

Results From Spain's 2022 Para Report Cards on Physical Activity of Children and Adolescents With Disabilities

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This report aims to provide a better understanding of physical activity (PA) and related factors among Spanish children and adolescents living with disabilities. The 10 indicators used for the Global Matrix on Para Report Cards of children and adolescents living with disabilities were evaluated based on the best available data in Spain. An analysis of strengths, weaknesses, opportunities, and threats based on data provision was drafted by three experts and critically reviewed by the authorship team to provide a national perspective for each evaluated indicator. Government was the indicator with the highest grade (C+), followed

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by Sedentary Behaviors (C–), School (D), Overall PA (D–), and Community & Environment (F). The remaining indicators received an incomplete grade. There were low levels of PA in Spanish children and adolescents living with disabilities. Yet, opportunities to improve the current surveillance of PA among this population exist.

Keywords: youth, surveillance, sedentary behavior, physical fitness, public policy

In Spain, 1.5% and 2.8% of boys and girls aged 6–15 years live with disabilities (Ministry of Health, Consumer Affairs and Social Welfare, 2018). Spanish people living with disabilities present a higher risk of social exclusion in comparison with people without disabilities (Díaz Velázquez et al., 2018). A recent study including a representative sample of 3,772 Spanish children and adolescents found that only 26.4% engaged in daily physical activity (PA; without disaggregation by disability status; López-Gil et al., 2022). Specific studies related to PA in children and adolescents living with disabilities (CAWD) are scarce in Spain. There is a need for a national action plan to provide opportunities to increase PA participation among Spanish CAWD, and its monitoring and evaluation, which could influence involvement in sports and PA. The Para Report Card for CAWD (Ng et al., in press) extended the Active Healthy Global Kids Alliance (AHKGA) Global Matrix methodology and provides a feasible approach to evaluate the characteristics of PA among Spanish CAWD based on the best available data. Therefore, the aim of this report is to provide a national evaluation and a better understanding of the PA and its related factors among Spanish CAWD.

Methods

Spain's 2022 Para Report Card on PA of CAWD followed the adapted methodology of the AHKGA to evaluate 10 PA indicators in school-aged children and adolescents (aged 5–17 years). These indicators include five individual behavioral indicators (Overall PA, Organized Sport Participation, Active Play, Active Transportation, and Sedentary Behaviors), four sources of social and environmental influence indicators (Family & Peers, School, Community & Environment, and Government), and a health-related characteristic (Physical Fitness; Aubert et al., 2022). The search was conducted in PubMed, Scopus, Web of Science, Google Scholar, and public data from the Spanish government of all studies up until 2021. Information assessed in the Spanish 2022 Para Report Card on PA of CAWD can be found in [Supplementary File S1](#) (available online). The grading process was carried out using the same grading rubric proposed by the AHKGA as cutoff points (Aubert et al., 2022) and the adapted benchmarks for CAWD proposed by Ng et al. (under review). Two external reviewers audited and approved all the grades after two rounds of reviews. The authorship team of this report was composed of 10 experts (nine local and one international). An analysis of strengths, weaknesses, opportunities, and threats (SWOT) was performed, based exclusively on data provision, to provide perspectives on Spanish CAWD for each indicator ([Supplementary File S2](#) [available online]). This SWOT analysis was initially drafted by three experts (two local and one international) and then critically

reviewed by the authorship team. [Supplementary File S3](#) (available online) includes information about the Spanish team recruited.

Results and Discussion

In contrast to the previous Spanish Report Card ([Roman-Viñas et al., 2018](#)), this current report is the first focused specifically on CAWD in Spain and provides a national overview of PA and health among these children and adolescents. The grades for all indicators ranged from incomplete (INC) to C+. The Government indicator received the highest grade (C+) and the Community & Environment received the lowest (F) among assigned grades. The Sedentary Behaviors indicator obtained a C– grade, the Overall PA indicator received a D–, and the School indicator a D. An INC grade was assigned to Organized Sport Participation, Active Play, Active Transportation, Physical Fitness, and Family & Peers because of insufficient data. The grades for each indicator are shown in Table 1.

Strengths

Regarding the Overall PA and the Sedentary Behaviors indicators, there were enough data in Spain to assign grades to these indicators among CAWD. Furthermore, the Spanish National Health Survey ([Ministry of Health, Consumer Affairs and Social Welfare, 2018](#)) included data on PA and Sedentary Behavior for a total of 241 CAWD (aged 3–14 years; i.e., epilepsy, behavioral disorders, mood disorders, autism, and injuries or impairments caused by an accident; [Ministry of Health, Consumer Affairs and Social Welfare, 2018](#)). In addition, the White Book on Sport for People Living with Disabilities in Spain provides updated information on sport participation by people living with disabilities to improve access, extension, and enjoyment of sports as a basic social good for all people ([Díaz Velázquez et al.,](#)

Table 1 Results From Spain’s 2022 Report Card on PA for CAWD

Indicator	Grade	Results
Overall PA	D–	<p>The Spanish National Health Survey data include a total of 241 CAWD (aged 3–14 years; i.e., epilepsy, behavioral disorders, mood disorders, autism, and injuries or impairments caused by an accident). Thus, 27.4% engaged in PA (Ministry of Health, Consumer Affairs and Social Welfare, 2018).</p> <p>Another study found that only 22 (22%) of adolescents with Down syndrome met the PA guidelines at baseline, and 21 (23%) at 1-year follow-up and 15 (17%) at 2-year follow-up visits (Izquierdo-Gomez et al., 2017).</p> <p>Furthermore, another study showed that none of the adolescents with Down syndrome achieved at least 60 min of moderate PA daily (Matute-Llorente et al., 2013).</p>
Organized Sport Participation	INC	There are currently no official data on the practice of sport by CAWD at national level.

(continued)

Table 1 (continued)

Indicator	Grade	Results
Active Play	INC	Active Play indicator could not be evaluated due to the scarcity of data on this indicator.
Active Transportation	INC	No studies were found with regard to active transportation by CAWD in Spain.
Sedentary Behaviors	C–	The Spanish National Health Survey data include a total of 239 CAWD (aged 2–14 years; i.e., epilepsy, behavioral disorders, mood disorders, autism, injuries, or impairments caused by an accident). Thus, 41.4% met with the international screen time recommendations.
Physical Fitness	INC	Due to the disparity of the methodologies applied in the studies found and the lack of studies on other disabilities, it was not possible to grade this indicator.
Family & Peers	INC	<p>Only 38.7% of parents were identified as being adherent to frequency per week and duration per session (home exercise programs; Medina-Mirapeix et al., 2017). In relation to previous contact with people living with disabilities, the results show that students who have a family member or friend with a disability, or who have participated in a sporting activity with people living with disabilities, have better attitudes toward disability than students whose only contact has been as a classmate or in physical education (Abellán et al., 2017).</p> <p>Variables in the family domain (i.e., presence of siblings and parents' PA) may be related to the PA levels of children with autism spectrum disorder (Salvador-García et al., 2022).</p> <p>Parental support, TV viewing time with siblings, and TV viewing time with friends were positively associated with levels of PA, and the father PA was negatively associated with levels of PA as modifiable correlates in young people with Down syndrome (Izquierdo-Gomez et al., 2015).</p>
School	D	Regarding the availability of resources for PA, around 90% of schools have outdoor recreation areas and 80% have indoor gymnasiums. Outside school hours, almost eight out of 10 schools allow the use of outdoor areas to young people, but only three out of 10 allow the use of gymnasiums. ^a
Community & Environment	F	Less than two out of 10 Spanish sports facilities are fully accessible for use by people living with disabilities (Gallardo et al., 2009).
Government	C+	According to the scoring rubric proposed by Ward et al. (2021), ^b this indicator obtained 58 out of 100 points.

Note. CAWD=children and adolescents living with disabilities; INC=incomplete; PA=physical activity.

^aThis study included a nationally representative sample without disaggregation by disability status, so the information is not exclusively from children living with disabilities. ^bThis tool only assessed information related to CAWD.

2018). This book provides an exhaustive analysis of the situation and with proposals for action in terms of public policies and strategies.

Weaknesses

The main weakness was the limited number of studies and information on PA-related indicators in Spanish CAWD resulting in half of the indicators graded as INC. Regarding the School indicator, the ALADINO study, a cross-sectional study of anthropometric data and associated factors of a representative sample of Spanish schoolchildren, provides quality information on schools in Spain (i.e., outdoor recreation areas and gymnasiums; [Estudio ALADINO 2019, 2020](#)). However, this information is not disaggregated by disability status, which is a weakness to obtain specific data for CAWD. There are currently no national representative data on the practice of sport by CAWD, which is a major weakness for the Organized Sport Participation indicator. For the Physical Fitness indicator, only a few studies were found involving CAWD (i.e., young people with Down syndrome or young people with Charcot–Marie–Tooth disease). This fact limits the comparison with other types of disabilities and the generalization to all CAWD. In relation to the Family & Peers indicator, the main weakness is that the information available was insufficiently specific (i.e., INC grade) due to the lack of specific results related to the benchmark established in the Para Report Card.

Another weakness found was in relation to the Government indicator. The official economic expenditure in 2019 on sports by the General State Administration (178 million Euros) did not specify how much was allocated for CAWD ([Ministry of Culture and Sports, 2021](#)). Also, the Sports for All Guide tries to disseminate PA and sports activities for people living with disabilities, but it did not indicate the specific information for CAWD ([Spanish Paralympic Committee, 2021](#)). Concerning the Active Play indicator, only one study among young people with cerebral palsy was found to inform this indicator. Similarly, no studies related to Spanish CAWD in Active Transportation were found. Thus, these both indicators received an INC grade.

Opportunities

First, there is an urgent need for the development of a Spanish national survey targeting people living with disabilities (including CAWD) to obtain a better understanding of the barriers and facilitators for PA among CAWD. The ALADINO study, conducted periodically in Spain (i.e., 2011, 2013, 2015, and 2019), includes a nationally representative sample of children aged 6–9 years ([Estudio ALADINO 2019, 2020](#)); however, it does not report the proportion of CAWD it includes. Overall, national efforts should be invested to ensure future surveillance initiatives and studies focusing on the PA of Spanish children and adolescents should include and disaggregate data on CAWD.

Concerning the Physical Fitness indicator, the Assessing Levels of PA health-related fitness battery ([Ruiz et al., 2011](#)) has been reported as a reliable tool for measuring health-related components of fitness in some CAWD (i.e., people with Down syndrome). However, studies about the reliability of this battery among young people living with other disabilities are missing internationally and in Spain.

International and national collaborations are required to address this major research gap. Likewise, the design of other reliable, valid, and safe fitness batteries or the use of remote assessments according to the type of disability, as well as reference values of physical fitness in Spanish CAWD, is needed. Furthermore, through the White Book on Sport for People with Living Disabilities in Spain, it would be possible to provide specific information for CAWD (i.e., by type of disability and age group), or to design a specific book to know in more detail about the current situation of CAWD regarding the organized sport participation.

Threats

In Spain, several sources of information (e.g., surveys such as [Díaz-Velázquez et al., 2018](#) and [Ministry of Health, Consumer Affairs and Social Welfare, 2018](#)) contain useful information on the prevalence of people living with disabilities. However, these sources, although varied, are not complete and are affected by different biases (e.g., selection bias and representativeness). In the case of organized sport participation, moreover, there are hardly any statistical data to analyze the organized sports practice by people living with disabilities (including CAWD). The fact is that CAWD are not a homogeneous population, where “one size does not fit all.” This means that different CAWD may show different responses to PA intervention programs, which makes it difficult to find the feasible or suitable PA intervention for this population.

Also, the lack of specialized formation related to CAWD among practitioners (e.g., physical education teachers and sports instructors) is a further barrier to the Spanish CAWD access to sports practice. In addition, there are different barriers that Spanish CAWD perceived at school age to engage in sport participation, such as lack of training and knowledge about how to adapt PA and sports for CAWD, lack of school strategies for the initiation and promotion of sport for CAWD, inaccessible facilities, lack of human support (e.g., sports assistants) or materials (e.g., wheelchairs) to practice sports, social stigma and negative attitudes toward CAWD, or troubles in reconciling sports activity and academic life. Thus, these barriers imply a major threat to data provision.

Regarding Family & Peers indicator, some barriers have been noted to incorporate exercise programs among Spanish CAWD (i.e., low knowledge about PA programs and the ability to perform them adequately). Therefore, these factors could be threats to establish data on PA programs among CAWD. Concerning Government indicator, one threat is that the follow-up indicators used are not available in a way that would allow a more accurate assessment of CAWD sport participation.

On a larger scale, pandemics such as COVID-19 are interfered with the surveillance of PA in CAWD, as it was found to adversely affect PA-related behaviors and the research activity of PA experts ([Aubert et al., 2022](#)). The evolution of official PA guidelines in the future is another threat to data provision as their potential change requires an adaptation of the tools used to assess PA and challenge the comparison of PA data overtime.

Strengths and Limitations

This study is the first to compile the best available evidence on the PA of Spanish CAWD and SWOT analysis on Spanish CAWD PA data provision. This study was

limited by the low amount of available good quality evidence to inform the PA indicators, essentially caused by the lack of data disaggregation by CAWD in national surveys, the lack of representativeness of CAWD in available surveys and studies, and the general lack of studies or data regarding some indicators. In addition, some data sources included in this report to inform the grades were more than 5–10 years old, so they are potentially not reflecting possible changes that occurred since their collection. Furthermore, the lack of a general discussion group meeting with the participation of all members at the same time was another limitation that should be addressed in future editions. To improve this report, it is necessary to expand the SWOT analysis to the general promotion of PA in Spanish CAWD, and it is required to include insights from a larger number of relevant stakeholders and experts (Hutzler et al., 2023).

Conclusions

This is the first Spanish Para Report Card on PA-related indicators in CAWD proposing grades (based on AHKGA and Para Report Card methodology) for PA-related indicators and highlighting a lack of sources of good-quality data and low levels of PA in this specific population. Systematic national monitoring of the PA-related indicators needs to be developed and implemented in this specific population.

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