities, with respect to the breadth and diversity of the objectives and axes of intervention. These differences have also been detected in other contexts (Messing et al., 2019) and were also pointed to in Spain, in a previous study that sought to identify the educational agents involved in school sports in the country's different regions (Arufe-Giráldez et al., 2017). This diversity of PA promotion policies should, however, be interpreted as inherent to the decentralized structure of the Spanish State and, in any event, the pre-established elements of analysis in this work facilitated the systematic comparison of the most significant aspects of the strategies

Our findings show that, in several of the initiatives, the promotion of PA is accompanied by other lines of action aimed at educational inclusion and other healthy habits typically related to diet, mental health, and the prevention of additions and eating disorders. The schools, frequently in collaboration with agents from the community, shape the strategies to impact behavioral factors of a personal, interpersonal, and contextual nature, brought together under the ecological health model in which multi-component health promotion designs are traditionally grounded (Sallis et al., 2006).

Although the scientific evidence advocates multi-component programs to achieve greater effectiveness in modifying habits, the viability of these more complex strategies must be assessed in the individual context, as teachers need to make these projects compatible with the rest of their teaching duties (Grao-Cruces et al., 2023). In fact, although multi-component designs serve as the basis for most of the strategies analyzed, the results show that, of the two intervention pathways reported by Murillo et al. (2013), the actions are mainly implemented through the non-curricular channel, with very few also involving the school PE.

Following on with the notion of multi-component designs, in a large majority of the strategies, the lines of action are developed both during and outside the school day. Thus, the strategies respond to one of the keys of models such as the *Comprehensive School Physical Activity Programs* (Webster et al., 2020), which advocate harnessing all the opportunities of the school setting to be physically active, including active commuting to school, break times, school PE itself, and complementary or extracurricular activities. Nonetheless, a few strategies, albeit a minority, situate their actions exclusively outside the school timetable. This is doubtless a space for crucial interventions to extend PA to a setting involving more autonomous participation, but it should not be disconnected from the work carried out in school and in Physical Education classes to promote an active lifestyle (Abarca et al., 2015; Murillo et al., 2013; Peiró-Velert et al., 2012).

One of the most neglected elements in the strategies overall is the inclusion of proposals specifically aimed at bolstering PA among girls, despite research continuing to underline the high rate of inactivity among female school students (Gasol Foundation, 2023; Guthold et al., 2020). In this sense, public policies to promote PA could address this problem from a gender perspective and introduce guidelines and strategies in their designs such as those proposed in reference works like the PAFIC (Spanish acronym for *Promotion of Physical Activity in Girls*) Guide (Fernández, 2010).

As regards measures to encourage the involvement and training of teachers, our results showed that the vast majority of the strategies provide for some type of incentive. The teachers' work is acknowledged as participation in in-service training and, in some cases, even as participation in educational innovation projects, which represents an incentive for teachers with a positive impact on their professional development. Furthermore, some of the strategies provide for compensatory hours, and, although less common, some also set out additional remuneration. In addition to the recognition of the teachers involved in the programs, the programs also receive financial support in more than half of the autonomous communities. Considering the progressive evolution necessary for any process of change (Carbonell, 2001; Murillo & Krichesky, 2012), both contribute to a better acceptance of the projects in their early stages and help facilitate a positive evolution in subsequent phases of implementation and experimentation. Moreover, most of the strategies provide for training activities that are highly beneficial in dealing with some of the barriers identified for the implementation of the programs (Grao-Cruces et al., 2023; Herlitz et al., 2020; Jourdan, et al., 2008).

Finally, it is worth underscoring the limited participation of agents other than the promoting entities or the educational community in advisory roles for developing and evaluating strategies. In particular, the collaboration of institutions such as universities could be considered, as they host research groups dedicated to fostering PA, which have proven successful in other contexts, such as the case of the American CATCH (Hoelscher et al., 2010) or SPARK programs (McKenzie et al., 2009).

In very few cases, one of which is Castilla-La Mancha, this collaboration has been set up to bolster the monitoring and evaluation of the programs and to overcome what is a widespread weakness of such strategies (Julián-Clemente et al., 2022). These types of collaborations could boost the success of the strategies and, as suggested by Sevil et al. (2020), could also be extended to program design and teacher training.

Conclusions

Our findings identified PA promotion strategies in most of Spain's autonomous communities, but, given the prevalent physical inactivity of schoolchildren, it is worth noting that they are not widespread in all of them. This study has highlighted some of the strengths of the strategies analyzed, such as their multi-component design, the planning of extracurricular activities, financial support, teacher training, and the recognition of teachers' work. However, the study also found certain weaknesses, such as the dearth of actions in curricular PE or the lack of specific strategies for girls, as well as the need to intensify the monitoring and evaluation mechanisms of the programs.

Author contributions

Conceptualization: AS., JV.
Formal analysis: AS., JV.
Investigation: AS., JV.
Methodology: JV.
Supervision: JV.
Writing – Original draft: AS., JV.
Writing – Review & editing: AS., JV.

Declaration of interests

Aurora Sánchez is a technical advisor to the government of Castilla-La Mancha (Spain) and Javier Valenciano is responsible for OBAFI (Spanish acronym for the *Physical Activity Observatory of Castilla-La Mancha*).

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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Annex 1

Table 1

Key elements of the autonomous communities' PA promotion strategies (1)

Autonomous community and program	Multi-component design	School PE	Extracurricular activities	Strategies aimed at girls
Andalusia Growing healthily: 3-12	✓		✓	✓
Andalusia Young and Fit	✓		✓	✓
Andalusia Andalusian Network of Health-Promoting Schools (EPSA)	✓		✓	
Aragon Aragon Network of Health-Promoting Schools (RAEPS)	✓		✓	
Aragon Active Schoolchildren, Vital Citizens.			✓	✓
Canary Islands Canary Island Network of Schools for Innovation and Quality of Sustainable Learning. Axis 3. Promoting Health and Emotional Education.	✓			
Castilla-La Mancha Healthy School Projects (PES).	✓	✓	✓	✓
Castilla and Leon Educational Innovation Project: Healthy Schools in Castilla-Leon.	✓			
Catalonia Catalan Plan for School Sport (PCEE).			✓	
Madrid Physical Activity and Sport-Promoting High Schools (IPAFD)			✓	
Navarre Network of Schools for Health	✓			
Valencia Sport, Physical Activity and Health Projects (PEAFS)			✓	
Galicia Active Life and Sport Projects (PVAD)	✓		✓	
Balearic Islands Health-Promoting Schools (CEPS)	✓			
Basque Country Projects for Promoting Physical Activity and Reducing Sedentary Lifestyles			✓	✓
Asturias Asturias Network of Physical Activity and Health-Promoting Schools (CEPAFY)	✓	✓	✓	✓
Murcia Projects for Health Education in Schools.	✓		✓	

Note. PE: Physical Education. Spanish acronyms are maintained

Annex 2

Table 2

Key elements of the autonomous communities' PA promotion strategies (2)

Autonomous Community and Program	Involvement of school and teachers			Teacher Training	Collaboration with other agents and institutions		Evaluation	
	Financial Support	Compensation for work	Recognition for professional career		Promotors of different areas	Community participation	Summaries or reports (internal evaluation)	Additional strategies (external collaboration)
Andalusia Growing healthily: 3-12.			✓	✓	✓	✓	✓	
Andalucía Young and Fit			✓	✓	✓	✓	✓	
Andalusia Andalusian Network of Health-Promoting Schools (EPSA)		✓	✓	✓	✓	✓	✓	
Aragon Aragon Network of Health-Promoting Schools (RAEPS)	✓		✓	✓		✓	✓	✓
Aragon Active Schoolchildren, Vital Citizens		✓				✓	✓	
Canarias Islands Canary Island Network of Schools for Innovation and Quality of Sustainable Learning. Axis 3. Promoting health and emotional education		✓	✓	✓		✓	✓	
Castilla-La Mancha Healthy School Projects (PES)	✓	✓	✓	✓		✓	✓	✓
Castilla and Leon Educational Innovation Project: Healthy Schools in Castilla-Leon.			✓	✓		✓	✓	
Catalonia Catalan Plan for School Sport (PCEE)	✓	✓	✓	✓		✓	✓	
Madrid Physical Activity and Sport-Promoting High Schools (IPAFD)	✓	✓			✓	✓	✓	
Navarre Network of Schools for Health.	✓	✓	✓	✓		✓	✓	

Table 2 (continued)

Autonomous Community and Program	Involvement of school and teachers			Teacher Training	Collaboration with other agents and institutions		Evaluation	
	Financial Support	Compensation for work	Recognition for professional career		Promotors of different areas	Community participation	Summaries or reports (internal evaluation)	Additional strategies (external collaboration)
Valencia Sport, Physical Activity and Health Projects (PEAFS)	✓	✓	✓	✓		✓	✓	
Galicia Active Life and Sport Projects (PVAD).			✓	✓	✓	✓	✓	✓
Balearic Islands Health-Promoting Schools (CEPS)	✓		✓	✓	✓	✓	✓	
Basque Country Projects for Promoting Physical Activity and Reducing Sedentary Lifestyles	✓			✓		✓	✓	
Asturias Asturias Network of Physical Activity and Health-Promoting Schools (CEPAFY).	✓	✓	✓	✓		✓	✓	
Murcia Projects for Health Education in Schools.	✓	✓		✓	✓	✓	✓	