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Think Globally, Act Locally: A Glocal Approach Based on the Regional Report Cards From Spain in the AHKGA Global Matrix 4.0

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ABSTRACT

Background: The Global Matrix initiative aims to create a world map of indicators related to physical activity to provide the most up-to-date information for decision-making. In the latest edition, three regions from Spain joined the initiative, based on a 'glocal' approach. The objectives of this study were (i) to compare the grades of the Report Card and the public policies between and within the Spanish regions and with the national Report Card; (ii) to evaluate sex differences; and (iii) to identify differences in the policy priorities between regions and the national policy.

Methods: The three regions studied and the country followed a harmonized process to develop a Report Card. The common physical activity indicators included in the Global Matrix 4.0 were analysed. The Government indicator was analysed using an approved methodology. Additionally, sex-specific information was provided. Report Card leaders provided the main priorities to improve the indicators included in the analysis, and a comparison by indicator was performed.

Results: Regional differences were observed in the grades assigned to the behavioural indicators included; however, the average grades were similar, with Extremadura showing the lowest average. Grades for the sources of influence indicators differed in the analysed Report Cards.

Conclusion: Regional Report Cards analysed in Spain differ among themselves, with similar average grades in the behavioural indicators. These identified regional differences could lead to a more 'glocal' approach that will allow for more efficient action at the local level.

Summary

- Variations in physical activity indicators among regions emphasize the need for customized solutions to address different regional challenges.
- Access to comprehensive regional data is essential for accurately grading indicators and implementing targeted actions at the local level.
- Improved data availability on a regional scale will improve decision-making and policy effectiveness.
- Differences in priorities reflect the need for tailored strategies that address local realities.

1 | Introduction

Physical activity (PA) surveillance is important for the health and well-being of children and adolescents because it can lead to better public health policy, raise awareness of physical inactivity and promote the health benefits of PA (Reilly, Aubert, et al. 2022). Accurate tracking of PA and sedentary behaviour is crucial to advancing public health (Jones et al. 2013), contributing to disease prevention (Chaput et al. 2020) and helping to reduce the cost of healthcare systems around the world (Santos et al. 2022). The global prevalence of children and adolescents aged 5 to 17 years who meet the PA guidelines is indeed low, as indicated by various studies in different regions. This trend is consistent between the two sexes, with less than 20% of males and females adhering to the recommended levels of PA (Aubert, Brazo-Sayavera, et al. 2021; Guthold et al. 2020). Given the significant role that physical inactivity plays in the onset of numerous diseases, it is considered a pandemic (Kohl et al. 2012).

The Global Matrix (GM) initiative aims to assess and compare the PA of children and adolescents around the world, primarily focused on national Report Cards (RC) (Tremblay et al. 2022). This initiative is based on the concept "Glocal", which considers joining local efforts (in this case at the national level) to provide global insights (Kickbusch 1999). Additionally, the third edition of this initiative included 49 countries (Aubert, Barnes, et al. 2018), the highest number up to that point, and there was growing interest from more countries. However, before the fourth edition of the GM, no countries had regional RCs and national RCs from the same country. Though regional differences within countries were sometimes highlighted, such as Belgium-Flanders (Seghers et al. 2018). After applying to join the GM 4.0 initiative as regions rather than as countries, the Active Healthy Kids Global Alliance allowed the Spanish regions Basque Country, Extremadura, and the Region of Murcia to participate in the Global Matrix 4.0. This expansion of participation meant that these regions have been included in the assessment and comparison of PA levels among children and adolescents worldwide (Aubert, Barnes, et al. 2022). By including these regions, the GM initiative provides a more comprehensive and representative picture of PA patterns and trends, expanding the 'Glocal' concept (Kickbusch 1999) to the regional level, which is necessary to ensure efficient and equitable health outcomes in the implementation of international recommendations (Azazh et al. 2025). Furthermore, acting at the local/regional level is crucial to tackling the physical inactivity pandemic because local actions can lead to global impact, tailored interventions and community involvement (Hernández et al. 2023).

Some countries have a federal organization that allows regional parliaments to manage delegated competencies from the national government. This fact could influence lifestyles, as some of these competencies are related to education and health (Avanzas et al. 2017). Furthermore, climate and cultural differences between regions in some countries can also influence lifestyles (Bernard et al. 2021; Oyibo et al. 2018) and the percentage of immigrants living in different regions of a country (Huete et al. 2013). By analysing the regional data of Spanish RCs, we can raise public awareness of the importance of PA for children and adolescents and the need to improve their levels of activity at the local/regional level because Spain has regional legislation that affects PA and related behaviours and outcomes. Additionally, a comparative analysis at the regional level could lead to identifying possible public health problems or solutions that should be addressed differently depending on the region.

Finally, by analysing the regional data of the Spanish RCs, we can identify the strengths and weaknesses of the PA levels of children and adolescents in different regions of Spain and probably reduce inequalities or identify best practices that will allow us to improve PA in this population. This analysis can inform policy and practice to improve PA levels in children and adolescents with a customized approach in Spain or other countries with a similar regional structure. Therefore, the aims were (i) to compare the RC grades and public policies between and within Spanish regions and with the national RC; (ii) to evaluate the sex differences; and (iii) to identify differences in policy priorities between regions and national policy.

2 | Methodology

The process for developing the RCs included in the current comparison was harmonized in the GM 4.0 initiative. Each region established a research team to synthesize and evaluate the best available evidence, assign initial grades and consult with relevant stakeholders. Each region is in a different latitude within the country (Figure 1).

The 10 required common indicators were evaluated, including five behavioural indicators (Overall Physical Activity, Organized Sport and Physical Activity, Active Play, Active Transportation, Sedentary Behaviour), four sources of influence indicators (Family and Peers, School, Community and Environment, and Government), and an outcome indicator (Physical Fitness). Additional indicators were added in some regions. Letter grades were assigned to the indicators based on predefined benchmarks and a grading rubric and converted to numerical scales (Aubert, Barnes, et al. 2022). The average score for each region and indicator was calculated, and overall scores were computed as the average of numerical scores for all indicators.

The sociodemographic characteristics of each region were obtained from different sources as follows:

FIGURE 1 | Map of Spain with the included regions.

- Population—Population and percentage of rural (≤10000 habitants) and urban (>10000 habitants) population by region; (National Institute of Statistics 2024)
- Area—Surface and altimetry; (National Institute of Statistics 1994)
- Gini index—Regional (National Institute of Statistics 2021) and National; (World Bank 2021)
- Unemployment rate—Regional and national data; (National Institute of Statistics 2022d)
- Gross domestic product—National and regional data; (National Institute of Statistics 2022a)
- Percentage of immigrants—Foreign population by region; (National Institute of Statistics 2022c)
- Human Development Index—Subnational HDI. (Global Data Lab 2021)

The climate parameters (mean temperature and rainfall) were collected from national statistics considering the official weather station locations for the regions, i.e., Basque Country (Bilbao Airport), Extremadura (Badajoz Airport), Region of Murcia (San Javier Airport) (AEMET 2024). Air pollutants (particulate matter (PM) 2.5 concentration, $\mu g/m^3$) were collected from the National Statistics Institute (National Institute of Statistics 2022b).

To analyse the Government indicator, the RC teams were asked to provide an analysis based on Ward et al. (2021). Therefore, different criteria were analysed in addition to the final grade.

To go beyond the data collected from the RCs, a survey was distributed to RC leaders, asking them to provide their top three priorities for each indicator included in the Global Matrix. This method enables a comprehensive understanding of the priorities set by the RC leaders, showing the strategic directions for each indicator.

The evidence was synthesized using grades from the different RCs released in Spain. First, a comparison was made between the regions and the national RC, and for those indicators and the average of indicators with grades from all RCs (i.e., Sport Participation, Sedentary Behaviour, and Behavioural Average), a rank was created. Additionally, RCs displayed indicators with grades by sex to compare males and females from the same RC as well as differences with other RCs.

Once the grades had been compared among the RCs, the RC with the highest grade was used as a reference, and the RC team was asked about the lessons learned for the specific indicator.

3 | Results

Table 1 shows demographic, socioeconomic, climate and pollution indicators from the regions analysed and at the country level. There are marked demographic and climatic differences between regions. The population in the Basque Country is double the population in Extremadura, while Extremadura has the largest area. The Basque Country has the highest population density, with Extremadura being the lowest, with a different distribution of rural/urban population. The Region of Murcia has the highest percentage of immigrants, higher than the national percentage, with Extremadura having the lowest. All regions are considered to have a high level of HDI; however, they vary in HDI, with the lowest in Extremadura. The Gini Index is similar in all regions and below the value observed in Spain nationally. In terms of economy, Extremadura has the highest unemployment rate and the lowest gross domestic product, while the Basque Country has the lowest. Concerning climate, the Region of Murcia has the highest mean temperature and the lowest annual rainfall, with the Basque Country having the lowest mean temperature and the highest rainfall. Extremadura has the lowest values for air pollution.

Table 2 shows a comparison of grades among regions and countries for all indicators. Although only sedentary behaviour and school indicators have the same grade for more than one RC, the Behavioural Average shows the same grade for Basque Country, Region of Murcia and Spain (C+). It is relevant to highlight that the sources of influence have different average grades, with insufficient information for the Basque Country.

Considering the HDI ranking of all the territories analysed in the current study, the Basque Country was ranked first for the Sedentary Behaviour indicator and for the Behavioural Average, which was the same for the other two RCs. The Spanish RC was ranked first for the Sport Participation indicator, while the Basque Country was ranked third.

The analysis of public policies by RC is included in Table 3, with only three RCs reporting the specific criterion. The Spanish RC obtained the highest score, with Extremadura and Region of Murcia at the same level. Extremadura RC has reported a different grade using this methodology compared to the grade reported using the consensus of experts.

Table 4 shows the sex analysis by region, including only information from the Basque Country and Extremadura. Most of the indicators were graded with INC. Only four indicators were comparable by sex. In this sense, females showed lower grades on PA-related indicators compared to males. However, for the Sedentary Behaviour indicator, the grade was the same in the regional RCs of the Basque Country and Extremadura, while at the national level the grade was higher for females than for males.

Table 5 shows a summary of the priorities reported by the RC leaders, with a comparison among the RCs analysed in the current study. For the Overall PA indicator, the different regions consider different priorities. Only "to implement PA every school day in the school setting" was supported by three out of four RCs. For the Sport Participation indicator, the only priority supported by three of four RCs was "to increase sport programs including a wider diversity of physical activities" and only the Region of Murcia considered "to encourage women's participation in sport" among their three main priorities for this indicator. For the Active Play indicator, there is more consistency, with "to create safe environments for active play" supported by all RCs. For the Active Transportation indicator, there are two priorities shared by three out of four RCs, but again with different approaches between regions. All the RCs coincide that "to disseminate the risk of screen overuse" must be prioritized to improve the Sedentary Behaviour indicator. For the Physical Fitness indicator, there is a wide range of priorities distributed among the RCs analysed, with only "to implement a surveillance system ..." being supported by three out of four RCs. Regarding the Family and Peers indicator, the analysis shows

TABLE 1 | General characteristics of the different regions analysed.

Indicator	Basque Country	Extremadura	Region of Murcia	Spain
Population	2 213 993	1 059 501	1 518 486	48 345 223
Rural/urban distribution (%)	18.9/81.1	50.2/49.8	3.8/96.2	20.2/79.8
Area (km^2)	7234	41 634	11 314	505 990
Population density (ppl/km^2)	306	25	134	95
Percentage of immigrants	8.32	3.31	14.79	11.62
HDI	0.932	0.867	0.882	0.904
Gini index	31.3	31.1	31.7	34.9
Unemployment rate (%)	9.8	19.5	14.3	14.8
Gross domestic product (€ per person)	32 925	19 072	21 236	25 498
Mean temperature (°C)	14.7	17.1	17.6	15.4
Annual rainfall (mm)	1.134	447	313	536
Air pollutant (PM2.5 μg/m^3)	13.0	8.1	13.0	12.0

Note: Population, Rural/urban distribution, HDI, and Gross domestic product data are from 2021. Area data from 1994. Gini Index and unemployment rate data are from 2020.
Abbreviations: PM2.5 = particulate matter 2.5; Ppl/km^2 = people per square kilometre.

TABLE 2 | Spanish Matrix of physical activity indicators on children and adolescents from the Global Matrix 4.0.

Indicator	Basque Country	Extremadura	Region of Murcia	Spain
Overall Physical Activity	INC	F	D	B−
Sport Participation	B−	D+	B	B+
Active Play	INC	INC	B+	B−
Active Transportation	C+	INC	B	B−
Sedentary Behaviour	B−	D	D+	D
Physical Fitness	INC	C+	D−	C−
Family and Peers	INC	A	C	B−
School	INC	C+	C+	C−
Community and Built Environment	INC	B	D+	B
Government	INC	C−	D	C
Behavioural Average	C+	D−	C+	C+
Sources of influence average	INC	B−	C−	C+

Ranking

Report card	HDI	Sport Participation	Sedentary Behaviour	Behavioural average
Basque Country	0.932	3	1	1
Spain	0.904	1	3	1
Region of Murcia	0.882	2	2	1
Extremadura	0.867	4	3	2

Note: A, B, C, D, F: Grades assigned.
Abbreviation: INC = incomplete grade.

TABLE 3 | Physical activity promotion policies by region.

Criterion	BC	E	RM	SP
Policies/strategies/action plans that reference physical activity	N/A	2	4	5
Strategic documents with specific actions that promote physical activity	N/A	2	8	6
Discreet organizations specifically identified as responsible for the delivery of actions	N/A	25	15	15
Strategic documents with explicit reporting systems including frequency and format of reports	N/A	0	3	15
Explicit references to funding to support identified actions	N/A	0	0	0
Explicit reference to monitoring and evaluation of progress and impact of the policy	N/A	0	0	7.5
Total score	N/A	29	30	48.5

Note: Data showed based on the scoring rubric published by Ward et al. (2021).
Abbreviations: BC = Basque Country; E = Extremadura; N/A = not applicable; RM = Region of Murcia; S = Spain.

a lot of differences among the RCs analysed because all the priorities listed are identified only by a maximum of two RCs. The School indicator also shows differences, but "to implement approaches to increase PA practice in the school setting ..." was supported by three out of four RCs. The Community and Built Environment indicator shows a complete agreement on the priority "to create new policies that support equitable use of public spaces". The Government indicator is the one with more differences among the RCs included in the current analysis, showing different directions in terms of public policy priorities according to the different RC leaders.

4 | Discussion

The current study aimed to compare four RCs developed in Spain, three of which originated in different regions. The main findings reveal that the different regions within the same country exhibited diversity in the grades assigned to behavioural indicators, although most of them showed the same average number of behavioural indicators. Additionally, the regions displayed different grades and averages for the sources of influence. These results highlight the importance of considering an additional level of surveillance of PA-related

TABLE 4 | Sex analysis of physical activity indicators by region.

	Basque Country		Extremadura		Region of Murcia		Spain	
Indicator	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
OPA	INC	INC	F	D−	—	—	D	C−
SP	B−	B	D	C	—	—	B	B+
AP	INC	INC	INC	INC	—	—	C+	B
AT	B−	C+	INC	INC	—	—	C+	B−
SB	B−	B−	D	D	—	—	C	D
PF	INC	INC	D+	C−	—	—	INC	INC
F&P	INC	INC	INC	INC	—	—	B+	C
SCH	INC	INC	INC	INC	—	—	INC	INC
C&E	INC	INC	INC	INC	—	—	INC	INC
GOV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Abbreviations: AP = Active Play; AT = Active Transportation; C&E = Community and Environment; F&P = Family and Peers; GOV = Government; N/A = Not applicable; OPA = Overall Physical Activity; PF = Physical Fitness; SB = Sedentary Behaviour; SCH = School; SP = Organized Sport and Physical Activity.

indicators in children and adolescents, the local level, that considers end-users to implement international policies or recommendations to improve health systems (Azazh et al. 2025). In particular, Extremadura showed the lowest average grade for behavioural indicators, which coincides with being the region with the highest unemployment rate and the lowest Gross Domestic Product.

The regions included in the fourth edition of the Global Matrix were different in terms of sociodemographic characteristics, and they are in distanced locations inside the same country. These characteristics could be related to the differences identified in the average for the sources of influence between the different RCs. Therefore, since regional differences could affect the quality of life of the population in Spain (de Maya Matallana et al. 2022), it was expected that different grades would be identified for the same indicator in the RCs analysed. However, all RCs showed similar averages in the behavioural indicators (i.e., between C+ and D−) although they differed in most individual indicators. Nevertheless, the differences observed in the assigned grades could be due to different cultural aspects instead of socioeconomic characteristics, as has been reported in children from Switzerland (Bringolf-Isler et al. 2015). Thus, regional sociocultural differences could be an important correlate of PA and sedentary behaviour in children (Leeger-Aschmann et al. 2016), making local specific actions necessary to improve these indicators. A more 'glocal' approach, considering regions or even cities (i.e., there are cities with more population than countries), could provide a broader perspective and potential solutions by applying the Global Matrix methodology for surveillance of PA-related indicators. This approach combines global standards with local contexts, allowing for a more nuanced understanding of PA patterns and influencing factors, as has been successfully implemented in other sectors (Sharma and Cotton 2021). By adapting global methodologies to local circumstances, researchers and policy makers could gain deeper insight into region-specific challenges and opportunities related to PA promotion.

It is also relevant to highlight the lack of information reported by the Basque Country that should be derived from increasing evidence in the future. This situation has also been observed in some small countries with very high HDI in the previous edition of the Global Matrix initiative (Aubert, Barnes, et al. 2018); however, the explanation for this lack of information is unknown.

Regional policy differences were observed in the criteria analysed with the scoring rubric (Ward et al. 2021), while the two regions that provided this information presented a similar total score. In addition, the national RC showed a general and criterion difference with the regions. Spain has a federal distribution and delegated responsibilities in different areas, such as education or health services (Avanzas et al. 2017). Furthermore, most of the Spanish regions have a health plan that includes actions related to PA; however, the heterogeneity of these plans has been highlighted (Rial-Vázquez et al. 2023).

The reported differences in sex grades have been observed in other RCs participating in previous editions of the Global Matrix initiative (Reilly, Barnes, et al. 2022). This gap represents a relevant concern for the scientific community, and global solutions have been suggested (Guthold et al. 2022). Among the possible reasons for the sex gap identified in a recent study (Ricardo et al. 2022), including 64 countries from the Global South, a combination of the highest HDI and lowest Gender Inequality Index presented greater sex differences. However, the Active Transportation indicator in the Basque Country RC represents an exception, favourable for females, because this region has a high HDI and is at the top of the regions with lower sex differences (Gil-Lafuente et al. 2019). Therefore, it is hypothesized that there is some progress in this region in empowerment that could explain this result (Zabala et al. 2020).

The Sedentary Behaviour indicator was graded higher for females than for males. Although there are countries where the sex difference in this indicator is favourable for males, there are

TABLE 5 | Priorities to improve the indicators.

Indicator	Priority	BC	E	RM	SP
OPA	To address the lack of information on PA in children and adolescents	✓		✓	
	To join efforts from different governmental departments (i.e., education, health, physical activity ...) to increase PA practice	✓			✓
	To involve families in PA for children and adolescents	✓		✓	
	To implement PA every school day at school setting		✓	✓	✓
	To implement school routes to go to school and back home		✓		
	To implement PA programs to promote leisure-time PA in children and adolescents		✓		✓
SP	To improve data quality about organized sports participation in children and adolescents	✓		✓	
	To improve the training of sports instructors	✓			
	To increase the sports programs including a wider diversity of physical activities	✓		✓	✓
	To work with schools to increase motor competence and motivation to engage in sport participation		✓		✓
	To sign collaboration agreements between sports federations and schools to provide information about their activities		✓		
	To provide opportunities to try different sports before choosing one		✓		✓
	To encourage women's participation in sport			✓	
AP	To address the lack of information on active play in children and adolescents	✓	✓	✓	
	To promote the relevance of active play in the community	✓	✓		
	To create safe environments for active play	✓	✓	✓	✓
	To increase research on active play's impact on the population			✓	✓
	To implement programs to increase active play in the family setting				✓
AT	To improve data quality about active transportation in children and adolescents	✓			
	To redistribute cities to increase active transport opportunities and safety	✓	✓		✓
	To promote actions (i.e., programs) at the governmental level or family level to increase active commuting to school/home	✓	✓	✓	
	To encourage (e.g., awards) children and adolescents who commute actively		✓	✓	
	To promote studies that evaluate the impact of active commuting on children and adolescents			✓	✓
	To disseminate the importance of active commuting for health				✓
SB	To improve data quality about sedentary behaviour in children and adolescents	✓			
	To act in school settings to reduce sitting time	✓	✓		
	To disseminate the risks of screen overuse	✓	✓	✓	✓
	To implement actions to control time spent with electronic devices in the family setting		✓	✓	✓
	To provide an offer of alternatives to sedentary screen time			✓	✓
PF	To address the lack of information on physical fitness in children and adolescents	✓			
	To implement a surveillance system (or a research project) on physical fitness in children and adolescents	✓		✓	✓
	To involve schools in the PA promotion to increase physical fitness level	✓			✓
	To promote engagement in sport-related activities to increase physical fitness		✓		
	To promote meeting the recommended amount of PA for children and adolescents		✓		✓
	To disseminate sport-related activities to increase awareness of its presence in the community		✓		
	To increase awareness of the benefits of physical fitness in children and adolescents			✓	
	To set up specific cut-off points for physical fitness in children and adolescents			✓	

(Continues)

TABLE 5 | (Continued)

Indicator	Priority	BC	E	RM	SP
F&P	To address the lack of information on PA related to family in children and adolescents	✓		✓	
	To include families in the provision of sport-related activities or in school settings	✓	✓		
	To consider equity criteria in the sports programs offer	✓			
	To make families aware of the relevance of practicing PA within the family		✓		✓
	To encourage parents' schools' associations to organize regular physical activities		✓		
	To create specific programs for family participation in PA			✓	✓
	To increase the offer of movement-based activities for families			✓	✓
SCH	To address the lack of information on PA related to school in children and adolescents	✓			
	To implement approaches to increase PA practice in school settings (i.e., whole-of-school approach)	✓		✓	✓
	To provide more relevance to the Physical Education teacher and increase their knowledge on transversal PA in school settings	✓	✓		
	To create new policies to include compulsory PA every day at school		✓		✓
	To improve sports facilities or modify the current structure in school settings		✓	✓	
	To allow school facility use during extracurricular time			✓	✓
C&E	To address the lack of information on PA related to community and environment in children and adolescents	✓			
	To join efforts from different governmental departments (i.e., education, health, physical activity ...) to use PA practice to reduce the impact on the environment	✓			
	To create new policies that support equitable use of public spaces	✓	✓	✓	✓
	To promote the concept of "healthy cities"		✓		
	To involve the community in active commuting		✓		✓
	To improve safety and access to sports facilities at the community level			✓	✓
	To build new facilities at the community level			✓	
GOV	To make more accessible information about the government indicator (i.e., policies, budgets, programs, etc.)	✓		✓	
	To create new sports laws that support undoubtedly PA practice	✓			
	To include PA as a transversal criterion for all policies	✓			
	To create new policies based on active commuting		✓		
	To review educational policies to consider the role of PA in the school schedule more		✓		
	To create citizen platforms that push decision-makers to promote PA in children and adolescents		✓		✓
	To increase the investment in PA research and public policies			✓	
	To improve surveillance of PA-related indicators			✓	✓
	To join efforts from different governmental departments (i.e., education, health, physical activity ...) to promote a multidisciplinary work with all agents involved in the creation of public policies that affect PA				✓

Abbreviations: AP = Active Play; AT = Active Transportation; BC = Basque Country; C&E = Community and Environment; E = Extremadura; F&P = Family and Peers; GOV = Government; OPA = Overall Physical Activity; PF = Physical Fitness; RM = Region of Murcia; S = Spain; SB = Sedentary Behaviour; SCH = School; SP = Organized Sport and Physical Activity.

other countries with a favourable prevalence of meeting the international guidelines for females (Brazo-Sayavera et al. 2021), as observed in Spain. The preference for sedentary activities could be the reason for these differences (Taverno Ross et al. 2013).

The favourable sex differences for females observed in the "Family and Peers" indicator, showing that females were supported more than males, agree with previous studies that explain how females may be more susceptible to being influenced by parental support than males (Hong et al. 2020). Furthermore,

children are more physically active when their fathers supervise them (Peral-Suárez et al. 2020).

To the best of our knowledge, this is one of the few studies that analyses the priorities reported by RC leaders, achieving agreement on different topics such as school and after-school PA and sports programs, safe and equitable environments for PA, increasing awareness of screen abuse or implementing a fitness surveillance system. However, there is heterogeneity in the priorities for some indicators such as Family and Peers or Government.

In the comparison of Asian RCs participating in the Global Matrix 4.0 (Huang et al. 2022), some of the countries included in the analysis considered the common priorities identified in Spanish RCs, specifically related to school and after-school PA and sports programs, infrastructure and awareness of sedentary behaviour. Furthermore, since the priorities were focused on improving the Overall PA indicator, none of the RCs considered implementing a physical fitness surveillance system among their priorities. This could be because some countries already have a physical fitness surveillance system (Brazo-Sayavera et al. 2024) and the necessity of creating a PA surveillance system as proposed by Singapore or Vietnam (Huang et al. 2022). However, the implementation of physical fitness surveillance systems represents a priority for progress in this indicator (Lang et al. 2023).

The observed heterogeneity in government indicator priorities could be attributed to the importance of acting at the local level to improve PA and reduce sedentary behaviour in children. This localized approach is necessary due to regional differences that may influence these behaviours (Leeger-Aschmann et al. 2016). Regional variations in socioeconomic factors, infrastructure and cultural norms could significantly impact children's PA levels and sedentary habits, necessitating tailored interventions (Sharma and Cotton 2021). However, public policies implemented in Spain at the regional level to reduce the prevalence of excess weight in children have limited capacity, impacting only medium and high socioeconomic status families (Carmona-Rosado and Zapata-Moya 2022).

This study presents some strengths and limitations that should be acknowledged. First, as strengths, this is the first study that analyses RCs on PA-related indicators from the Global Matrix initiative at the regional level, including regions from the same country. This approach could represent a valuable new perspective for researchers and decision-makers, as it allows them to understand the specific situation in their regions (particularly in federal systems), while enabling comparisons with other regions or countries. By following the standardized methodology proposed by the Global Matrix initiative (Tremblay et al. 2022), stakeholders can act at the local level with a global context in mind (Sharma and Cotton 2021). Among the limitations, the Basque Country region only has data for eight of the 12 indicators, which limits its comparison with the rest; this also occurs to a lesser extent with Extremadura, which has two indicators without data; moreover, there were indicators without information by gender, which also limited the comparison. In addition, a SES analysis of data would improve the understanding of the results. Finally, the climatological data reported could be affected by the ecological fallacy bias because they were taken from a specific location, which could not represent the whole region.

5 | Conclusions

The regional and national RCs analysed in the Spanish context are different with respect to sociodemographic data. Also, they present differences in the indicators examined in the Global Matrix framework; however, the Behavioural Average grade was the same for the Basque Country, Region of Murcia and Spain (C+), with a lower grade for Extremadura (D−).

The regional differences observed in this study could support the development of region-specific RCs, allowing a more nuanced understanding of PA-related indicators. By adopting a 'glocal' approach, stakeholders can simultaneously address local contexts while maintaining comparability with broader regional or national standards. This methodology allows targeted interventions that consider the unique characteristics of each region, bridging global perspectives with local insights.

Author Contributions

Javier Brazo-Sayavera: conceptualization; methodology; data curation; formal analysis; writing – original draft; writing – review and editing. José Carmelo Adsuar: conceptualization; investigation; writing – original draft; writing – review and editing. Neritzel Albisua-Kaperotxipi: conceptualization; investigation; writing – original draft; writing – review and editing. Susana Aznar: conceptualization; investigation; writing – original draft; writing – review and editing. José Francisco López-Gil: conceptualization; investigation; writing – original draft; writing – review and editing. Laura Muñoz Bermejo: conceptualization; investigation; writing – original draft; writing – review and editing. Jorge Pérez-Gómez: conceptualization; investigation; writing – original draft; writing – review and editing. Blanca Román-Viñas: conceptualization; investigation; writing – original draft; writing – review and editing. John J. Reilly: conceptualization; supervision; writing – original draft; writing – review and editing.

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Ethics Statement

The authors have nothing to report.

Conflicts of Interest

Javier Brazo-Sayavera is a member of the board of the Active Healthy Kids Global Alliance. The rest of the authors declare that they have no competing interests.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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