# 2022 ACTIVE HEALTHY KIDS

**Hong Kong Report Card** on Physical Activity for Children and Adolescents


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# Introduction

**The Active Healthy Kids Hong Kong Report Card on Physical Activity for Children and Adolescents** (hereinafter referred to as "Hong Kong Report Card"), is an evidence-based evaluation of physical activity-related indicators for children and adolescents in Hong Kong. The Hong Kong Report Card is part of an incorporated non-profit organization *Active Healthy Kids Global Alliance* (AHKGA, https://www.activehealthykids.org).

**The 2022 Hong Kong Report Card** is the third report card in Hong Kong. The Department of Sports Science and Physical Education of The Chinese University of Hong Kong (CUHK) has played a fundamental role in the development of the 2022 Report Card, with the collaboration with the Jockey Club School of Public Health and Primary Care of CUHK, Department of Sport, Physical Education and Health of Hong Kong Baptist University, and Physical Fitness Association of Hong Kong, China.

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# What is the 'Report Card'?

**The Active Healthy Kids Hong Kong Report Card** is an evidence-based synthesis on physical activity behaviors in children and adolescents, based on the best available evidence across a series of indicators related to individual behaviors, settings and sources of influence, and health outcomes. The evidence is evaluated and interpreted by an expert consensus panel (research work group, RWG), resulting in the assignment of a letter "grade". The report card aims to consolidate existing evidence, facilitate international comparisons, encourage more evidence-informed physical activity and health policies, improve surveillance of physical activity and most importantly, to promote and facilitate opportunities for physical activity among children and adolescents in Hong Kong.

The Hong Kong Report Card is part of a global initiative led by the non-profit organization AHKGA to promote physical activity in children and adolescents. The first two Hong Kong Report Cards were published in 2016 [1] and 2018, [2] together with other countries and regions participating in the AHKGA Global Matrix 2.0 [3] and 3.0, [4] respectively. These Report Cards have been widely publicized among multiple sectors, periodically cited in local authority reports, and improved surveillance of active play and organized sport. The third (2022) Hong Kong Report Card comprises 12 indicators and the results were published together with 56 other countries and regions in the Global Matrix 4.0 in October 2022. It is anticipated that the Hong Kong Report Card will continue to serve as a call to action, a key policy driver and a standardized system for international comparison in the area of physical activity in children and adolescents.

## Physical Inactivity: Global and Local Situations

Physical inactivity has been recognized as a risk factor for major non-communicable diseases (NCDs). [5] For children and adolescents, regular physical activity participation is beneficial for physical fitness, cardiometabolic health, bone health, and psycho-cognitive outcomes. [6] Globally, 4 in 5 school-aged children and adolescents did not participate in sufficient physical activity which is essential for health in 2016. [7] To tackle the global pandemic of physical inactivity, World Health Organization (WHO) endorsed a Global Action Plan on Physical Activity 2018-2030 and set up the targets of "a 10% and 15% relative reduction in the global prevalence of physical inactivity by 2025 and 2030". [8] In line with the WHO's call for action, the Government of the Hong Kong Special Administrative Region (HKSAR Government) published the document *"Towards 2025: Strategy and Action Plan to Prevent and Control Non-communicable Diseases in Hong Kong"* in 2018 which proposed a series of actions. [9] The difficulties to meet these physical activity targets have been intensified due to restrictive measures adopted by many countries in response to the outbreak of the coronavirus disease 2019 (COVID-19) since 2020. It has been widely reported that children and adolescents have become more physically inactive and spent more time in sedentary screen use. [10] In Hong Kong, over half of the primary and secondary school students reported decreased daily physical activities, while over 70% of primary school children and nearly 60% of secondary school adolescents increased use of electronic devices for learning or other purposes. [11]

## Guidelines on Physical Activity for Children and Adolescents

The Department of Health of the HKSAR Government recommends physical activity and sedentary behavior guidelines for school-aged children and adolescents (5-17 years). [12]

| | |
|---|---|
| **Physical activity guidelines:** | • They should do **at least an average of 60 minutes per day** of moderate- to vigorous-intensity physical activity (MVPA), mostly aerobic, across the week.<br>• Vigorous-intensity **aerobic** activity, as well as those that **strengthen muscle and bone**, should be incorporated **at least 3 days a week**, as these provide additional health benefits. |
| **Sedentary behavior recommendations:** | • They should **limit the amount of time spent being sedentary**, particularly the amount of recreational screen time (e.g. watching TV and playing video games). |

# Methodology

The harmonized approach suggested by the AHKGA was followed. [13] The RWG for the 2022 Hong Kong Report Card consisted of core members who were instrumental for developing the 2016 and 2018 Hong Kong Report Cards. The RWG was responsible for consolidating and evaluating the evidence, assigning the initial grades, communicating with stakeholders, and disseminating the findings. Stakeholders involved in the 2018 Hong Kong Report Card and new stakeholders were invited by the RWG. Eventually, the stakeholder group comprised 30 members including researchers in the fields of physical education (PE), exercise science, and public health, health professionals, educators and teachers, and representatives of government and non-government organizations (NGOs).

Peer-reviewed journal articles and reports from departments of the HKSAR Government and NGOs that were published between March 2018 (after the development of the 2018 Hong Kong Report Card) and 3 September 2021 were searched. Data sources shared by the stakeholders during the consultation were also reviewed. The data sources meeting the following criteria were considered: (1) targeting 6-to-17-year-olds in Hong Kong; (2) relevant to at least one of the indicators; and (3) data collected within the past ten years. Data sources used in the 2018 Report Card falling within this time period were still included.

## Grading Scheme

The letter grades for the 12 indicators were assigned based on the proportion of children and adolescents meeting the predefined benchmarks (details shown under each indicator): [14]

| | | |
|---|---|---|
| A+ | 94% to 100% | We are succeeding with a large majority of children and adolescents |
| A | 87% to 93% | |
| A- | 80% to 86% | |
| B+ | 74% to 79% | We are succeeding with well over half of children and adolescents |
| B | 67% to 73% | |
| B- | 60% to 66% | |
| C+ | 54% to 59% | We are succeeding with about half of children and adolescents |
| C | 47% to 53% | |
| C- | 40% to 46% | |
| D+ | 34% to 39% | We are succeeding with less than half, but some, children and adolescents |
| D | 27% to 33% | |
| D- | 20% to 26% | |
| F | < 20% | We are succeeding with very few children and adolescents |
| INC | | Incomplete data |

Add a "*" to the grade if it is based on mixed data: device-measured and self-reported; and add a "**" to the grade if it is based on device-measured data exclusively.

The RWG met in December 2021 to review the evidence and assign the initial grades. Eventually, a total of 38 data sources (27 journal articles, two completion reports for government funded research grants, eight government reports, and one NGO report) were used for grading. An online stakeholder consultation was conducted in January 2022 and comments from stakeholders were sought via an online survey. The stakeholders were asked whether they agreed or disagreed with the initial grades and to suggest any data sources that they thought were missed in assigning the grades. A 100% agreement on the initial grades was eventually obtained for seven indicators, while an agreement of over 90% was achieved for the other indicators. The initial grades were subsequently audited by the AHKGA and finalized in March 2022.

# Indicators

The 2022 Hong Kong Report Card comprised 12 indicators, i.e., behavioral and outcome indicators (Overall Physical Activity, Organized Sport and Physical Activity, Active Play, Active Transportation, Sedentary Behavior, Physical Fitness, Sleep, and Obesity), and sources of influence indicators (Family and Peers, School, Community and Environment, Government).

| | | |
|---|---|---|
| 1. | Overall Physical Activity | D-** |
| 2. | Organized Sport Participation | B- |
| 3. | Active Play | D |
| 4. | Active Transportation | B+ |
| 5. | Sedentary Behaviors | D |
| 6. | Physical Fitness | D |
| 7. | Sleep | C- |
| 8. | Family | INC |
| 9. | School | B |
| 10. | Community and Environment | B |
| 11. | Government | C+ |
| 12. | Obesity | D- |

## 1. Overall Physical Activity

**D-****

2018 Grade: C-
2016 Grade: D

*Benchmark:*

*% of children and adolescents who meet the Global Recommendations on Physical Activity for Health, which recommend that children and adolescents accumulate at least 60 min of MVPA per day on average.*

### What's New in the 2022 Report Card

- The benchmark has changed from meeting the recommended amount of MVPA *daily* to *an average across the week*.
- It is the first time that Overall Physical Activity was graded based on device-based data exclusively, resulting in a "**" added to the grade.
- Among the 11 included references, seven reporting six independent data sources were newly added after the 2018 Report Card, [15-21] while the other four were either old data sources used in the 2018 Report Card (hereinafter referred to as old data source) [22, 23] or new references reporting duplicating dataset. [24, 25]

### Key Findings

- 89% of adolescents aged 11-18 years accumulated at least 60 minutes of MVPA per day (n=552). [23, 24]
- 22.1% of children in grades 1-3 had at least 60 minutes of daily MVPA over a week (n=263). [22, 25]
- 10% of children in primary 1-6 with mean age of 9.3 years had at least 60 minutes of MVPA per day (n=191). [15]
- 36.3% of children aged 6-13 years with mean age of 8.7 years had at least 60 minutes of MVPA per day (n=242). [16]
- 15% of children in secondary 2 with mean age of 14.4 years had at least 60 minutes of MVPA per day (n=461); baseline data of a clustered RCT. [17]
- 9.1 % of adolescents in secondary form 1-5 met the PA guidelines (n=692). [18, 21]
- 9.5% of children in grades 4-6 aged 8-13 years had at least 60 minutes of MVPA per day (n=365). [20]
- 9.5 % of children aged 8-12 years had at least 60 minutes of MVPA per day (n=179); baseline data of a non-randomized intervention. [19]

### Major gaps and recommendations

It is worth noting that all of the above studies had data collected before the outbreak of COVID-19 pandemic. Tso et al. conducted an online survey among 29,202 parents of 2-to-12-year-olds in Hong Kong in late March 2020 and reported that 49% of children aged 6-12 years had at least one hour of physical activity daily.[26] However, this study was not considered for grade assignment because details of the measurement were not provided so the quality cannot be evaluated.

### Top priorities to improve the grade

1. Enhance parental education for supporting their children to be physically active.
2. Increase promotion and publicity of physical activity among health professionals.
3. Mitigate the negative impact of COVID-19 pandemic, e.g. reopening of sport facilities.

## 2. Organized Sport and Physical Activity

**B-**

2018 Grade: C
2016 Grade: C-

*Benchmark:*

*% of children and adolescents who participate in organized sport and/or physical activity programs.*

### What's New in the 2022 Report Card

This indicator was graded based on a recent population-representative survey (*The Survey on Physical Fitness Status of Hong Kong School Pupils – Secondary Schools*). It is worth noting that the most recent fitness survey was initially planned in 2019/2020 school year. Due to COVID-19 induced school closure, however, data collection was eventually conducted across two academic years, with 64% of the data collected after school reopening in 2020/2021 school year. As a result, the findings reflected the mix of pre- and during-COVID-19 evidence.

### Key Findings

- 60.1% of secondary school students aged 12-18 years participated in organized sport for at least one day per week. [27]

### Major gaps and recommendations

- More robust data collection is needed, e.g., the time that children and adolescents engage in organized sport, collected by objective measures or observations in addition to frequency.
- More research evidence on the relationship between sport/organized exercise and health is warranted in order to develop a specific recommendation.

### Top priorities to improve the grade

1. Increase the availability of sport facilities.
2. Strengthen school sport related programs.
3. Increase parental support for their children to participate in organized sport and exercise outside of PE classes.

## 3. Active Play

D

2018 Grade: INC
2016 Grade: INC

*Benchmark:*

*% of children and adolescents who engage in unstructured/unorganized active play at any intensity for more than 2 hours a day.*

*% of children and adolescents who report being outdoors for more than 2 hours a day.*

### What's New in the 2022 Report Card

Active Play did not receive any letter grade in the 2016 and 2018 Hong Kong Report Cards due to a lack of consensus on a robust definition and relevant evidence. To address the surveillance gap, a specific question asking active play participation was added in the recent *Survey on Physical Fitness Status of Hong Kong School Pupils.* [27] Similar to Organized Sport and Physical Activity, the grade for Active Play incorporated evidence collected both before and during the COVID-19 pandemic.

### Key Findings

- 29% of secondary school students participated in active play for at least 2 hours a day. [27]

### Major gaps and recommendations

- Current literature focuses on active play outdoors. The opportunities for active play indoors may also warrant attention given the high population density, limited space, and very hot weather in Hong Kong.
- The same data source is likely to be used in the coming years unless more robust data become available.

### Top priorities to improve the grade

1. Increase awareness of the definition and importance of active play.
2. Invest in enhancing outdoor and indoor environment that facilitate active play.
3. Alleviate academic pressure so that children may have more discretionary time for active play.

## 4. Active Transportation

**B+**

2018 Grade: B+
2016 Grade: B

*Benchmark:*

*% of children and adolescents who use active transportation to get to and from places (e.g., school, park, mall, friend's house).*

### What's New in the 2022 Report Card

Although two new references were found, [24, 28] they were generated from the same datasets reported in the old data source. [23] Therefore, the data sources used for grading this indicator were the same with those in the 2018 Report Card.

### Key Findings

- 78.5% of adolescents aged 11-18 years had used active transport to/from school at least once per week; and 87.7% of them had used active travel to other destinations at least once per week (n=1,299). [23, 24, 28]
- 49.5% of children with mean age of 8.7 years had used regular (≥ once per day or 5 times a week) active travel to/from school (n=677); 55% of them used actively travel to school at least once per week. [29]

### Major gaps and recommendations

- Both of the projects had data collected 7-10 years ago. Thus, the most recent trend of active transportation for Hong Kong children and adolescents remains unclear.
- Zhang et al. found that the number of children (aged 3-11 years) and students (aged 12-25 years enrolled in primary, sedentary schools or university) using the public transportation was significantly reduced at the end of March 2020 when schools were closed in Hong Kong due to the COVID-19 pandemic. [30] It is plausible that long-term pandemic regulations and policies may affect travel behaviors.
- Although it is not required in the benchmark, less attention have been paid on the duration of active travel trips. In Hong Kong, many of the districts are highly self-contained and school facilities are usually located within the neighborhood. Active travel is likely to be frequent and intermittent.

### Top priorities to improve the grade

1. Build a safe and walkable environment.
2. Invest in covered sidewalks (given the hot and humid weather in Hong Kong).
3. Consider building more cycle track.

## 5. Sedentary Behavior

D

2018 Grade: C-
2016 Grade: C

*Benchmark:*

*% of children and adolescents who meet the Canadian Sedentary Behavior Guidelines (5- to 17-y-olds: no more than 2 hours of recreational screen time per day).*

### What's New in the 2022 Report Card

Four studies having data collected before the COVID-19 outbreak including one old data source [18, 31-33] and two during the pandemic [26, 34] were used for grading. Although increased screen time has been commonly reported among children and adolescents during COVID-19 related lockdowns,[10] not much difference was found in the proportions of children and adolescents meeting the recommendations in Hong Kong.

### Key Findings

- 53.5% of children in grades 1-3 with mean age of 7.6 years had no more than 2 hours of screen time per day (n=706). [31]
- 5.3 % of adolescents aged 12-15 years met the guidelines of no more than 2 hours of screen time (n=815). [32]
- 31.2% of adolescents in secondary form 1-5 aged 11-18 years had no more than 2 hours of screen time per day (n=692). [18]
- 25% of children and adolescents aged 6-17 years met the guidelines of no more than 2 hours of screen time per day over a week (n=7,555). [33]

*During the pandemic:*

- 23.1% of parents of primary school children (93% mothers) reported that their children had ≤ 2 hours per day of using electronic devices for all purposes (n=6,072). [34]
- 30% of parents of school-aged children (6-12 years) reported that their children spent less than 2 hours per day in using electronic devices for all purposes (n=17,029). [26]

### Major gaps and recommendations

- It is plausible that the unfavorable impact of the pandemic would be bigger after a longer period of lockdown. According to the Thematic Household Survey conducted by the Census and Statistics Department of the HKSAR Government from June to October 2020, only 10.5% of children aged 10–14 years spent less than 1.4 hours per day using the Internet. [35] Long-term impact on children's screen time should be continuously monitored.
- The benchmark focuses on recommendations for recreational screen time only. Sedentary behaviors other than recreational purposes are also associated with health and well-being, [36] and therefore, should be considered.

### Top priorities to improve the grade

1. Increase the awareness of sedentary behaviour guidelines.
2. Enhance parent and student education on appropriate usage of screen device.
3. Use social media campaign in promoting healthy use of screen device.

## 6. Physical Fitness

D

2018 Grade: D

*Benchmark:*

*Average percentile achieved according to international norms for relative peak oxygen uptake ($VO_{2peak}$ ml/kg/min) for age and sex of 9 -17 years old children and adolescents as determined by a 20m-shuttle-run test.*

### What's New in the 2022 Report Card

As described earlier, the most recent *Survey on Physical Fitness Status of Hong Kong School Pupils – Secondary Schools* was initiated in 2019/2020 school year. However, data collection was suspended after COVID-19-related school closure in early 2020. Although data collection was resumed in 2021, cardiorespiratory fitness test was cancelled due to precautions and safety measures in view of the COVID-19 situation. As a result, same data source with the 2018 Report Card was used to grade this indicator, i.e., "*Survey on Physical Fitness Status of Hong Kong School Pupils (Secondary Schools, 2014/15; Primary Schools, 2015/16)*". [37]

### Key Findings

- According to the international norms of the relative peak oxygen uptake ($VO_{2peak}$), [38] average percentile achieved based on $VO_{2peak}$ for sex and age for 9- to 17-year-olds was 25.4% for boys and 36.2% for girls, respectively. Overall, it was 31%.

### Major gaps and recommendations

- The grade of D demonstrates the alarmingly low cardiorespiratory fitness levels of children and adolescents in Hong Kong despite the fact that good surveillance of fitness is undertaken in school settings.
- It is even worrying that the declining trends in cardiorespiratory physical fitness were observed for Hong Kong adolescents from 1998 to 2015. [39]

### Top priorities to improve the grade

1. Invest to support sport participation and sport programmes inside and outside (extra-curriculum) schools aiming at increasing cardiorespiratory fitness.
2. Invest in training certified coaches for youth sport.
3. Encourage "incorporating muscle- and bone-strengthening activities at least 3 days a week" among relevant stakeholders (parents, schools, sport clubs, etc.).

## 7. Sleep


2018 Grade: C-

*Benchmark:*

*Percentage of children and adolescents who meet National Sleep Foundation/Canadian 24-hour Movement Guidelines for Children and Adolescents (for sleep: uninterrupted 9-11 hours per night for children aged 6–13 years, 8-10 hours per night for those aged 14-17 years).*

### What's New in the 2022 Report Card

Eight data sources (all collected before the COVID-19 pandemic), including one old data source, [31] one new reference reporting the same dataset with a previous study, [25] and six new data sources. [18, 32, 40–43] Sleep duration was subjectively measured except for one study which used the activPAL determined bedtime and rise time to calculate sleep duration. [18]

### Key Findings

- 36.9% of children with mean age of 7.6 years had ≥ 9 hours per night of sleep (n=421). [25, 31]
- 31.3% of adolescents aged 12-15 years met the sleep guidelines (n=815). [32]
- 38.6% of adolescents in secondary form 1-5 aged 11-18 years met the sleep guidelines (n=692). [18]
- 46.7% of adolescents in grades 7-11 with mean age of 14.8 years met the sleep guidelines (n=1,667). [40]
- 58.6% of adolescents in grades 7-9 with mean age of 13.8 years met the sleep guidelines (n=414); baseline data of an intervention study. [41]
- 61.8% of children aged 5-12 years met the sleep guidelines (n=391). [42]
- 42.0% of children & adolescents with mean age of 12.3 years met the sleep guidelines (n=10,086). [43]

### Major gaps and recommendations

- Device-measured sleep parameters are needed (e.g., accelerometry).
- Although relationship between sleep variability and children's health has not been fully understood, some evidence supported that consistent sleep patterns throughout the week are favorably associated with social functioning. [44] Recommendations on consistent bedtime and risetime routines, however, are not included in the benchmarks because no specific measure of sleep consistency is currently available. [45]

### Top priorities to improve the grade

1. Promote good sleep practices for children and adolescents, including consistent bedtimes/wake-up times and bedtime routines, limited access to electronic devices before bedtime, etc.
2. Explore the possibility of delaying school start times, in particular for adolescents who suffer most from misalignment between circadian preference (especially evening chronotype) and social schedule.

## 8. Family and Peers

INC

2018 Grade: D-
2016 Grade: D

*Benchmark:*

*% of family members (e.g., parents, guardians) who facilitate physical activity and sport opportunities for their children (e.g., volunteering, coaching, driving, paying for membership fees and equipment).*

*% of parents who meet the Global Recommendations on Physical Activity for Health, which recommend that adults accumulate at least 150 min of moderate-intensity aerobic physical activity throughout the week or do at least 75 min of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity physical activity.*

*% of family members (e.g., parents, guardians) who are physically active with their kids.*

*% of children and adolescents with friends and peers who encourage and support them to be physically active.*

*% of children and adolescents who encourage and support their friends and peers to be physically active.*

### What's New in the 2022 Report Card

This indicator was not assigned a letter grade due to insufficient evidence. No new data sources were found and those used for grading in the 2018 Report Card were outdated.

### Major gaps and recommendations

- There is a lack of data on peer influence of physical activity for all age groups.
- There is clearly surveillance gap and preferably the future surveys should include questions in alignment with the benchmarks for this indicator.

### Top priorities to improve the grade

1. Improve surveillance of family and peer support for physical activity.
2. Enhance parent education especially the importance of role modelling.
3. Increase the availability of practical home-based programmes for low SES families.
4. Promote peer group exercise.

## 9. School

B

2018 Grade: C
2016 Grade: C

*Benchmark:*

*% of schools with active school policies (e.g., daily PE, daily physical activity, recess, "everyone plays" approach, bike racks at school, traffic calming on school property, outdoor time).*

*% of schools where the majority (≥80%) of students are offered the mandated amount of PE (for the given state/territory/region/country).*

*% of schools that offer physical activity opportunities (excluding PE) to the majority (>80%) of their students.*

*% of schools with students who have regular access to facilities and equipment that support physical activity (e.g., gymnasium, outdoor playgrounds, sporting fields, multipurpose space for physical activity, equipment in good condition).*

### What's New in the 2022 Report Card

The increased grade reflects the emerging evidence of school related opportunities and support for physical activity participation.

### Key Findings

- According to PE Key Learning Area Curriculum Guides (Primary 1-Secondary 6) of the EDB of the HKSAR:

  -At the primary level and junior secondary level, schools should allocate 5%-8% of the total lesson time to General PE;

  -At the senior secondary level, schools should allocate at least 5% of the total lesson time in General PE through Other Learning Experiences. In addition, PE is an elective subject of the senior secondary curriculum and accounts for 10% of the total lesson time over a course of three years.

- According to a study among 10 secondary schools, the PE lesson time ranged from 80 to 100 minutes per week/per cycle, [46] which was approximately 53% - 83% of the amount recommended in the other place. [47] More importantly, the proportion of PE lesson time spent in MVPA was as low as 18.5% among 26 local schools, [48] which was significantly lower than the recommendation of 50% in the U.S. [49]
- According to a teacher survey in 2013-2014, local schools had on average four physical activity facilities (ranging from 0 to 16) and 4.6 physical activity programs (excluding PE classes) per academic year (ranging from 0 to 20). [50]
- Since 2001, the Leisure and Cultural Services Department (LCSD) has implemented the School Sports Programme (SSP) for students of primary and secondary schools. In the 2018/19 school year, about 90% of schools took part in the Scheme and over 8,500 programmes were organized for about 635,000 students (https://www.info.gov.hk/gia/general/202002/26/P2020022500621.htm?fontSize=1).

### Key Findings

- To mitigate the adverse impact of school closure during the pandemic, concerted efforts have been made to help schools manage the online PE classes. For instance, a project funded by the Hong Kong Jockey Club supported a range of sports initiatives for children and adolescents including teachers' training and online PE instructions (https://corporate.hkjc.com/corporate/ corporate-news/ english/2021-05/news_2021051101710.aspx).

### Major gaps and recommendations

- Sport-related school programmes/extra-curricular activities have not been sufficiently documented and evaluated.
- Although PE is mandated in Hong Kong, the quality of PE should be monitored and enhanced.

### Top priorities to improve the grade

1. Increase time allocated to PE lessons.
2. Increase the time children and adolescents spend in MVPA during PE classes and other within-school time segments.
3. Establish an effective surveillance and evaluation system of school sport activities/ programmes and related policy.
4. Invest in improving sport facilities in schools.

## 10. Community and Environment

**B**

2018 Grade: B
2016 Grade: B

*Benchmark:*

*% of children or parents who report having facilities, programs, parks, and playgrounds available to them in their community.*

*% of communities/municipalities that report they have infrastructure*

*% of children or parents who report living in a safe neighborhood where they can be physically active.*

*% of children or parents who report having well-maintained facilities, parks, and playgrounds in their community that are safe to use.*

### What's New in the 2022 Report Card

New data sources aligning with the benchmarks were not found. As a result, same data sources with the 2018 Report Card were used to grade this indicator.

### Key Findings

- 60%-79% of parents/primary caregivers of adolescents aged 11-18 years considered their neighborhood safe for their children to be physically active. [23]
- Parents of children aged 8-12 years reported a modest availability of sport facilities in their community, with an average score of 3.6 out of 5 received. [51]

### Major gaps and recommendations

- Current evidence relied heavily on self-reported perception of the environment. No recent data is available on objectively measured features of the built environment pertaining to physical activity for Hong Kong children and adolescents.
- Policy evaluations are needed to better understand how research on the built environment could be translated into urban planning and policy making.

### Top priorities to improve the grade

1. Increase recreational facilities in urban areas.
2. Design an activity-friendly environment in new towns and re-developed areas.
3. Invest in indoor facilities that are conducive to children's physical activity in urban area.

## 11. Government

C+

2018 Grade: C
2016 Grade: INC

*Benchmark:*

*Evidence of leadership and commitment in providing physical activity opportunities for all children and adolescents.*

*Allocated funds and resources for the implementation of physical activity promotion strategies and initiatives for all children and adolescents.*

### What's New in the 2022 Report Card

The slightly increased grade implies the recent improvement in the Government's commitment to providing physical activity opportunities and the resources for the implementation of physical activity promotion programmes for children and adolescents.

### Key Findings

- To meet the committed target of reducing physical inactivity, [9] the HKSAR Government has launched media campaigns in order to raise public awareness about physical inactivity (https://www.legco.gov.hk/research-publications/chinese/essentials-2021ise17-promoting-physical-activity.htm).
- To promote physical activity for schoolchildren, the Government has funded various sports programmes at schools, organized training courses for teachers, and included the WHO physical activity guidelines as a direction for developing the PE curriculum in primary and secondary schools (https://www.info.gov.hk/gia/general/202002/26/P2020022500621.htm?fontSize=1).
- Since 2017, the HKSAR Government implemented the *Opening up School Facilities for Promotion of Sports Development Scheme* and extended the Scheme from public sector schools to schools under the Direct Subsidy Scheme in the 2018/19 school year. Since its launch, the number of participating schools has gradually increased from 12 in 2017/18 to 60 in 2019/20 school year (https://www.info.gov.hk/gia/general/202106/02/P2021060200350.htm?fontSize=1).As depicted in the Hong Kong Chief Executive's 2019 Policy address, more efforts are expected to be put in enhancing public open and play spaces managed by the LCSD over the next five years.

### Major gaps and recommendations

We acknowledge the limitation of not using the policy audit tool and the scoring rubric developed by Ward and colleagues [52] to grade this indicator although it is suggested by AHKGA. Given the lack of comprehensive evidence on the full range of policy influences in Hong Kong, it deems premature to analyze physical activity policy quantitatively. Furthermore, long-term effectiveness of these policies and investments should be regularly monitored and evaluated.

### Top priorities to improve the grade

- Through cross-sector cooperation, the Government needs to implement a territory-wide physical activity plan to promote broad-based physical activity for children and adolescents (for fun not for elite sport only).
- Increase of funding support for physical activity promotion.
- Develop specific policies and evaluation on physical activity promotion.

## 12. Obesity

D-

2018 Grade: D-

*Benchmark:*

*This indicator is a health outcome instead of a health behavior. It is not possible to follow the same grading scheme as the other indicators. Grading is based on obesity reported from other countries and the consensus from RWG members and stakeholders.*

### What's New in the 2022 Report Card

Two old [53, 54] and four new [18, 55-57] data sources reporting prevalence of obesity using the International Obesity Task Force (IOTF) criteria were used for grading.

### Key Findings

- 5% of children and adolescents aged 6 -18 years were obese (n=208,280). [53]
- 18.2% of children and adolescents aged 6-18 years were obese and overweight (n=119,878). [54]
- 23.3% of children in grades 1-3 were obese and overweight during AY 2016/2017 (n=19,504). [57]
- 34.3% of adolescents in secondary forms 1-5 aged 11-18 years were obese and overweight (n=692). [18]
- 21.8% of children in primary 5-6 were obese and overweight in 2018 (n=18,863). [56]
- 24.2% of children and adolescents aged 8-14 years were obese and overweight in 2017 (n=2,466). [55]

### Major gaps and recommendations

Direct comparison of Obesity grades across jurisdictions is difficult due to the different criteria for defining overweight or obesity, and lack of standardized benchmark and grading rubric. Given the increasing popularity of this indicator in countries participating in the Global Matrix, transparent, harmonized methods, and potentially official AHKGA Global Matrix benchmarks, should be established to facilitate cross-country comparisons in the future.

### Top priorities to improve the grade

"Halting the rise in diabetes and obesity by 2025" has been identified as one of the targets for tackling NCDs by the HKSAR Government. [9] Attaining this target is closely related to goals such as reducing physical inactivity and promoting a healthy diet for children and adolescents in Hong Kong. Given the adverse impact of the COVID-19 pandemic, more efforts are needed to pursuing this target.

| # | Indicator | 2022 Grade | 2018 Grade | 2016 Grade |
|---|---|---|---|---|
| 1 |  **Overall Physical Activity** | **D-**** | C- | D |
| 2 |  **Organized Sport Participation#** | **B-** | C | C- |
| 3 |  **Active Play#** | **D** | INC | INC |
| 4 |  **Active Transportation** | **B+** | B+ | B |
| 5 |  **Sedentary Behaviors#** | **D** | C- | C |
| 6 |  **Physical Fitness** | **D** | D | — |
| 7 |  **Sleep** | **C-** | C- | — |
| 8 |  **Family and Peers** | **INC** | D- | D |
| 9 |  **School#** | **B** | C | C |
| 10 |  **Community and Environment** | **B** | B | B |

| # | Indicator | 2022 Grade | 2018 Grade | 2016 Grade |
|---|---|---|---|---|
| 11 | Government# | C+ | C | INC |
| 12 | Obesity | D- | D- | — |

#Grade was informed by a combination of data pre- and during COVID-19 pandemic; the others was informed by the pre-COVID-19 pandemic data.

In the 2022 Report Card only: a "**" is added to the grade if it is based on device-measured data exclusively.

Shaded grades imply the same data sources used in different report card.

Note: there are changes in the grading benchmarks from Global Matrix 2.0 to Global Matrix 4.0; refer to Lee et al., 2022 [58] for details

Five of the 12 indicators in the 2022 Hong Kong Report Card (Active Transportation, Physical Fitness, Sleep, Community and Environment, and Obesity) received the same grade as those in the 2018 Report Card. Among them, two indicators' grades (Physical Fitness and Community and Environment) stabilized because of the same old data sources used. Behavioral indicators largely deteriorated (Overall Physical Activity and Sedentary Behavior), while sources of influence indicators generally improved (School and Government). Evidence gaps in Active Play and Government have improved since 2016.

All of the five stabilized indicators were graded based on pre-pandemic evidence solely no matter whether new data sources were found or not after the 2018 Report Card. The potential impact of the COVID-19 pandemic is, therefore, not fully reflected in the recent grades. Indicators that were informed by a combination of before and during pandemic evidence generally exhibit an improvement (School and Government) except for Sedentary Behavior. It may be due to the efforts enacted after the pandemic outbreak in various settings to mitigate the adverse impact on children's healthy lifestyle. Nevertheless, Chinese children and adolescents engaged in longer sedentary time, particularly screen use, after the pandemic outbreak which is similar to previous findings. [10] Whether and how the favorable sources of influence in Hong Kong can be translated to positive behavioral changes warrant further investigation.

# Abbreviations

| | |
|---|---|
| **AHKGA** | Active Healthy Kids Global Alliance |
| **COVID-19** | Coronavirus Disease 2019 |
| **CUHK** | The Chinese University of Hong Kong |
| **EDB** | Education Bureau |
| **HKSAR** | The Government of the Hong Kong Special Administrative Region |
| **INC** | Incomplete |
| **IOTF** | International Obesity Task Force |
| **ISPAH** | International Society for Physical Activity and Health |
| **LCSD** | Leisure and Cultural Services Department |
| **MVPA** | Moderate-to-Vigorous Physical Activity |
| **NCDs** | Non-Communicable Diseases |
| **NGOs** | Non-Governmental Organizations |
| **PA** | Physical Activity |
| **PE** | Physical Education |
| **RCT** | Randomized Controlled Trial |
| **RWG** | Research Work Group |
| **SES** | Socio-economic Status |

# List of Stakeholders (in Alphabetical Order)

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http://activehealthykidshongkong.com.hk

The Active Healthy Kids Hong Kong Report Card is a member of the Active Healthy Kids Global Alliance (https://www.activehealthykids.org). The Global Matrix 4.0 consisting of Report Cards from 57 countries and regions will be launched at the 9th International Society for Physical Activity and Health (ISPAH) Congress, 23-26 October 2022 (https://congress2022.ispah.org/).

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ACTIVE HEALTHY KIDS GLOBAL ALLIANCE

Sun Life 永明金融