Evaluation of Physical Activity Indicators for French Children and Adolescents With Disabilities: National Para Report Card and SWOT Analysis

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The objectives of this work were (a) to adopt the Active Healthy Kids Global Alliance Report Card methodology to evaluate the state of physical activity (PA) for French children and adolescents with disabilities (CAWD) and (b) to identify the strengths, weaknesses, opportunities, and threats (SWOT) perceived by French PA experts for promoting PA among CAWD. The harmonized Active Healthy Kids Global Alliance Report Card development process was used to assign a grade to the 10 common PA indicators. SWOT templates were completed by PA experts and then collapsed in a summary figure. Despite increasing efforts to provide active opportunities to CAWD, concerning low grades were assigned to behavioral indicators. SWOT analysis provided important insights for the promotion of PA in CAWD. This work highlighted the need for the inclusion of CAWD in a comprehensive national PA surveillance system and for more efficient strategies promoting PA specifically targeting CAWD in France.

Keywords: surveillance, youth, sedentary behavior, chronic condition, sport

The benefits of physical activity (PA) for the health and well-being of children and adolescents is widely recognized by the international scientific community (Carson et al., 2017; Poitras et al., 2016) and is potentially of utmost importance for children and adolescents with disabilities (CAWD), considering its positive impacts on physical and mental health (Martin Ginis et al., 2021). According to the World
Health Organization (WHO), CAWD could achieve important health benefits from PA (World Health Organization, 2020). Potential specific additional benefits of PA for CAWD include improved cognition in children and adolescents who have impaired cognitive function and improvements in physical function in children and adolescents with intellectual disability (World Health Organization, 2020). To maximize the potential health benefits CAWD could obtain from PA, WHO recommends that they do at least an average of 60 min/day of moderate- to vigorous-intensity PA across the week and vigorous-intensity aerobic PA, as well as muscle- and bone-strengthening PA at least 3 days a week (Carty et al., 2021).

In France, the disability status of about 450,000 school-aged children and adolescents was officially recognized in 2020, representing 3.7% of the total population of same-age children and adolescents (Scolarité Partenariat, 2021). Several initiatives have been implemented nationally and locally in the recent years by a variety of actors to facilitate access to PA opportunities for CAWD. However, the impact of these initiatives on the movement behaviors and on the physical and social environment of the CAWD has not been evaluated.

The Active Healthy Kids Global Alliance (AHKGA) Report Card is an evidence-based synthesis of the best-available evidence of PA, its related behaviors, and its source of influence in children and youth at the national level (Aubert, Barnes, et al., 2018; Colley et al., 2012). National AHKGA Report Cards are developed following a harmonized methodology to grade 10 common PA indicators, identify research and surveillance gaps, and serve as an advocacy and knowledge translation tool to promote PA among children and adolescents (Aubert, Barnes, et al., 2018; Aubert et al., 2019). French Report Cards on PA have previously been developed for children and adolescents without disabilities, highlighting concerning levels of PA and sedentary behaviors, and calling for well-designed national actions to address this situation (Aubert, Aucouturier, et al., 2018; Aucouturier et al., 2017; Fillon et al., 2021).

The objectives of the present paper are twofold: (a) to adopt the AHKGA Report Card harmonized development process to compile and grade the best-available evidence of PA for French CAWD; and (b) to identify the strengths, weaknesses, opportunities, and threats (SWOT) perceived by French PA experts for meeting the recommended levels of PA among this specific population.

**Methods**

**Harmonized Report Card Development**

The detailed AHKGA Report Card harmonized development process has been detailed elsewhere (Aubert, Barnes, et al., 2018). The list of 10 common PA indicators including five behavioral indicators (Overall PA, Organized Sport and PA, Active Play, Active Transportation, and Sedentary Behaviors), Physical Fitness, and four source-of-influence indicators (Family & Peers, School, Community and Environment, and Government) were adopted from the AHKGA Global Matrix 3.0 on PA (Aubert, Barnes, et al., 2018). However, the corresponding benchmarks were adapted to the specific population of CAWD and the final versions of the benchmarks for the 10 indicators and the grading rubric that were used to assign a grade to each
indicator are presented elsewhere (Ng et al., in press). The best-available information for each indicator was identified using systematic searches performed for each indicator on PubMed in January 2022 by the Para Report Card leader (first author, S.A.) and completed with gray literature, then graded using the standardized grading rubric adopted from the AHKGA Global Matrix 3.0 on PA (Aubert, Barnes, et al., 2018). The 10 grades and their associated rationale went through an official external audit process performed by two independent international PA researchers with a strong expertise on the AHKGA Report Card harmonized development process and were approved after two successive rounds of reviews in March 2022.

**Data Collection and SWOT Analysis**

In March 2022, six French PA researchers selected for their high expertise on various aspects of French CAWD’s PA (i.e., surveillance, promotion, policies, adapted sports, adapted physical education, and family implications), were invited to participate to carry out a SWOT analysis, and four completed a SWOT template on Excel to identify their perceived SWOT using the 10 PA indicators as a guidance. The four individually filled SWOT templates were combined by SWOT category for each PA indicator and collapsed into four mega themes: SWOT to meeting the recommended levels of PA among CAWD.

**Results**

The systematic searches on PubMed led to the identification of six relevant peer-reviewed studies presenting data collected between 2010 and 2014 that could inform the behavioral indicator grades (Michelsen et al., 2014; Mikulovic et al., 2011; Ng et al., 2017; Ng et al., 2018; Salaun & Berthouze-Aranda, 2012). The grades assigned for each PA indicator and a summary of their rationales are presented in Table 1. An incomplete grade was assigned to four indicators (Active Play, Active Transportation, Physical Fitness, and Family & Peers) as there was a lack of evidence to grade these indicators. Complete extended versions of the rationales are provided in Supplementary Material (available online). Findings from the SWOT analysis are summarized in Figure 1.

**Discussion**

The CAWD potentially included in the French national surveys informing the AHKGA Report Cards on general children (Fillon et al., 2021) are not identifiable, resulting in a lack of recent, good quality evidence informing behavioral indicators as well as Family & Peers indicator. This general lack of representativeness of CAWD in national PA surveys, studies, and surveillance systems is consistent with what was previously observed at the global scale (Aubert et al., 2021). In addition, the data informing the overall PA indicator were collected in 2013/2014, using the 2010 WHO PA guidelines cut point (i.e., at least 60 min of MVPA daily), which is different from the AHKGA recommended benchmark (i.e., at least on average 60 min of MVPA per day) based on the most recent WHO PA guidelines (World Health Organization, 2020). This indicates that the level of PA of French CAWD is
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Grade</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>Overall physical activity</td>
<td>F</td>
<td>Among 11-, 13-, and 15-year-olds, 16% of boys with disabilities, 22.4% of boys with disabilities affecting their attendance and participation at school, 7.1% of girls with disabilities, and 12.7% of girls with disabilities affecting their attendance and participation at school were estimated to meet the 2010 WHO PA recommendations (i.e., at least 60 min of MVPA per day; Ng et al., 2017).</td>
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<tr>
<td>Organized sport participation</td>
<td>F</td>
<td>In 2020, more than 4,000 1- to 19-year-old children and adolescents had a membership to a sport club affiliated to the French Federation of Handisport and more than 11,000 1- to 19-year-old children and adolescents had a membership to a sport club affiliated to the French Federation of Adapted Sport (Ministère Chargé des Sports, 2021b), representing 3% of an estimated total of 452,795 of French CAWD (Scolarité Partenariat, 2021).</td>
</tr>
<tr>
<td>Active play</td>
<td>INC</td>
<td>There is a lack of evidence to grade this indicator.</td>
</tr>
<tr>
<td>Active transportation</td>
<td>INC</td>
<td>There is a lack of evidence to grade this indicator.</td>
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<tr>
<td>Sedentary behaviors</td>
<td>F</td>
<td>Secondary analysis of 2013/2014 HBSC data suggests that most French CAWD accumulate over 2 hr of screen time daily (Ng et al., 2017).</td>
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<tr>
<td>Physical fitness</td>
<td>INC</td>
<td>There is a lack of evidence to grade this indicator.</td>
</tr>
<tr>
<td>Family &amp; peers</td>
<td>INC</td>
<td>There is a lack of evidence to grade this indicator.</td>
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<tr>
<td>School</td>
<td>B+</td>
<td>All CAWD (100%) included in the mainstream school system (about 80%) are expected to attend the same amount of PE class as children and adolescents without disabilities: 3 hr/week in primary schools (6–10 years old; 3–4 hr/week (depending on the school grade) in secondary schools (11–14 years old); and 2 hr/week in high school (15–18 years old; Aubert et al., 2020). In France, all (100%) PE class in middle school and high school are taught by a PE specialist. In special education and health institutions, PE is also mandatory, and taught by a trained PE teacher, or by an adapted PA specialist (Rigot, 2020). About 94% of the special education and health institutions were estimated to provide physical activity opportunities (PE, sport, and other), and among them, 70% were providing these opportunities to all attending CAWD (Pole Ressource National Sport &amp; Handicap, 2018). The UNSS—the French federation for school sports (that overviews the offer of extracurricular sports in mainstream school infrastructures) reported that almost 5,000 (1%) of CAWD were registered to school sport clubs in 2018–2019 (Secrétariat d’état chargé des personnes handicapées, 2019). About 100% of the schools are expected to have sport facilities complying with accessibility norms, in compliance with the 2005 law for equity in rights and opportunities (République Française, 2005).</td>
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<th>Indicator</th>
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<tr>
<td>Community and environment</td>
<td>C+</td>
<td>The 2005 law for equity in rights and opportunities, participation and citizenship of people with disability states that “every single sport facility welcoming public must comply with accessibility norms by January 2015” (République Française, 2005). According to a 2018 online survey distributed among 361 municipalities distributed across French territories: 68% of sport facilities were accessible to people with disabilities, 47% of municipalities reported offering sport facility time slots dedicated to sport clubs hosting people with disabilities, 55% of municipalities reported offering sport facility time slots dedicated to special education and health institutions and other services hosting people with disabilities, and 39% of municipalities reported having specific policies promoting/supporting the inclusion of people with disability in sport clubs (Association Nationale des Elus en charge du Sport, 2018). In addition, all (100%) of the 10 French national parks went through renovations between 2008 and 2014 to ensure accessibility to people with all type of disability (Les Parcs Nationaux de France, 2019).</td>
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<tr>
<td>Government</td>
<td>C+</td>
<td>The 2013 program “Sport, Santé, bien-être” (i.e., Sport, Health, Wellness) included the action #12: aiming to increase the offer of PA opportunities for people with disabilities attending special education and health institutions (Ministère de la ville de la jeunesse et des sports, 2014). The 2020 National Strategy Sport &amp; Disability includes several specific goals (to reach by 2024) targeting CAWD: allowing ALL pupils with special needs to practice a PA; including adapted PA in PE curriculum; having every sport federation offering adapted opportunities (Ministère Chargé des Sports, 2020). The “Handiguide des Sports,” a directory of sport facilities, associations, clubs, or services proposing opportunities to people with disabilities was publicly launched in 2006 and updated, modernized, and relaunched online in 2019 to improve its accessibility (Handiguide des Sports, 2019). A new “30 min of PA” school mandate, stating that every single French elementary school will have to comply with implementing 30 min of PA every school day (with support from a national budget, partnerships with sport clubs, and other resources) was announced in 2021 (Ministère Chargé des Sports, 2021a).</td>
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*Note.* INC = incomplete; WHO = World Health Organization; PA = physical activity; MVPA = moderate to vigorous physical activity; CAWD = children and adolescents with disabilities or chronic condition; HBSC = Health Behavior in School-Aged Children; PE = physical education.
**Strengths**

- Potential enjoyment toward attractive active opportunities
- Motivational factors generated by Paris 2024 Paralympic movement
- Increased awareness toward the importance of PA for CAWD
- CAWD physically active on social media
- Popular trend of being fit, training at the fitness gym

**Opportunities**

- New WHO PA recommendations including CAWD
- Officials support and modeling
- Promotion of adapted use of street workout equipment, fitness path, and parks
- Paralympic movement for social change
- Increased active transportation to school initiatives including walking buses
- Increased awareness toward adapted PA in health and education institutions
- Improved accessibility of sport equipment/facilities/public playgrounds/parks

**Weaknesses**

- Low physical fitness, mobility/balability barriers, spiral of physical deconditioning
- High prevalence of overweight/obesity
- High amount of sedentary/screen time and potential high amount of homework
- No public communication in popular media on the importance of PA for CAWD
- Lack of adapted training for PE teachers and elementary school teachers

**Threats**

- Cost (sport gear and sport club/facilities registration fees)
- Organized sport structure based on a systematic competitive model
- Limited amount of various accessible, and enjoyable adapted sport opportunities
- Socioeconomic status of patients and overeating/obesity/child disability
- Parents' overprotection and PA form of escapism from their child disability
- Lack of adapted training for PE teachers/sport coach
- Overwhelmed health and education professional
- Limited availability/walking list for disability inclusion in class
- Inclusion associated with limited time in class where PE not seen as a priority
- Decreased amount of support persons affecting their availability for PE class
- Unsafe urban environment or living in remote areas
- Lack of accessibility of streets/sidewalks/parks
- Risk that CAWD won't be able to enjoy as much from new adapted sport programs/initiatives as adults and athletes

**Note.** WHO = World Health Organization; PA = physical activity; CAWD = children and adolescents with disabilities; PE = physical education.
potentially higher than what is reflected in this grade, but more recent good quality data are required to confirm it.

The observed low prevalence of French CAWD meeting the recommended amount of PA is consistent with findings from three countries (Finland, Hong Kong, and the Netherlands) that previously used the AHKGA harmonized methodology to develop national Report Cards including data on CAWD (Burghard et al., 2018; LIKES, 2018; Sit et al., 2020). French CAWD were also among the least active in comparison with CAWD from 14 other European countries, ranking 14/15 (Ng et al., 2017). Overall, the reported low behavioral grades presented in this paper suggest that increasing national efforts to promote PA in CAWD should be pursued, diversified, and intensified, addressing the threats identified in the SWOT analysis.

Based on this work, the present group of experts identified three priorities to advance PA promotion among CAWD in France:

a. Inclusion of a representative sample of CAWD in the national PA surveillance surveys and national census of CAWD included/practicing sport in clubs officially dedicated to typically developing children.

b. Systematic evaluation of current future national and local implemented PA policies and programs to better understand their impact and identify the remaining needs.

c. Support of adapted physical activities in CAWD within school context and sport by increasing resources including availability, adapted equipment, and trained staff.

**Strengths and Limitations of France’s 2022 Para Report Card and Presented SWOT Analysis**

This is the first time that the AHKGA Report Card methodology was used to evaluate PA-related indicators among French CAWD, highlighting important findings in terms of their PA characteristics, surveillance gaps, and needs for improvements. The present grades assigned to the PA indicators are limited by the lack of recent, good quality evidence.

Only four experts from various background contributed to inform the SWOT analysis, limiting their power and potentially implicating that important SWOT could have been missed. However, these four experts (also coauthors on the present paper) cumulate strong expertise on different aspect of CAWD’s PA (i.e., adapted PA sciences \( n = 4 \), instructor for adapted sport teachers \( n = 1 \), French Public Health agency representative \( n = 1 \), AHKGA Report Card methodology \( n = 3 \), national surveillance of children and adolescent’s PA \( n = 3 \), experimental studies of the PA of CAWD \( n = 1 \), consultant for French-adapted sport federations \( n = 1 \), and consultant for the development of regional adapted sport/PA programs and policies \( n = 1 \)), bringing a large perspective to inform the SWOT analysis and interpret the PA grades.

**Conclusion**

This is the first study that evaluated PA behavioral and source-of-influence indicators for French CAWD at a national level. Despite increasing efforts to
provide active opportunities to CAWD, supported by the Paris 2024 Paralympic
movement, concerning low levels of PA and high levels of screen-based
sedentary behaviors were observed. SWOT analysis provided important in-
sights for the promotion of PA in CAWD. This work highlighted the urgent need
for the inclusion of CAWD in a comprehensive national PA surveillance system
and for more efficient strategies promoting PA specifically targeting CAWD in
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