



Department of Sports Science and Physical Education  
Faculty of Education  
The Chinese University of Hong Kong



# 2019 ACTIVE HEALTHY KIDS

## Hong Kong Report Card on Physical Activity for Children and Youth with Special Educational Needs



Funded by



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Tin Ka Ping Foundation

<http://activehealthykidshongkong.com.hk>

The Active Healthy Kids **2019 Hong Kong Report Card on Physical Activity for Children and Youth with Special Educational Needs** (the **2019 Hong Kong Report Card+**) is an evidence-based synthesis of physical activity behaviors for children and youth with special educational needs (SEN) in Hong Kong.

The **2019 Hong Kong Report Card+** is the first report card for Hong Kong children and youth with SEN. It was developed using a systematic process provided by the Active Healthy Kids Global Alliance (AHKGA; [www.activehealthykids.org](http://www.activehealthykids.org)). The Department of Sports Science and Physical Education of The Chinese University of Hong Kong has played a leading role in the development of the **2019 Hong Kong Report Card+**.



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## WHAT IS THE ‘HONG KONG REPORT CARD+’?

The **Hong Kong Report Card+** is an evidence-based synthesis of physical activity behaviors and related sources of influence in children and youth with SEN in Hong Kong. The **Hong Kong Report Card+** aims to consolidate existing evidence, facilitate international comparisons, encourage evidence-informed physical activity and health policies, improve surveillance of physical activity, and facilitate opportunities for physical activity among children and youth with SEN. The **2019 Hong Kong Report Card+** is the first Report Card for Hong Kong children and youth with SEN.

The **2019 Hong Kong Report Card+** was developed following a systematic process provided by the AHKGA. It evaluates the best available evidence on nine indicators related to the physical activity of children and youth with SEN including Overall Physical Activity and its subcomponents (Organized Sport Participation, Active Play, Active Transportation, and Sedentary Behaviors), and settings and sources of influence that have a known impact on physical activity participation (Family & Peers, School, Community & Environment, and Government Strategies & Investments). The evidence is evaluated and interpreted by an expert consensus panel (research work group, RWG), resulting in the assignment of a letter “grade” for each indicator.

The target population for the **2019 Hong Kong Report Card+** is children and youth aged 6-17 years who have SEN (i.e., hearing impairment [HI], visual impairment [VI], physical disability [PD], intellectual disability [ID], attention deficit/hyperactivity disorder, autism spectrum disorders, speech and language impairment, specific learning difficulties (SpLD), mental illness, and social development problems [SDP]), with reference to the definition of SEN in the operation guide on integrated education by the HKSAR Government.<sup>1,2</sup> It is noted that a dual-track mode is adopted for special education in Hong Kong. Students with SEN may attend regular schools, while those with more severe or multiple disabilities could be referred to special schools for intensive support services.<sup>2</sup>

In 2016 and 2018, two Hong Kong report cards for children and youth with typical development were published ([www.activehealthykidshongkong.com.hk](http://www.activehealthykidshongkong.com.hk)), whose results can be compared with those of the **2019 Hong Kong Report Card+**.

## WHY SHOULD CHILDREN AND YOUTH WITH SEN BE PHYSICALLY ACTIVE?

Physical inactivity is a serious global health problem and its associations with non-communicable diseases such as obesity are well documented.<sup>3</sup> Regular physical activity participation offers benefits for the physical and mental wellbeing of children and youth, regardless of any disability.<sup>4,5</sup> However, children and youth with SEN or disabilities have been found to be insufficiently active, tend to adopt a sedentary lifestyle, and are at a higher risk for being overweight and obese than children and youth with typical development.<sup>6,8</sup> Children and youth with SEN are also found to be more likely to face barriers to physical activity than their peers with typical development.<sup>9,10</sup> It is important for children with SEN to participate in regular physical activity in order to improve their independent functioning, quality of life and wellbeing.<sup>7</sup>

In alignment with a new Global Action Plan on Physical Activity 2018-2030 recommended by the World Health Organization (WHO), the HKSAR Government launched a strategic action plan “Towards 2025: Strategy and Action Plan to Prevent and Control NCDs in Hong Kong” in 2018.<sup>11</sup> It was recommended that children and youth should accumulate at least 60 minutes of moderate-to-vigorous physical activity (MVPA) every day. A relative reduction of physical inactivity for youth by 10% was identified as one of the nine local targets to achieve by 2025, and by 15% by 2030.

## GUIDELINES ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

In November 2020, the World Health Organization (WHO)<sup>12</sup> released *WHO 2020 Guidelines on Physical Activity and Sedentary Behaviour*. The guidelines highlight “Every Move Counts” and “Let’s be Active, Everyone, Everywhere, Everyday”. More importantly, the guidelines address children and adolescents living with disability and include the following new specific recommendations for this population:

- Do at least an average of 60 minutes per day of moderate-to-vigorous intensity, mostly aerobic, physical activity, throughout the week.
- Incorporate vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, at least 3 days a week.
- Limit the amount of time spent being sedentary, particularly the amount of recreational screen time.



# METHODOLOGY

## Evidence Search and Synthesis

The systematic development process of a report card provided by AHKGA was used.<sup>13</sup> The **2019 Hong Kong Report Card+** consists of nine indicators including Overall Physical Activity and its subcomponents (Organized Sport Participation, Active Play, Active Transportation, and Sedentary Behaviors) and settings and sources of influence that have a known impact on physical activity participation (Family & Peers, School, Community & Environment, and Government Strategies & Investments).

A comprehensive search of the most recent academic and non-academic literature on each indicator was conducted, including published journal articles, local relevant journals, governmental and organizational reports (including completion reports of funded grants), as well as personal sharing.

Inclusion criteria were (1) the target population was Hong Kong children and youth (6-17 years) with SEN; (2) relevant to at least one of the indicators; and (3) representative sample (e.g., diversity of disability types, sample size). The best available data from January 2008 to April 2019 were consolidated and reviewed by the RWG. The search yielded 44 sources of evidence.

## Grading Scheme

The RWG considered which source was the most appropriate for grading and considered: (1) characteristics of the sample (e.g., how recent/representative/relevant was the sample on which the measure was based?); and (2) measurement of the indicators (e.g., was there any evidence that the measurement was relatively unbiased such as the use of validated questionnaires and objective measures such as accelerometer?). Among 44 located sources, 11 were used for assigning the grades (details are provided in "Indicators").

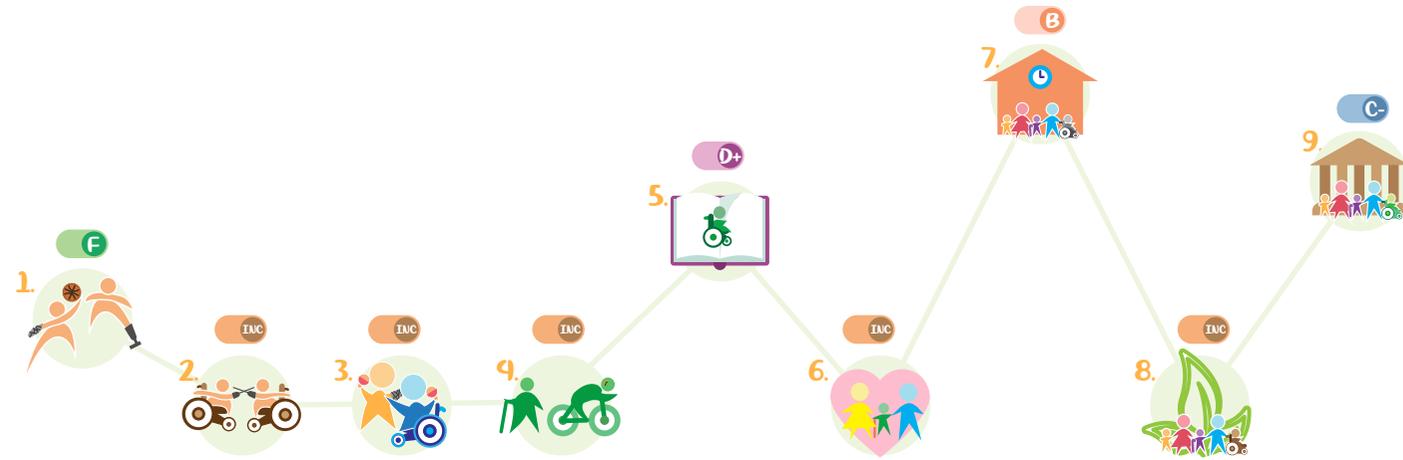
The letter grades are assigned based on the proportion of children and youth with SEN meeting the predefined benchmark(s) for each indicator (details of benchmarks are shown in "Summary of the benchmark of all indicators"). Additionally, it is worth noting that the benchmarks applied in the **2019 Hong Kong Report Card+** were initially developed for children and youth with typical development. Future work should consider developing or adapting the existing benchmarks for children and youth with SEN.



In 2018-2019, the RWG conducted three meetings to evaluate the aggregated evidence and assign initial letter grades to each of the nine indicators. Views and comments from 43 stakeholders were then collected through either face-to-face consultation meetings or the online consultation survey. As a result, agreement on the initial grades was achieved from 94% of the stakeholder members who provided written responses. The agreements for all initial grades ranged from 82% to 100%.

# INDICATORS

In the **2019 Hong Kong Report Card+**, nine indicators related to physical activity were evaluated including Overall Physical Activity and its subcomponents (Organized Sport Participation, Active Play, Active Transportation, and Sedentary Behaviors), and settings and sources of influence (Family & Peers, School, Community & Environment, and Government Strategies & Investments).



## Summary of the benchmark of all indicators

- 1. Overall Physical Activity** (Grade: **F**)
  - % of children and youth who meet the physical activity guideline of 60 minutes of MVPA daily
- 2. Organized Sport Participation** (Grade: **INC**)
  - % of children and youth who participate in organized sport at least once per week
- 3. Active Play** (Grade: **INC**)
  - % of children and youth who participate in non-organized sport at least once per week
- 4. Active Transportation** (Grade: **INC**)
  - % of children and youth who use active transportation to and from school at least once per week

- 5. Sedentary Behaviors** (Grade: **D+**)
  - % of children and youth who meet the screen time guideline ( $\leq 2$  hours/day)
  - % of children and youth who do not sit continuously for more than 60 minutes per day
- 6. Family & Peers** (Grade: **INC**)
  - % of parents who facilitate physical activity and sport opportunities for children and youth
  - % of friends/peers who encourage and support physical activity for children and youth
- 7. School** (Grade: **B**)
  - % of schools where the majority of students are offered at least 70 minutes of PE per week
  - % of schools with students who have regular access to facilities and equipment that support physical activity
  - % of schools that offer physical activity opportunities to the majority of their students in addition to PE
- 8. Community & Environment** (Grade: **INC**)
  - % of communities/municipalities that report they have infrastructure specifically geared toward promoting physical activity
- 9. Government Strategies & Investments** (Grade: **C-**)
  - Evidence of leadership and commitment in providing physical activity opportunities
  - Allocated funds and resources for the implementation of physical activity promotion strategies and initiatives
  - Demonstrated policy making progress

# GRADES

## 1. Overall Physical Activity F



### Benchmark

Percentage of children and youth who meet the physical activity guideline of 60 minutes of MVPA daily

### Key Findings

Three data sources were used to assign a grade to this indicator, in which actual minutes spent in MVPA per day in children and youth with SEN were either assessed using accelerometers<sup>14,15</sup> or a self-reported measure with a large sample size.<sup>16</sup> On average, 9.2 % of children and youth with SEN met the benchmark of this indicator.

- 0.4% (1 of 259) of 6- to 23-year-olds with five SEN types (HI, VI, PD, ID, SDP) met the physical activity recommendation (i.e., engage in MVPA at least 60 minutes daily).<sup>14</sup>
- 2.7% (2 of 73) of 6- to 10-year-olds with developmental coordination disorder (i.e., one type of SplD) met the physical activity recommendation.<sup>15</sup>
- 6.1% (32 of 524) of children with ID with a mean age of 12.1 years met the physical activity recommendation.<sup>16</sup>

It is worth noting that the other six data sources were located but they were not included for grading, because the outcome measures for physical activity did not align with the benchmark.<sup>17-22</sup>

### Major gaps and recommendations

- The guideline for physical activity (used as the benchmark of this indicator) was developed for children with typical development. However, with the new 2020 WHO guideline on physical activity, children and youth living with disability are included and specific recommendations concerning the amount and types of physical activity for this population group are provided.
- A population-level survey on physical activity in Hong Kong children and youth with SEN is needed to keep track of their progress for surveillance monitoring and to assist in the development and implementation of effective interventions.
- It is necessary to raise the awareness of the importance of physical activity and knowledge of adapted physical activity among parents, educators, healthcare professionals, and other stakeholders who work with children and youth with SEN.

## 2. Organized Sport Participation INC



### Benchmark

Percentage of children and youth who participate in organized sport at least once per week

### Key Findings

Nine data sources including four studies and five school annual reports were located for this indicator. In two studies,<sup>20,23</sup> physical activity during physical education classes or outside school in children with SEN was evaluated; however, the outcome measures reported did not align with the benchmark. In the other two studies, organized sport participation was evaluated in children with SEN with only one specific type of SEN (i.e., cerebral palsy,<sup>24</sup> developmental coordination disorder<sup>25</sup>). Additionally, the annual school reports were from five special schools for one disability type (i.e., ID).<sup>26-30</sup> Therefore, this indicator could not be graded due to insufficient data.

### Major gaps and recommendations

- Evidence on this indicator is limited, due to the disparity between the outcome measure reported in the data sources and the benchmark of this indicator. Future research to align with the benchmark of this indicator for children and youth with SEN is recommended.
- The benchmark of this indicator only focuses on the frequency of organized sport participation, but not the amount and types of organized sport participation.
- It is worth promoting organized sport participation of children with SEN inside and outside school (e.g., sport clubs).

## 3. Active Play INC



### Benchmark

Percentage of children and youth who participate in non-organized sport for at least once per week

### Key Findings

Six studies that assessed participation in leisure activities or physical activity in unstructured settings at school in children and youth with SEN were located.<sup>14,20-23,25</sup> However, this indicator could not be graded because the outcome measures did not align with the benchmark.

### Major gaps and recommendations

- There seems to be no universal definition of active play. Active play could be defined as fun, unstructured, and freely chosen activities.<sup>31</sup>
- The benchmark of this indicator only focuses on the frequency, but not the amount and types of free play. Little is also known about the features and impacts of active play in children with SEN.
- Future research to include this indicator through observational and interventional studies is needed.

# GRADES

## 4. Active Transportation INC



### Benchmark

Percentage of children and youth who use active transportation to and from school at least once per week

### Key Findings

Two data sources were located for this indicator. In one study, 53.1% of children with ID (mean age: 12.1 years) used active transportation to get to and from school at least once per week.<sup>16</sup> However, this indicator was not graded because the evidence was limited to one type of SEN. In addition, the HKSAR Government conducted a survey on the use of active transportation to and from school or training centres among 33,100 15- to 70- year-olds with disabilities.<sup>32</sup> This data source, however, was not used for grading because the frequency of using active transportation was not reported specifically for the population of children and youth with disabilities.<sup>32</sup> This indicator was therefore not graded.

### Major gaps and recommendations

- Evidence on active transportation of children and youth with SEN in Hong Kong is scarce, which calls for future research and surveillance data in the field.
- In addition to active travel to school on school days, it is worth investigating active transportation to other destinations for different purposes in children and youth with SEN during their leisure time.
- Multisectoral collaboration should be explored to remove the barriers for children and youth with SEN in active transportation.



## 5. Sedentary Behaviors D+



### Benchmark

Percentage of children and youth who meet the screen time guideline ( $\leq 2$  hours/day)

Percentage of children and youth who do not sit continuously for more than 60 minutes per day

It should be noted that the benchmark for this indicator is different from the one which was commonly used in the 2018 Hong Kong Report Card<sup>33</sup> and the Global Matrix 3.0.<sup>13</sup> There are two reasons for this: (1) there was no evidence on screen-based sedentary behaviors for children and youth with SEN in Hong Kong; and (2) the well-established guidelines have recommended limited sitting for extended periods in addition to recreational screen time.<sup>34</sup>

### Key Findings

Two data sources using accelerometer data were used for generating a grade for this indicator. On average, approximately 35% of children and youth with SEN met the benchmark.

- 25.3% (50 of 198) of 6- to 23-year-olds with five SEN types (HI, VI, PD, ID, SDP) did not have any prolonged sitting periods (i.e., one hour at a time).<sup>14</sup>
- 43.8% (32 of 73) of 6- to 10-year-olds with developmental coordination disorder did not have any prolonged sitting periods.<sup>15</sup>

Three other relevant data sources were located but not included for grading because the outcome measures did not align with the benchmark.<sup>16,20,21</sup>

### Major gaps and recommendations

- No data are available about screen-based sedentary behaviors in children and youth with SEN in Hong Kong. This grade may not be comparable with that assigned for children and youth with typical development.
- Excessive sedentary behaviors are related to negative health outcomes. Sedentary behaviors of children and youth with SEN should be limited in different settings including schools and homes.
- Evidence on the dose-response relationship between the amount and types of sedentary behaviors and health outcomes in children and youth with SEN is needed.



# GRADES

## 6. Family & Peers

INC



### Benchmark

Percentage of parents who facilitate physical activity and sport opportunities for children and youth

Percentage of friends/peers who encourage and support physical activity for children and youth

### Key Findings

Only one data source was located for this indicator. In that study, direct observations were conducted on the support of family members and peers for physical activity participation in 147 children and youth with PD (mean age: 13.5 years) at both school and home settings.<sup>21</sup> The results showed that 2.7% of participants were motivated to take part in physical activity by their fathers, 17% by their mothers, and 74.8% by their peers.<sup>21</sup> However, this indicator was not graded because the sample was limited to one type of SEN.

### Major gaps and recommendations

- Evidence for social support for physical activity in children and youth with SEN is limited. There is a need to evaluate which sources and types of social support are effective in increasing physical activity in this population group.
- Parents are significant role models in promoting physical activity in their children. Family-oriented interventions could be designed for physical activity promotion in children and youth with SEN.
- Peer support is important for facilitating physical activity and health behaviors in children and youth with SEN. Future research is recommended to examine the impacts of peer support on physical activity in children and youth with different types of SEN.
- A supportive social environment for physical activity should be fostered at home.

## 7. School

B



### Benchmark

Percentage of schools where the majority of students are offered at least 70 minutes of PE per week

Percentage of schools with students who have regular access to facilities and equipment that support physical activity

Percentage of schools that offer physical activity opportunities to the majority of their students in addition to PE

### Key Findings

One data source that evaluated physical activity opportunities and facilities among a total of 1,124 children and youth with SEN in ten special schools by direct observation was used for determining a grade for this indicator.<sup>20</sup>

- 80% (8 of 10) of ten special schools for children with five SEN types (HI, VI, PD, ID, SDP) offered PE class for  $\geq 70$  minutes per week.<sup>20</sup>
- In ten special schools, 57.3% of the observed areas supported physical activity, in which 92.3% of the areas were usable, 32.5% were equipped, and 17.1% were accessible to their students.<sup>20</sup>

Meanwhile, other data sources including school annual reports were located but not used for grading<sup>35-39</sup> because the information contained did not align with the benchmark.

### Major gaps and recommendations

- Schools have made a concerted effort to promote physical activity for children and youth with SEN; however, the grade of this indicator was assigned based on the evidence from special schools. More information is needed from mainstream schools where some of the children and youth with SEN are receiving the integrated education.
- It is encouraging to see that the majority of the schools offer PE classes. The quality of PE provided to children and youth with SEN could be monitored and evaluated.
- In addition to PE classes, children and youth with SEN should be provided with a greater opportunity to be physically active throughout the school day, including unstructured time such as breaks between classes and the lunch break.

# GRADES

## 8. Community & Environment INC



### Benchmark

Percentage of communities/municipalities that report they have infrastructure specifically geared toward promoting physical activity

### Key Findings

No evidence was available for the grade assignment of this indicator. Two data sources (one government report, one annual report of an organization) that evaluated the accessibility of physical activity facilities in the community were located.<sup>40,41</sup> However, the proportion of communities/municipalities that had infrastructure specifically for promoting physical activity in children and youth with SEN was not reported.

### Major gaps and recommendations

- There is a large knowledge gap concerning the impacts of community and environment on physical activity in Hong Kong children and youth with SEN.
- Research on the infrastructure that supports physical activity in children and youth with SEN is recommended.

## 9. Government Strategies & Investments C-



### Benchmark

Evidence of leadership and commitment in providing physical activity opportunities

Allocated funds and resources for the implementation of physical activity promotion strategies and initiatives

Demonstrated policy making progress

### Key Findings

- Three departments of the HKSAR Government (i.e., the Department of Health, the Leisure and Cultural Services Department and the Education Bureau) collaborated and provided the School Sports Programme to enable the students from special schools to participate in diverse sports activities during their school leisure time.<sup>42,43</sup>

- The Leisure and Cultural Services Department provided services and allocated funds for promoting physical activity in persons with disabilities:
  - Provided half-rate concession to Holders of Registration Cards for people with disabilities of all ages and their carers to enable them to take part in sports programmes.<sup>44</sup>
  - Pledged to continue offering concessionary rates to the elderly, full-time students, people under the age of 14 and persons with disabilities, together with their carers in 2016-2017.<sup>45</sup>
  - Organised free recreational and sports programmes for people with disabilities each year; arranged coaches to provide outreach services at centres for people with PD; included sports activities in which persons with disabilities could take part in the recent Hong Kong Games and Sport for All Days; organised community recreation and sports programmes with disability organizations; and collaborated with the Hong Kong Joint Council for People with Disabilities to allow persons with disabilities and their carers to use swimming facilities free of charge on "Free Ride Day".<sup>46</sup>
- Allocated a significant proportion of its departmental expenditure to sports development and activities for persons with disabilities. According to the department's estimates of expenditure in 2018-2019, overall expenditure on sports development and activities between 2013 and 2018 ranged from HK\$19.0 million to HK\$22.9 million, of which the proportion allocated specifically to persons with disabilities was 4.59% in 2013-14, 4.76% in 2014-15, 4.87% in 2015-16, 4.93% in 2016-17, and 4.18% in 2017-18. Funding in 2017-18 was slightly lower than in the previous four years.<sup>47</sup>

In the Chief Executive's recent policy address, the HKSAR Government undertook to promote a sporting culture in schools<sup>48</sup> and noted the increased provision of district facilities to promote sports for all<sup>49</sup>. However, it is unclear whether these efforts were directed specifically at children and youth with SEN. Meanwhile, it was noted that some organizations provided support for athletes with disabilities; however, it was unclear if they targeted children and youth.<sup>50-60</sup> Thus, these sources were not included for grading.

### Major gaps and recommendations

- Evidence shows the Government's commitment to providing physical activity opportunities and resources for the implementation of physical activity promotion programmes for persons with disabilities. However, physical activity promotion strategies specifically developed for children and youth with SEN are still limited.
- It is important to support and sustain research efforts on the evaluation of physical activity promotion programmes which target children and youth with SEN in Hong Kong.

## COMPARISON OF THE GRADE ASSIGNMENT FOR HONG KONG CHILDREN AND YOUTH WITH SEN AND TD

Indicators	Children and youth with SEN (2019)	Children and youth with TD (2018)
Overall Physical Activity	F	C-
Organized Sport Participation	INC	C
Active Play	INC	INC
Active Transportation	INC	B+
Sedentary Behaviors	D+	C-
Family & Peers	INC	D-
School	B	C
Community & Environment	INC	B
Government Strategies & Investments	C-	C

The grade for each indicator was based on the percentage of achieving the benchmark from the Table "Summary of the benchmark of all indicators":

A+ = 94-100%; A = 87-93%; A- = 80-86%;

B+ = 74-79%; B = 67-73%; B- = 60-66%;

C+ = 54-59%, C = 47-53%; C- = 40-46%;

D+ = 34-39%; D = 27-33%; D- = 20-26%;

F = <20%; INC = Incomplete data

SEN, special educational needs; TD, typical development

## ABBREVIATIONS

AHKCA	Active Healthy Kids Global Alliance	PE	Physical education
HI	Hearing impairment	RWG	Research work group
HKSAR	Hong Kong Special Administrative Region	SDP	Social development problems
ID	Intellectual disability	SEN	Special educational needs
INC	Incomplete data	SpLD	Specific learning difficulties
MUPA	Moderate-to-vigorous physical activity	TD	Typical development
PD	Physical disability	UI	Visual impairment
		WHO	World Health Organization

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