



# Finnish Report Card 2014

on Physical Activity for Children and Youth



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The development of the Report Card relies on research findings primarily from six research institutes, coordinated by the faculty of sport and health sciences in the University of Jyväskylä and LIKES - Research Center for Sport and Health Sciences. The research work group convened to evaluate the aggregated evidence and assign grades for each physical activity indicator. The group is composed of the Finnish researches in the several areas of physical activity of children and youth.

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Context layout	Esa Nykänen
Photographs	Finnish Schools on the Move programme/Jouni Kallio
Print	Jyväskylä University Printing House, 2014
ISBN	978-951-39-5698-1 (print)
ISBN	978-951-39-5699-8 (pdf)

# Introduction

The Finnish 2014 Report Card on Physical Activity for Children and Youth is the first annual assessment of physical activity, analysing how Finland is doing at promoting and facilitating physical activity opportunities for children and youth. This brief communication provides a summary of the results.

Since physical activity levels in children and adolescents in Finland are lower and engagement in sedentary behaviours is higher than recommended, there is a major need to promote physical activity and to reduce sedentary behaviour. Physical activity promotion on various levels and contexts is complex and requires multiple and cross-sectorial actions. The central challenge is to strengthen the role of physical activity as part of all societal decision making. It is hoped that this first Finnish 2014 Report Card on Physical Activity for Children and Youth will raise awareness about the need to make even greater efforts to enhance physical activity and to reduce the sedentary behaviour of Finnish children and youth. All sectors of society have a role to play in this public health challenge.

The report card provides an overall picture about indicators related to the physical activity levels of children and youth as well as factors affecting physical activity at the policy, environmental and social levels. In the case of most indicators, Finland has a lot to improve in order to promote a physically active life style for youth. In total, nine physical activity indicators were graded: 1) overall physical activity levels, 2) organised sport participation, 3) active play, 4) active transportation, 5) sedentary behaviours, 6) family and peers – infrastructure, support, parental/peer behaviours, 7) school – infrastructure, policies and programmes, 8) community and the built environment – infrastructure, policies, programmes, safety and 9) Government – strategies, policies and investments.

Although physical activity indicator grades are based on the best available data, several research gaps remain, specifically related to physical activity among preschool children; the role of family and peers in the physical activity of children and youth; the forms and levels of physical activity, leisure physical activity and play; and neighbourhood physical activity facilities and municipal investments. Some of the data presented were outdated and need updating for the next Finnish Report Card.

# Physical Activity Guidelines in Finland

According to Finnish Recommendations for Physical Activity in Early Childhood Education in Finland, a child younger than 7 years is recommended to have at least 2 hours of brisk physical activity every day.<sup>1</sup>

National recommendations for school-aged children and youth 7 to 18 years old (Figure 1) suggest that they should be physically active for at least 1 to 2 hours daily in a variety of ways suitable for each age group.<sup>2</sup> In addition, continued periods of sitting for more than 2 hours at a time should be avoided, and screen time with entertainment media should be limited to a maximum of 2 hours per day.<sup>2</sup>



Figure 1. National recommendation for school-aged children and youth.

# 1 Overall physical activity levels

## PHYSICALLY ACTIVE LIFE STYLE FOR FINNISH YOUTH NEEDS TO BE IMPROVED

According to self-reported data, one-fourth of Finnish adolescents meet the guideline recommending at least 60 minutes of moderate-to-vigorous physical activity (MVPA) on a daily basis. Gender differences were evident with boys meeting the recommendation more often than girls. Based on objective measurement, though with relatively small samples, physical activity seems to be at a slightly higher level when compared with self-assessments. International comparison shows that the drop-off with age in physical activity levels in Finland is high. Therefore, Finland has a lot to do to improve the physical activity levels of children and youth.

The grade “D” for overall physical activity levels was mainly derived from the Finnish data of 2010 Health Behaviour in School-aged Children (HBSC) study,<sup>3</sup> which showed that 24% of Finnish 11- to 15-year-olds (n = 6,678) met the guideline recommending at least 60 minutes of MVPA daily. Gender differences were evident with 30% of boys but only 18% of girls meeting the recommendation. Also, the differences between 11- and 15-year-old children in MVPA levels in Finland was the greatest for boys and relatively high among girls in comparison with other participating countries in the 2010 HBSC-study.<sup>3</sup>

Based on objective physical activity measurement by accelerometers (ActiGraph, Pensacola, US), 17%–50% of children aged 3 to 15 years had at least 60 minutes of MVPA per day.<sup>4,5</sup> Forty-six percent of 3-year-old preschool children (n = 47),<sup>4</sup> 50% of primary school students (grades 1 to 6, aged 7 to 12 years, n = 568) and 17% of lower secondary school students (aged 13 to 15 years, n = 130) got at least one hour of MVPA a day.<sup>5</sup>

# D

YEAR: 2014

BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of children and youth who meet the Finnish Physical Activity Guidelines (all 7- to 18-year-olds should be physically active for at least 1 to 2 hours daily, in a variety of ways suitable for each age group).

### RECOMMENDATIONS

- The majority of Finnish children and youth need to have a more physically active lifestyle in order to get more health benefits. Changes in daily routines should include active play, active transportation as well as organised and unorganised sport participation. These activities should be planned by parents, day care staff, school administrators and policy-makers together with children.
- Policy-makers, schools and day care professionals should target groups of children and youth with the lowest physical activity levels.
- Policy-makers and funded programs should target those groups of children and youth that most need a change in their physical activity patterns in relation to the national recommendations, especially during the transitions from elementary to secondary school and from secondary to upper school levels.
- Social marketing should highlight the importance of following the national recommendations for physical activity.
- The aims of national physical activity promotion programmes, such as “the Finnish Schools on the Move” programme, should be enhanced to cover all schools and day care centres in Finland.

### RESEARCH GAPS

- Theoretically based interventions to increase physical activity and reduce the decline in physical activity levels especially during puberty for different contexts and settings, such as school, home and travel should be developed and evaluated.
- The “Finnish Schools on the Move” programme should be developed to include randomised, controlled trial designs in order to reveal real changes in children’s physical activity levels.
- Objective, representative physical activity measurement data are needed to better understand the level and patterns of physical activity.
- Research is needed on psychosocial, environmental and biological determinants behind the decline in physical activity during puberty.
- Information is needed on secular trends and longitudinal age-related changes in objectively measured overall physical activity levels in Finnish children of different ages.

## 2 Organised sport participation

### HALF OF FINNISH CHILDREN AND YOUTH PARTICIPATE IN SPORTS CLUB ACTIVITIES

The special feature in regard to the organised sport participation in Finland is that activities take place mainly in voluntary civil activity-based sports clubs. However, less than one-third continues participation to late adolescent ages. The particular drop-out with age is alarming, as, according to a large Finnish longitudinal study, participation in organised sport in childhood and adolescence is a good predictor of physical activity in adulthood.<sup>6</sup>

Out-of-school sport is organised in Finland mainly in voluntary civil activity-based sports clubs. The review of research reports shows that 30%–55% of Finnish 3- to 18-year-olds participate in sports club activities. Forty-eight percent of 11- to 15-year-old children (n = 6,682), participate in sports club activities. According to the HBSC study,<sup>3</sup> the highest participation rate was for 11-year-old boys with 58% (girls 52%) and lowest for 15-year-old girls with 35% (boys 36%).<sup>3</sup> At least four out of ten Finnish children participate at least temporarily in sports clubs. Thus, a grade “C” was given to organised sport participation.

#### RECOMMENDATIONS

- Sports clubs attain about half of the children and adolescents in Finland, but still the other half do not participate. The clubs should try to find ways to attract more participants.
- Drop-out in organised sport is extensive, especially around adolescence. The clubs should develop less competitive forms for youth to continue the given sport in a recreational format.
- As the overall level of physical activity is inadequate also for those children and youth who participate in sports club activities, the clubs and coaches should invest more in physical education in order to encourage youth to be physically active also outside the club activities.
- Sports clubs should offer free or low-cost services for children.

#### RESEARCH GAPS

- More detailed information is needed on the different forms of physical activity the sports-club-participating youth are doing. These especially include training volumes (both coach-led and independent training) and leisure-time physical activity.
- Longitudinal research is needed on how participation in organised sports contributes to overall physical activity levels, with comparisons to those who are not participating.
- Longitudinal research is needed on what basis does participation in organised sports continue. Several sports discipline-related factors need to be recognised, e.g. when the youth generally focus only on that particular sport, how goal-oriented the training is and so on.

# C

YEAR: 2014  
BENCHMARK:

A	
81%–100%	
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of children and youth who participate at least temporarily in sports club activities.

# 3 Active play

## ONE-THIRD OF CHILDREN PARTICIPATE IN UNSTRUCTURED PHYSICAL ACTIVITIES OUTSIDE SCHOOLS OR SPORTS CLUBS

One-third of children and adolescents participate in physical activity outside school or sports clubs at least four times per week and the greater majority at least once a week. Without additional information, the conclusions based on these findings regarding the national trend in active play are restricted, because unstructured physical activity has not yet been fully investigated in Finland.

The active play indicator was graded “D” based on self-report data from the Adolescent Health and Lifestyle Survey,<sup>7</sup> which highlighted that 34% of children and adolescents (12- to 18-year-olds, n = 4,566) participated in physical activities outside school or sports clubs at least four times per week and 85% at least once a week.<sup>8</sup>

# D

YEAR: 2014  
BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of children and youth who participate in physical activities outside school or sports clubs at least four times per week.

### RECOMMENDATIONS

- Physically active play should be increased in all age groups of children and youth.
- Kindergarten and school yards should be developed to better allow physical activities during the day and leisure time.
- Parents should be informed about the importance for children to actively use neighbourhood facilities, such as parks and school and kindergarten yards for physical activities.

### RESEARCH GAPS

- Research is needed on how to accurately and objectively measure physically active play.
- Longitudinal research is needed on psychological, social and physical antecedents of physical activity in children and youth.
- Research is needed on how to promote greater independent mobility among children so that they have more freedom to safely travel and play without adult supervision.
- Research is needed on the benefits of physical activity on health and well-being on small children.
- Research is needed on the effects of light intensity physical activity on health and well-being.

# 4 Active transportation

## MOST CHILDREN AND YOUTH COMMUTE PHYSICALLY ACTIVELY TO SCHOOL, DEPENDING ON THE DISTANCES

Almost all children and adolescents commute physically actively to school when the distance is one kilometre or less. Three-quarters commute actively to school when the distance is 1–3 kilometres, one-third when the distance is 3–5 kilometres and one-fifth when the distance is over 5 kilometres.

# B

YEAR: 2014  
BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of children and youth who commuted physically actively to school when the distance was 1 to 3 kilometres.

Active transportation to school was graded “B” based on a survey of 1,677 students from grades 4 to 9 (10- to 15-year olds).<sup>9</sup> Almost all, more than 90%, of children and adolescents commuted physically actively to school when the distance was a maximum of one km. Seventy-four percent of children commuted actively to school when the distance was 1–3 kilometres, 38% when the distance was 3–5 kilometres and 18% when the distance was over 5 kilometres. The distance from home to school was less than 3 km for 79% of children in grades 4 to 6 and for 57% of children in grades 7 to 9.<sup>9</sup>

### RECOMMENDATIONS

- Parents should support and encourage their children to actively commute to school as well as to meet friends and to go to after-school hobbies.
- School administrators should enhance the implementation of safety school travel plans to ensure active and safe routes to school.
- Policy-makers should develop planning to ensure that the built environment supports walking and biking as an easy and safe choice for children.

### RESEARCH GAPS

- Effective interventions are needed for schools and parents to promote children’s active transport.
- Research is needed about the hindrances for physically active commuting to and from school.



# 5 Sedentary behaviours

## MOST CHILDREN AND YOUTH EXCEED MORE THAN TWO HOURS OF SCREEN TIME ON A DAILY BASIS

According to self-assessments, three-quarters of Finnish adolescents exceed the two hours per day screen time recommendation.<sup>2</sup> On weekends, the volume of screen time almost doubles. Especially in the case of boys, the use of computer and console games on weekends is alarmingly high. Objective measurement by accelerometers revealed that sedentary time varies between 5 hours per day for 7–8 year-old children and almost 9 hours per day for 13–14 year-old adolescents. Objectively measured sedentary time during the school day varies between 35 minutes per hour with first-graders and 45 minutes per hour with eighth-graders, revealing the highly sedentary role of the school. The Finnish Schools on the Move programme may play an important role in helping Finnish schools move toward more physically active and less sedentary daily routines.

# D

YEAR: 2014  
BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of children and youth who meet the Finnish Sedentary Behaviour Guidelines (less than two hours of sedentary time per day from discretionary screen time (watching TV, videos or DVDs).

According to the HBSC 2010 data (n = 6,678), 78% of Finnish 11- to 15-year-olds exceed the sedentary behaviour guideline of less than 2 hours of screen time per day from discretionary screen time (watching TV, videos or DVDs) on weekdays.<sup>3</sup> On weekends the volume of this sedentary activity almost doubled. Computer and console games were problematic issues mainly for boys and especially on weekends. Other recreational usage of computers was more gender neutral, but an issue of concern as 47% of 11- to 15-year-olds spent time with it over the recommendation limit during weekdays and 59% during weekends.<sup>3</sup>

In a Finnish Schools on the Move study in 2010–2012, sedentary time was measured objectively during waking hours by ActiGraph accelerometer.<sup>5</sup> Sedentary time was defined as < 1.5 MET (< 100 cpm). Objectively measured sedentary time varied between 5.3 hours/day (7–8 year-olds) and 8.5 hours/day (13–14 year-olds). During the school day, objectively measured sedentary time varied between 35 min/hour and 45 min/hour across these same age groups.<sup>5</sup> Based on these two sets of data, sedentary behaviour was graded “D”.

### RECOMMENDATIONS

- Parents should set clear rules related to screen time at home.
- School administrators should encourage children to stand up and go out during recess.
- School administrators should provide opportunities to work standing and to have active breaks in sitting during classes as well as increase the use of functional teaching methods to reduce sedentary time during school hours.

### RESEARCH GAPS

- Effective interventions studies should be executed for schools and parents to reduce sedentary behaviour at school, at home and during transportation.
- Research is needed on effective strategies for reducing sedentary behaviours in different contexts.



# 6 Family and peers infrastructure, support, parental/peer behaviours

## HALF OF CHILDREN AND YOUTH REPORTED BEING PHYSICALLY ACTIVE WITH THEIR PEERS

In families with children, less than one-third of mothers and one-fourth of fathers are physically active for at least 30 minutes four times or more often per week. A great majority of parents report being physically active with their children and transport them to physical activities when needed. Half of children and youth reported being physically active with their peers.

Based on questionnaire data collected during 2003–2008 (n = 30,000), 42% of mothers and 36% of fathers in families with no children were physically active. 10 In the case of families with one child, 33% of mothers and 25% of fathers, and in the case of two-child families, only 24% of mothers and 25% of fathers are physically very active. The criterion for physically active adults was moderate-to-vigorous physical activity for 30 minutes four or more times per week.<sup>10</sup>

According to the national health-promoting sports club (HPSC) study (n = 1,532) 93% of Finnish 14 to 16 year-olds reported that in a typical week at least one of their parents has encouraged them to be physically active and 79% indicated their parents transport them to physical activities or sports when needed.<sup>11</sup> Forty-eight percent of 3- to 18-year-olds (n = 5,505) reported to be physically active with their peers (58% in 2001), 37% alone and 13% in school sports clubs. Based on the multiple data presented above, this indicator was graded “C”.

# C

YEAR: 2014  
BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of children and youth whose parents or peers at least temporarily encourage them to be physically active.

### RECOMMENDATIONS

- Parents should encourage physical activity and reduce excessive sedentary behaviour of their children.
- Parents should be informed about the benefits of physically active play and provided guidance on simple strategies to ensure family time involving physical activity.
- Parents and caregivers should be aware that while active video games may offer one way to break up sedentary time, they are not as good as playing real active games or sports.
- Parents should be encouraged to take advantage of opportunities for active transportation with their children in their daily routines, such as doing shopping and walking shorter distances rather than using a car.
- Special programs for girls involving social support from peers to increase physical activity and motor skills should be developed.
- Peer leadership opportunities should be developed allowing more autonomy for children and youth in designing environments and programs for promoting physical activity.

### RESEARCH GAPS

- Research should focus on strategies to encourage parents especially with young children to establish a physically active lifestyle.
- Research should gain knowledge about effective family routines engaging in family physical activity.
- Research is needed on whether peer modeling and support have effects on the physical activity levels of children and adolescents and to assess the role of peers in adopting physical activity and screen time behaviours following the Finnish recommendations.

# 7 School – infrastructure, policies and programmes

## MOST SCHOOLS HAVE PROPER FACILITIES FOR RECESS ACTIVITIES

Almost all students in elementary school but only one-fourth of the students in secondary school spend the recess outdoors. However, participation in physically active play during recess declines remarkably during the transition from elementary school to secondary school. Almost half of schools have encouraged pupils to commute to school by bike or walk. During the academic year 2013–2014, the number of comprehensive schools that were involved in the national Finnish Schools on the Move Programme was approximately 500, which represented one-fifth of all Finnish comprehensive schools.

Almost all students in elementary school but only one-fourth of students in secondary school spend the recess outdoors.<sup>5</sup> Participation in physically active play during recess declines from elementary school to secondary school (in girls from 32% to 4% and in boys from 45% to 25%).<sup>5</sup> According to the Benchmarking Welfare and Health Promotion within the Comprehensive School System (BWHS; National Institute for Health and Welfare) based on unpublished data on 2,020 comprehensive schools (74% of all schools), 63% of the schools have developed the schoolyard for a more appealing, stimulating neighbourhood sports facility during the school year 2012–2013.<sup>12</sup> Similarly, 55% had promoted the use of indoor sporting facilities during the school day, 43% had encouraged pupils to commute to school by bike or walking, 42% had long recess times that were suitable for physical activity and 37% had trained peer sports instructors.<sup>12</sup> Based on the varied statistics presented above, grade “B” was given to this indicator.

# B

YEAR: 2014  
BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of schools that have developed the schoolyard to be more appealing, promoted the use of indoor sporting facilities and encouraged pupils to actively commute to school.

### RECOMMENDATIONS

- The perspective of physical activity should be included in all professional education.
- Well-equipped neighbourhood sport facilities enabling local physical activity should be available in each school and kindergarten yard and all parks and suburbs.
- A high level of enjoyment in school physical education is associated with higher levels of physical activity. Task-involving practices, i.e. perceived competence enhancing as well as autonomy and social relatedness supporting motivational climate, are important antecedents of enjoyment. Thus, there is a need for interventions to promote individual perceptions of a favourable motivational climate in school physical education.
- Compliance with school policies creates more school-based physical activity opportunities, which is proven by the experiences of the “Finnish Schools on the Move” programme. Increasing support for and evaluation of compliance with physical education policies and programmes and support of uptake needs to be provided.
- The number of school physical education lessons should be increased.

### RESEARCH GAPS

- Finland could benefit from research evaluating the degree to which increased physical activity opportunities at school have an effect on physical activity levels.
- Research is needed to identify the barriers that hinder school and childcare administrators and personnel from implementing effective physical activity promotion.
- Modelling successful experiences could help in solving the challenges of children’s and adolescents’ physical inactivity levels.

# 8 Community and the built environment – infrastructure, policies, programmes, safety

## OVER HALF OF MUNICIPALITIES HAVE POLICIES PROMOTING PHYSICAL ACTIVITY

Half of Finnish municipalities have a physical activity strategy document and plan for developing neighbourhood physical activity facilities. Practically all municipalities have infrastructure for physical activity, especially pedestrian or bike lanes.

According to the BSHPCB data<sup>12</sup> representing 230 municipalities, 47% of the municipalities report that they have a strategy document for physical activity and 56% have a strategic plan for developing neighbourhood physical activity facilities. All municipalities (100%) have basic infrastructure for physical activity (e.g. sidewalks, trails, paths, bike lanes). Over 90% of the municipalities have pedestrian or bike lanes with an average of 6.1 metres/km<sup>2</sup>/1,000 inhabitants (min 0.0; max 263) as well as 9.2 sports sites/1,000 inhabitants (min 1.8; max 42.4). Based on the statistics presented above, a grade “B” was given to this indicator.

# B

YEAR: 2014

BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of municipalities that have a strategy document for physical activity, a strategic plan for developing neighbourhood physical activity facilities, pedestrian and bike lanes or sports sites.

### RECOMMENDATIONS

- Municipalities, in partnership with health, education and other sectors, should develop and implement comprehensive physical activity plans, which include policy, supportive environments, programming and appropriate social marketing initiatives.
- Policies and bylaws that pose a barrier to active play should be examined and modified.
- Non-standardised sport facilities should be built in municipalities in order to enable unstructured play.
- Municipalities should offer free facilities for sports clubs enabling physical activity activities for children and adolescents.
- Family-based recreation activities should be designed for accommodating various family needs.

### RESEARCH GAPS

- Research is needed on how traditional programmes and facilities meet the physical activity needs of special groups, such as immigrants.
- Research is needed utilising GPS/GIS location data in combination with accelerometers to study relationships between the built environment, e.g. sidewalks, walking and skiing trails and bike paths, and physical activity, to assess the extent of improvement within municipalities.

# 9 Government – strategies, policies, investments

## MOST FINNS REPORT THAT THEIR NEIGHBOURHOOD ENVIRONMENT ALLOWS THEM TO BE PHYSICALLY ACTIVE

The Sport Act regulates the aims of physical activity at governmental, regional and local levels. In 2013, a total of 312 out of 320 municipalities followed the goals of the Sport Act offering, maintaining and creating conditions for physical activity.<sup>13</sup> The Sport Act is a progressive law that gives direction and sets tasks in sport policy and culture for all levels of the public sector as well as for the third sector, e.g. national sport federations and local sports clubs.

During 2013 the budget of the Ministry of Education and Culture for enhancing physical activity and sports was 147 M€ (27 €/inhabitant), the focus being on children's and the elderly's physical activity. In addition, the Ministry of Social Affairs and Health as well as the Finnish National Board of Education and the Finland Slot Machine Association substantially financed health-enhancing physical activity projects.

Also, the Ministries of Transport and Communication, Environment and Agriculture and Forestry contribute significant resources for the development of the neighbourhood environment, pedestrian and bicycle roads as well as recreational use of nature.<sup>14</sup> Two-thirds of Finns reported that their neighbourhood environment allows them to be physically as active as they wish.<sup>13</sup> Children's and adolescents' physical activities are supported by the government through voluntary sport organisations (total support for these organisations in 2012 was 43.9 M€) and programmes (programmes for children and young people in 2012 5.5 M€).<sup>15</sup> Thus, this indicator was graded "B".

# B

YEAR: 2014  
BENCHMARK:

A	81%–100%
B	61%–80%
C	41%–60%
D	21%–40%
F	00%–20%

Percentage of Finns who reported that their neighbourhood environment allows them to be physically as active as they wish.

### RECOMMENDATIONS

- The perspective of physical activity and the problems of a sedentary lifestyle should be included in the government platform and in the programme of all the ministries.
- All decisions should be evaluated from the perspective of cultural consequences as far as physical activity and sedentary lifestyle are concerned.
- Governmental financing should be primarily directed to non-standardised neighbourhood sport and physical activity facilities.

### RESEARCH GAPS

- Regular research data are needed on the effects of neighbourhood sport facilities on the physical activity levels of children and youth, especially girls, non-participants of sports clubs and immigrants.
- Research is needed on the effects of increased governmental finance support to sports clubs organising activities for children and adolescents.

# Summary of indicators

Table 1. Grades According to Physical Activity Indicator in the 2014 Finland Report Card on Physical Activity for Children and Youth

Indicator	Grades
1. Overall physical activity levels	D
2. Organised sport participation	C
3. Active play	D
4. Active transportation	B
5. Sedentary behaviours	D
6. Family and peers – infrastructure, support, parental/peer behaviours	C
7. School – infrastructure, policies and programmes	B
8. Community and the built environment – infrastructure, policies, programmes, safety	B
9. Government – strategies, policies, investments	B

Note. The grade for each indicator is based on the percentage of children and youth meeting a defined benchmark: A is 81% to 100%; B is 61% to 80%; C is 41% to 60%, D is 21% to 40%; F is 0% to 20%.

# Methodology and data sources

Table 2. Main data sources.

Data source	Methods, study population and year of measurement	Variables and their contribution to physical activity indicators (1 to 9)
Finnish Schools on the Move Programme and Research	<ul style="list-style-type: none"> <li>Objective measures of physical activity and sedentary time for students by accelerometer (ActiGraph, Pensacola, US), grades 1 to 6 students (n = 568) and grades 7 to 9 students (n = 130)<sup>5</sup></li> <li>Surveys for students from grades 4 to 9 (10- to 15-year-olds) in 2010–2012 (n = 1,677)<sup>5,9</sup></li> <li>Survey for school personnel in 39 schools, spring 2013 (n = 531)<sup>16</sup></li> <li>Survey for 32 schools in 2012<sup>17</sup></li> </ul>	<ul style="list-style-type: none"> <li>Objectively measured MVPA, (<math>\geq 4.0</math> MET, <math>\geq 2296</math> cpm) (1) and sedentary time (<math>&lt; 1.5</math> MET, <math>&lt; 100</math> cpm) (5)</li> <li>Active commuting to school (4)</li> <li>Physically active play during recess (7)</li> <li>School staff's awareness of physical activity recommendations (7)</li> <li>Sport equipment and facilities at schools (7)</li> </ul>
Adolescent Health and Lifestyle Survey	<ul style="list-style-type: none"> <li>Survey for adolescents aged 12 to 18 years (n = 4,566) in 2013<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>Physical activities outside school or sports clubs (3)</li> </ul>
Health Behaviour in School-aged Children (HBSC)	<ul style="list-style-type: none"> <li>Survey for children aged 11, 13 and 15 years, Finnish data, year 2010 (n = 6,682)<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>Fulfilment of recommendation related to MVPA (60 min/day, 7 days per week) (1) and screen time (5)</li> <li>Participation in organised sports (2)</li> </ul>
National Health Promoting Sports Club (HPSC) study	<ul style="list-style-type: none"> <li>Adolescents aged 14 to 16 years, in 2013 (n = 1,532)<sup>11</sup></li> </ul>	<ul style="list-style-type: none"> <li>Parental encouragement to be physically active and transport to physical activities or sports when needed (6)</li> </ul>
Benchmarking System of Health Promotion Capacity Building (BSHPCB)	<ul style="list-style-type: none"> <li>Survey for the headmasters of comprehensive schools (grades 1 to 9), autumn 2013 (n = 2020).<sup>12</sup></li> <li>Surveys for the management of the sport/physical activity services of the municipalities, spring 2012 (n = 230).<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>Data on school physical activity policies (7)</li> <li>Data on the physical activity policies of municipalities (7)</li> </ul>

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