Global Matrix 3.0:
International Results from 49 Countries

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Presentation Overview

- History of Active Healthy Kids Global Alliance Report Cards
- Global Matrix 3.0 process
- Impact and growth of the Global Matrix initiative
- Global Matrix 3.0 findings
- Key messages
- How to find out more
- Where to from here
- Recognition of country Report Card leaders
History

• Active Healthy Kids Canada started developing a Report Card on the Physical Activity of Children and Youth in 2005 in an effort to *power the movement to get kids moving*

• More than 60 jurisdictions have replicated the Canadian Report Card

• The **Active Healthy Kids Global Alliance** was established in 2014 to facilitate international comparisons among Report Card findings using a “Global Matrix” of grades

• In 2018 the Active Healthy Kids Global Alliance was incorporated as a not-for-profit organization
Report Card Framework and Process

• The Report Card assigns letter grades to different indicators grouped into categories

• Grades are based on a synthesis and examination of current data against a benchmark

• Assessment of trends over time and the presence of disparities

• Together the indicators provide a robust and comprehensive assessment of physical activity of children and youth
Report Card Leadership Committee

- National in scope
- Cross-sectoral representation
- Unbiased
- Transparent
- Participatory
- Consensus driven
- Harmonization with AHKGA
Common Indicators in Global Matrix 3.0

• Five behaviours
  – *Overall physical activity*
  – *Organized sport and physical activity*
  – *Active play*
  – *Active transportation*
  – *Sedentary behaviour*

• One personal characteristic — *Physical Fitness*

• Four settings and sources of influence
  – *Family and peers*
  – *School*
  – *Community and environment*
  – *Government*
<table>
<thead>
<tr>
<th>Overall Physical Activity</th>
<th>Any bodily movement produced by skeletal muscles that requires energy expenditure.</th>
<th>% of children and youth who meet the Global Recommendations on Physical Activity for Health, which recommend that children and youth accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity per day on average.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized Sport and Physical Activity</td>
<td>A subset of physical activity that is structured, goal-oriented, competitive and contest-based.</td>
<td>% of children and youth who participate in organized sport and/or physical activity programs.</td>
</tr>
</tbody>
</table>
### Table 2  Global Matrix 3.0 Grading Rubric

<table>
<thead>
<tr>
<th>Grade</th>
<th>Interpretation</th>
<th>Corresponding number for analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>94%–100%</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td>We are succeeding with a large majority of children and youth (87%–93%)</td>
<td>14</td>
</tr>
<tr>
<td>A–</td>
<td>80%–86%</td>
<td>13</td>
</tr>
<tr>
<td>B+</td>
<td>74%–79%</td>
<td>12</td>
</tr>
<tr>
<td>B</td>
<td>We are succeeding with well over half of children and youth (67%–73%)</td>
<td>11</td>
</tr>
<tr>
<td>B–</td>
<td>60%–66%</td>
<td>10</td>
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<tr>
<td>C+</td>
<td>54%–59%</td>
<td>9</td>
</tr>
<tr>
<td>C</td>
<td>We are succeeding with about half of children and youth (47%–53%)</td>
<td>8</td>
</tr>
<tr>
<td>C–</td>
<td>40%–46%</td>
<td>7</td>
</tr>
<tr>
<td>D+</td>
<td>34%–39%</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>We are succeeding with less than half but some children and youth (27%–33%)</td>
<td>5</td>
</tr>
<tr>
<td>D–</td>
<td>20%–26%</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>We are succeeding with very few children and youth (&lt;20%)</td>
<td>2</td>
</tr>
<tr>
<td>INC</td>
<td>Incomplete—insufficient or inadequate information to assign a grade</td>
<td>No grade</td>
</tr>
</tbody>
</table>
Form and Format

• Report Card (long and short form)
• Print and electronic
• Multiple languages in some countries
• Housed on Active Healthy Kids _________ website
The Report Card Serves as...

- A public awareness mechanism and call to action through a nationwide media advocacy strategy
- An accountability index for all citizens
- A surveillance synthesis mechanism
- An advocacy tool for physical activity leaders and organizations
- A policy driver
- A process for identifying research and surveillance needs
- A challenge to other countries and jurisdictions to implement similar processes to allow comparisons and facilitate improvements
Physical Activity of Children: A Global Matrix of Grades Comparing 15 Countries

Mark S. Tremblay, Casey E. Gray, Kingsley Akinroye, Dierdre M. Harrington, Peter T. Katzmarzyk, Estelle V. Lambert, Jarmo Liukkonen, Ralph Maddison, Reginald T. Ocansey, Vincent O. Onywera, Antonio Prista, John J. Reilly, María del Pilar Rodríguez Martínez, Olga L. Sarmiento Duenas, Martyn Standage, and Grant Tomkinson

The Active Healthy Kids Canada (AHKC) Report Card on Physical Activity for Children and Youth has been effective in powering the movement to get kids moving by influencing priorities, policies, and practice in Canada. The AHKC Report Card process was replicated in 14 additional countries from 5 continents using 9 common indicators (Overall Physical Activity, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behavior, Family and Peers, School, Community and Built Environment, and Government Strategies and Investments), a harmonized process and a standardized grading framework. The 15 Report Cards were presented at the Global Summit on the Physical Activity of Children in Toronto on May 20, 2014. The consolidated findings are summarized here in the form of a global matrix of grades. There is a large spread in grades across countries for most indicators. Countries that lead in certain indicators lag in others. Overall, the grades for indicators of physical activity (PA) around the world are low/poor. Many countries have insufficient information to assign a grade, particularly for the Active Play and Family and Peers indicators. Grades for Sedentary Behaviors are, in general, better in low income countries. The Community and Built Environment indicator received high grades in high income countries and notably lower grades in low income countries. There was a pattern of higher PA and lower sedentary behavior in countries reporting poorer infrastructure, and lower PA and higher sedentary behavior in countries reporting better infrastructure, which presents an interesting paradox. Many surveillance and research gaps and weaknesses were apparent. International cooperation and cross-fertilization is encouraged to tackle existing challenges, understand underlying mechanisms, derive innovative solutions, and overcome the expanding childhood inactivity crisis.

Keywords: active transportation, comparison, international, play, policy, sedentary behavior, sport
2014 Report Card

Distributed
12,676 printed copies and
210,468 electronic copies of the 2014 Report Card

21,371 visitors to the Active Healthy Kids Canada website from 92 countries

National Media Campaign achieved 219 million media impressions

Deep editorial coverage in national newspapers including the Globe and Mail as well as wide regional coverage

67% of Canadians heard at least one key message about the 2014 Report Card (Angus Reid Omnibus Survey Results Week of June 2, 2014)

The #AHKCRreportcard hashtag was trending on twitter for the day of the release

“For over 10 years, the Report Card has provided government officials with a unique resource outlining progress in research pertaining to the physical activity patterns of children and youth. In an era where evidence-informed policy development is critical, the annual Report Card has become an invaluable asset.”

– Dr. Art Salmon, Research Working Group Member

How the 2014 Report Card was used by stakeholders

53% share with my colleagues and networks via email and social media
45% keeping up with the research
41% make changes personally within my own family
35% integrate into education and training activities
34% advocacy
Global Matrix 2.0: Report Card Grades on the Physical Activity of Children and Youth Comparing 38 Countries

Mark S. Tremblay, Joel D. Barnes, Silvia A. González, Peter T. Katzmarzyk, Vincent O. Onyewa, John J. Reilly, Grant R. Tomkinson, and the Global Matrix 2.0 Research Team

The Active Healthy Kids Global Alliance organized the concurrent preparation of Report Cards on the physical activity of children and youth in 38 countries from 6 continents (representing 60% of the world’s population). Nine common indicators were used (Overall Physical Activity, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behavior, Family and Peers, School, Community and the Built Environment, and Government Strategies and Investments), and all Report Cards were generated through a harmonized development process and a standardized grading framework (from A = excellent, to F = failing). The 38 Report Cards were presented at the International Congress on Physical Activity and Public Health in Bangkok, Thailand on November 16, 2016. The consolidated findings are summarized in the form of a Global Matrix demonstrating substantial variation in grades both within and across countries. Countries that lead in certain indicators often lag in others. Average grades for both Overall Physical Activity and Sedentary Behavior around the world are D (low/poor). In contrast, the average grade for indicators related to supports for physical activity was C. Lower-income countries generally had better grades on Overall Physical Activity, Active Transportation, and Sedentary Behaviors compared with higher-income countries, yet worse grades for supports from Family and Peers, Community and the Built Environment, and Government Strategies and Investments. Average grades for all indicators combined were the highest (best) in Denmark, Slovenia, and the Netherlands. Many surveillance and research gaps were apparent, especially for the Active Play and Family and Peers indicators. International cooperation and cross-fertilization is encouraged to address existing challenges, understand underlying determinants, conceive innovative solutions, and mitigate the global childhood inactivity crisis. The paradox of higher physical activity and lower sedentary behavior in countries reporting poorer infrastructure, and lower physical activity and higher sedentary behavior in countries reporting better infrastructure, suggests that autonomy to play, travel, or chore requirements and/or fewer attractive sedentary pursuits, rather than infrastructure and structured activities, may facilitate higher levels of physical activity.

Keywords: international, play, policy, sedentary behavior, sport, active transportation
COUNTRY REPORT CARDS AND GLOBAL MATRIX 2.0
SUMMARY OF THE MEDIA ATTENTION

The development of this first summary was based on the media hits reported by the Report Card leaders to us, and completed by a google search in English, French and Spanish. Some information can potentially be missing and you still can send us an update of the media coverage (including web links when it is possible) of your Country Report Cards and Global Matrix 2.0 in your country.

Media hits have been reported for 17 countries with a minimum of 1 hit for several countries and a maximum of 446 for Canada (Figure 1). No hits were reported for 21 countries (55%) of the participating countries.

![Figure 1: Number of media hits reported per country participating in the Global Matrix 2.0. The size of the column for Canada and Thailand has been reduced for more clarity.](image)
Global Matrix 3.0 Physical Activity Report Card Grades for Children and Youth: Results and Analysis From 49 Countries


Background: Accumulating sufficient moderate to vigorous physical activity is recognized as a key determinant of physical, physiological, developmental, mental, cognitive, and social health among children and youth (aged 5–17 y). The Global Matrix 3.0 of Report Card grades on physical activity was developed to achieve a better understanding of the global variation in child and youth physical activity and associated supports. Methods: Work groups from 49 countries followed harmonized procedures to develop their Report Cards by grading 10 common indicators using the best available data. The participating countries were divided into 3 categories using the United Nations’ human development index (HDI) classification (low or medium, high, and very high HDI). Results: A total of 490 grades, including 369 letter grades and 121 incomplete grades, were assigned by the 49 work groups. Overall, an average grade of “C−”, “D+,” and “C−” was obtained for the low and medium HDI countries, high HDI countries, and very high HDI countries, respectively. Conclusions: The present study provides rich new evidence showing that the situation regarding the physical activity of children and youth is a concern worldwide. Strategic public investments to implement effective interventions to increase physical activity opportunities are needed.

Keywords: global comparison, sedentary behavior, health promotion, international, sport, active transportation
Global Matrix 3.0 Breaks the Internet!
Growth in countries participating in Global Matrices

- 25% of the world’s countries!
- 64% of the world’s population!
- 47% of the world’s land mass!
Number of experts involved in country Report Cards

- 2014: 158
- 2016: 438
- 2018: 517
AHKGA Global Matrix 3.0 Network
Academic impact of the Global Matrices

• 179 conference presentations including 7 keynote presentations, 60 oral presentations, and 112 poster presentations
• 84 peer-reviewed articles have been published, accumulating a total of 879 citations as of August 2018
Examples of impact of the Global Matrices in participating countries

- **Education:** national conference was created in Denmark
- **Policy:** a new regulation mandating 1 hour of daily physical activity in public schools was introduced in Chile
- **Surveillance:** nationally representative physical activity survey was developed in China, Chile, and Thailand
- **Expansion:** report card focused on PA of youth with chronic conditions and disabilities was produced in the Netherlands
Results from Global Matrix 2.0 Report Card leader survey

• 81% of report card leaders felt that the Global Matrix 2.0 contributed to an increase in scientific knowledge and to “powering the movement to get kids moving”

• 72% of the Report Card leaders thought that the Global Matrix 2.0 provided other benefits to society

• 97% expect their Report Card to have a positive influence on “powering the movement to get kids moving”
Global Matrix 3.0

• Initiated planning in January 2017
• Monthly eblasts from AHKGA
• Mentors assigned to new countries doing report cards
• 49 countries participated: 34 from Global Matrix 2.0 and 15 new countries
• 517 experts from around the world involved
## Global Matrix 3.0

### Table 4: Grades Assigned to the 10 Core Physical Activity Indicators for the 49 Countries of the Global Matrix 3.0

<table>
<thead>
<tr>
<th>Country</th>
<th>PA</th>
<th>SP</th>
<th>AP</th>
<th>AT</th>
<th>SB</th>
<th>PF</th>
<th>FAM</th>
<th>SCH</th>
<th>COM</th>
<th>GOV</th>
<th>AVG</th>
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<tbody>
<tr>
<td>Australia</td>
<td>D−</td>
<td>B−</td>
<td>INC</td>
<td>D+</td>
<td>D−</td>
<td>D+</td>
<td>C+</td>
<td>B+</td>
<td>A−</td>
<td>D</td>
<td>C−</td>
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<tr>
<td>Bangladesh</td>
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<td>C−</td>
<td>A−</td>
<td>INC</td>
<td>INC</td>
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<td>INC</td>
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<td>C−</td>
</tr>
<tr>
<td>Belgium (Flanders)</td>
<td>F</td>
<td>B</td>
<td>INC</td>
<td>C+</td>
<td>C</td>
<td>INC</td>
<td>C+</td>
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<td>B</td>
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<td>C</td>
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<td>INC</td>
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<td>C</td>
<td>INC</td>
<td>B+</td>
<td>C−</td>
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<td>B</td>
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<td>F</td>
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<td>C</td>
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<td>B+</td>
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<td>D</td>
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<td>D−</td>
<td>C−</td>
<td>D−</td>
<td>C+</td>
<td>D+</td>
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</tbody>
</table>
Findings – Overall Physical Activity

• Benchmark: % of children and youth who meet physical activity guidelines
• Data from 1,367,783 children
• Global average: D
• HDI variation
  – low and medium HDI: C-
  – high HDI: D-
  – very high HDI: D-
• Slovenia reported the highest grade (A-); six countries reported failing (F) grades
• Only two countries (Botswana and Japan) reported INC grades
• Grades were generally higher in low and medium HDI countries and a significant negative correlation was observed between HDI and overall PA grade
Findings – Organized Sport and PA

• Benchmark: % of children and youth who participate in organized sport and/or physical activity programs
• Global average: C
• HDI variation
  – low and medium HDI: C
  – high HDI: D+
  – very high HDI: C+
• Denmark had the highest grade (A-) and 12 countries had grades of B
• Seven countries reported “INC” grades
• 12/13 top grades for this indicator were from very high HDI countries while the only two F grades (Lebanon and Uruguay) were from high HDI countries
• Significant positive correlations between the grade and HDI and country public health expenditures was observed
Findings – Active Play

• Benchmark: % of children and youth who engage in unstructured / unorganized active play for more than 2 hours a day
• Global average: D+
• HDI variation
  – low and medium HDI: C-
  – high HDI: D
  – very high HDI: D+
• No countries reported a grade of A for Active Play; the highest grade was B (Ethiopia and The Netherlands)
• Notably, 29 countries reported INC grades, identifying the need for greater clarity on the definition and benchmarks, and subsequent surveillance
Findings – Active Transportation

• Benchmark: % of children and youth who use active transportation to get to and from places (school, park, mall, friend’s place)
• Global average: C
• HDI variation
  – low and medium HDI: C+
  – high HDI: C
  – very high HDI: C-
• Wide distribution with A- in Japan, Nepal, Zimbabwe and F for Chile; only Qatar and UAE had INC grades
• Poor grades were reported in 16/30 very high HDI countries
• Countries with high grades come from very diverse climates, suggesting weather is not necessarily a key determinant
• The grades for three countries in East Asia (Hong Kong, Japan, South Korea) were generally better than grades from other countries
Findings – Sedentary Behaviour

• Benchmark: % of children and youth who meet screen-time guidelines

• Global average: D+

• HDI variation
  – low and medium HDI: C+
  – high HDI: D
  – very high HDI: D+

• Highest grade was A- from Bangladesh; five countries (China, Estonia, Ethiopia, Scotland, Wales) had an F grade; only 3 countries had an INC

• Low grades for sedentary behaviour were positively correlated with overall behavioral scores
Findings – Physical Fitness

• Benchmark: average percentile achieved on physical fitness indicators based on global normative values

• Global average: C-

• HDI variation
  – low and medium HDI: F (only India reported a grade)
  – high HDI: D
  – very high HDI: C-

• 27 INC grades so caution should be used in making comparisons across HDI

• Grades ranged from A in Japan to F in India

• Significant positive correlation with country public health expenditure and negative correlation with Gini and Gender Inequality Indices
Findings – Family and Peers

• Benchmark examples: % of parents who facilitate physical activity and sport opportunities for their children; % of parents who meet the physical activity guidelines for adults; % of parents who are physically active with their kids; % of children and youth with friends and peers who encourage and support them to be physically active

• Global average: D+

• HDI variation
  – low and medium HDI: D+
  – high HDI: D+
  – very high HDI: C-

• 22 countries had INC grades; F grades were assigned by Chile, Ecuador, Ethiopia, Ghana; Nepal had an A grade

• Grades were negatively correlated with Gini and Gender Inequality Indices
Findings – School

• Benchmark examples: % of schools with active school policies; % of schools where the majority (≥ 80%) are taught by a PE specialist; % of schools that offer PA opportunities (excluding PE) to the majority (≥ 80%) of their students; % of children and youth who have access to PA opportunities at school in addition to PE; % of schools with students who have regular access to facilities and equipment that support PA

• Global average: C

• HDI variation
  – low and medium HDI: D+
  – high HDI: C-
  – very high HDI: C+

• Grades ranged from A in Finland, Portugal and Slovenia to D- in South Africa, UAE, and US with a relatively even distribution of grades by other countries

• Positive correlation between grade and HDI; and negative correlation between grade and Gini and Gender Inequality Indices
Findings – Community and the Built Environment

• Benchmark examples: % of children or parents who perceive their community is doing a good job at promoting PA; % of communities that report they have policies promoting PA; % of communities that report infrastructure geared toward promoting PA; % of children or parents with facilities, programs, parks and playgrounds near-by; % of children living in a safe neighborhood where they can be active

• Global average: C

• HDI variation
  – low and medium HDI: D
  – high HDI: D+
  – very high HDI: B-

• Grades ranged from A in Sweden to D- in Venezuela with 13 INC grades

• Positive association between grade and: HDI, life expectancy at birth, mean years of schooling, growth national income per capita, public health expenditure, global food security index; and negative association with Gini Index and gender inequality index

• Negative relationship with Overall PA grade (nonsignificant)
Findings – Government

- Benchmark examples: Evidence of leadership and commitment in providing PA opportunities for all children and youth; Allocated funds and resources for the implementation of PA promotion strategies and initiatives for all children and youth
- Global average: C
- HDI variation
  - low and medium HDI: C-
  - high HDI: D+
  - very high HDI: C+
- Denmark and Finland reported the highest (A-) grade followed by 13 countries in the B range. Only China and Venezuela reported F grades. Eight countries reported INC.
- Government grade is strongly correlated with Community and Environment grade and Sources of Influence score
- Lack of implementation noted and dearth of quality assurance or evaluation
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Global Matrix 2.0</th>
<th>Global Matrix 3.0</th>
</tr>
</thead>
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<td>Overall Physical Activity</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Organized Sport and PA</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Active Play</td>
<td>C</td>
<td>D+</td>
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<tr>
<td>Active Transportation</td>
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<td>C</td>
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<tr>
<td>Sedentary Behaviour</td>
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<tr>
<td>Physical Fitness</td>
<td>-</td>
<td>C-</td>
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<tr>
<td>Family and Peers</td>
<td>C</td>
<td>D+</td>
</tr>
<tr>
<td>School</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Community and Environment</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Government</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>
Global Findings

Key Message # 1

For the first time, Report Cards on Physical Activity for Children and Youth were developed in 49 countries across six continents. These results from the Active Healthy Kids Global Alliance show us there is much we can learn from each other.
Global Findings

Key Message # 2

The majority of children and youth are not active enough, spend too much time in front of screens, and have a low level of physical fitness. Different patterns were observed across the Human Development Index categories of country.
Countries succeeding overall, including Slovenia, Zimbabwe, and Japan rely on very different approaches to get kids moving. What is consistent among all of them is that physical activity is driven by pervasive cultural norms—being active is not just a choice, but a way of life. We need to make the active choice normal/habitual.
Global Findings

Key Message # 4

Urbanization, mechanization, increased use of motorized transport and excessive recreational screen time have changed physical activity levels globally. Pushing back against these trends requires changes to social and built environments. It will take many sectors of society, working together, to shift behaviors to get our children and youth more physically active. Their health depends on it!
Global Priorities for Action

• Create a global movement for comprehensive school physical activity programs that support and allow ALL children and youth to meet the physical activity guidelines through a variety of strategic interventions (e.g., active recess options, physical activity breaks, compulsory physical education)
• Create a global culture of active kids / active people in all settings, prioritizing active transportation above other modes of transportation
• Invest in comprehensive social interventions and research to improve implementation and uptake strategies to manage recreational screen time among children and youth
• Develop a standardized global surveillance system for physical activity and related indicators among children and youth to fill the current gaps, especially in low- and medium-income countries
• Evaluate the implementation, efficacy, and effectiveness of national strategies and policies
Global Matrix 3.0 Testimonials

"I am very pleased and privileged to be a part of the AHKGA Global Matrix 3.0 initiative, which provided us with a unique opportunity to showcase physical activity status in children and youth in Bangladesh. The country Report Card will help us to advocate for increasing physical activity opportunities to make our kids more active."

Dr. Riaz Uddin, Bangladesh
Global Matrix 3.0 Testimonials

“Our team is more than ever dedicated to ensure that the first report card will be the launch-pad for many necessary physical activity initiatives in Lebanon. We want our children and youth to reap the benefits of leading physically active lifestyles.”

Dr. Patrick Abi Nader, Lebanon
"It has been a pleasure and an honor to take part of this great project. Thanks to that participation, Uruguay has established a start point to get children and youth more active. Being part of this project has allowed to connect people and join efforts to achieve the same aim around the world."

Dr. Javier Brazo Sayavera, Uruguay
**KEY FINDINGS**

**Total PA**
- **16%** ≥60 min/d MVPA

**School PE**
- **26%** ~150 min/wk

**Sedentary Behaviour**
- **40%** ≤2 h/d

**Healthy Body Size**
- **41%**

**Government**
- 21%
- 11%

**F**

**D-**

**B+**

**C-**

**ACTIVE HEALTHY KIDS GLOBAL ALLIANCE**
Results from the 2018 ParticipACTION Report Card on Physical Activity for Children and Youth

Canadian kids need to move more to boost their brain health
For better brain health, all children and youth should be physically active on a regular basis. In addition to physical health benefits, physical activity also improves cognition, brain function and mental health.
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Rev. bras. cineantropom. desempenho hum. vol. 20 no. 4 Florianópolis July/Aug. 2018

It’s time to take care of Brazilian children and adolescents
Silva, Diego Augusto Santos; Tremblay, Mark Stephen

• text in English  • English ( pdf )

Review Article

• The prevalence of global physical activity among young people: a systematic review for the Report Card Brazil 2018
Barbosa Filho, Valter Cordeiro; Costa, Rafael Martins da; Knebel, Margarethe Thaisi Garro; Oliveira, Bruno Nunes de; Silva, Camila Brasileiro de Araújo; Silva, Kelly Samara da

• abstract in English | Portuguese  • text in English  • English ( pdf )

• Prevalence of sports participation among Brazilian adolescents: a systematic review
Mallane-Vanegas, Santiago; Codogno, Jamile Sanches; Turi, Bruna Camilo; Christofaro, Diego Giuliano Distro; Fernandes, Romulo Araújo

• abstract in English | Portuguese  • text in English  • English ( pdf )

• The prevalence of Active Play in Brazilian children and adolescents: a systematic review
Mendes, Anselmo Alexandre; Lopes, Wendell Arthur; Locateli, João Carlos; Oliveira, Gustavo Henrique de; Bim, Ricardo Henrique; Simões, Caroline Ferraz; Mendes, Victor Hugo de Souza; Melo, Ana Maria Geolim dos Santos; Nardo Junior, Nelson

• abstract in English | Portuguese  • text in English  • English ( pdf )
Summary of Outputs for Global Matrix 3.0

• Report Cards from each country (49)
• Supplement of the Journal of Physical Activity and Health (@JPAH)
  – Published Global Matrix 3.0 manuscript
  – Published separate manuscripts for
    • Low and medium HDI countries (9)
    • High HDI countries (10)
    • Very high HDI countries (30)
  – Published short manuscript from each country (49)
• Published full manuscript from each country (5+)
  – Supplement of the Journal of Exercise Science and Fitness
• Launch of Global Matrix 3.0 in Adelaide, Australia at Movement to Move Conference
Summary of Outputs for Global Matrix 3.0

- Country Report Card posters at M2M Event
- Dedicated website in many countries
- Promotional toolkit resources
- Individual and collective strategies to “improve the grade”
- Interactive AHKGA website (www.activehealthykids.org) including page for each participating country with all country resources
GLOBAL MATRIX 3.0

Released today in Adelaide, Australia, the Global Matrix 3.0 is the most comprehensive assessment of global variation in child and youth physical activity.

THE GLOBAL MATRIX 3.0 ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH
## The Global Matrix 3.0 on Physical Activity for Children and Youth

Released on November 27, 2018 in Adelaide, Australia at the Movement to Move conference.

- 49 Countries
- 6 Continents
- 490 Grades

### Search the grades by country or continent

<table>
<thead>
<tr>
<th>Country</th>
<th>Overall Physical Activity</th>
<th>Organized Sport and Physical Activity</th>
<th>Active Play</th>
<th>Active Transportation</th>
<th>Sedentary Behavior</th>
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<tbody>
<tr>
<td>Australia</td>
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<td>B-</td>
<td>INC</td>
<td>D+</td>
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<td>Bangladesh</td>
<td>C-</td>
<td>INC</td>
<td>INC</td>
<td>C-</td>
<td>A-</td>
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<td>Belgium (Flanders)</td>
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<td>Botswana</td>
<td>INC</td>
<td>INC</td>
<td>D-</td>
<td>C</td>
<td>B-</td>
</tr>
</tbody>
</table>
The Global Matrix 3.0

Report Card Grades

- Overall Physical Activity: D+
- Organized Sport and Physical Activity: B+
- Active Play: D
- Active Transportation: D-
- Sedentary Behavior: D+
- Physical Fitness: D
- Family and Peers: C+
- School: B-
- Community and Environment: B+
- Government: C+

Top Three Priorities

1. Create a culture of active transportation in all settings through national and local campaigns, mandatory school travel planning by all schools, and urban planning.

2. Invest in a multi-level, multi-sectoral social marketing campaign and research agenda to elevate understanding, implementation and uptake strategies to manage recreational screen time.

3. Invest resources and energy to facilitate awareness, understanding and adherence to the 24-hour guidelines across the entire population.

Related Links

- Short form (en version)
- Short form (fr version)
- Long form (en version)
- Long form (fr version)
- Conference abstract
- Poster
- Website
WHAT IS THE GLOBAL MATRIX 3.0 ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH?

Context
Children are too sedentary, not active enough, and it's showing through their levels of physical fitness. Inactive children are more at risk for adverse physical, mental, social, and cognitive health problems.

Purpose
To learn more about the state of the physical activity of children around the world and how to improve it.

How?
For each participating country, a team of experts prepared a Report Card on Physical Activity for Children and Youth, following a standardized development process to grade (from A to F) a variety of physical activity indicators. This initiative allowed researchers to perform global comparisons.

GLOBAL MATRIX 3.0 ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

GLOBAL FINDINGS

What do the Global Comparisons show?
Low levels of Physical Activity and high levels of Sedentary Behaviours are observed worldwide among children and youth.

- The average grade for Physical Activity is D, and the majority (75%) of countries have a falling grade (D or F).
- The average grade for Sedentary Behaviours is D-.

Some countries are more successful at getting kids moving. What can we learn from them?

- Slovenia obtained the best grades for Overall Physical Activity (A-) and Physical Fitness (B+), and Government (A), for an overall average of B. This seems to be the result of the collective support for physical activity from the government, the educational system, and the parents themselves.
- In Zimbabwe, the grades were above average for Overall Physical Activity (C+) and Sedentary Behaviours (B). The physical activity of Zimbabwean children is mostly affected by Active Transportation, which, for the majority, is a necessary way of life.
- Japan obtained the best grades for Active Transportation (A-) and Physical Fitness (A). Japan has an enforcement order stating that public schools should be located no more than 4-6 km from the student’s home. This policy is very successful at promoting active transportation among children and youth.

What can we do to improve the situation?
Physical activity experts around the world identified four priorities:

1. Creating a global movement for comprehensive school physical activity programs that support ALL children and youth to be active through a variety of strategic interventions (e.g., active recess options, physical activity breaks, compulsory physical education).
2. Creating a global culture of active kids / active people in all settings prioritizing active transportation above other modes of transportation.
3. Investing in a social intervention and research agenda to improve strategies to manage recreational screen time among children and youth.
4. Developing a standardized global surveillance system of the physical activity and related indicators among children and youth to fill the current gaps, especially in low- and medium-income countries.
Summary of Outputs for Global Matrix 3.0

• Twitter handle @activehealthykids.org
• #globalmatrix
• Linkedin [www.linkedin.com/company/ahkga](http://www.linkedin.com/company/ahkga)
• Forthcoming papers
  – Global impact paper
  – Global Matrix 3.0 evaluation paper
• SWAG☺
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<tr>
<th>WHAT</th>
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<td>Pre-conference workshop</td>
<td>Nov 26 15:30-17:00</td>
<td>The Vines</td>
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<tr>
<td>AHKGA website launch</td>
<td>Nov 27 00:01</td>
<td>Internet</td>
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<td>Open access publications published</td>
<td>Nov 27 00:01</td>
<td>JPAH website</td>
</tr>
<tr>
<td>Global Matrix 3.0 launch presentation</td>
<td>Nov 27 9:00-10:00</td>
<td>Hickinbotham Hall</td>
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<tr>
<td>Country Leader Recognition</td>
<td>Nov 27 9:55-10:00</td>
<td>Hickinbotham Hall</td>
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<tr>
<td>Launch of Australian Report Card</td>
<td>Nov 27 10:00-10:20</td>
<td>Hickinbotham Hall</td>
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<td>Availability of country leaders for press</td>
<td>Nov 27 8:30-20:00</td>
<td>National Wine Centre</td>
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<td>Country Report Card Expo: HDI country papers</td>
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<td>Report Card Display</td>
<td>all conference</td>
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<td>Welcome Dinner and AHKGA Launch and Awards</td>
<td>Nov 27 18:30-21:30</td>
<td>Hickinbotham Terrace</td>
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<tr>
<td>Event Wrap-up</td>
<td>Nov 29 12:45-13:00</td>
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<tr>
<td>Post-conference workshop</td>
<td>Nov 29 15:00-17:00</td>
<td>Hickinbotham Hall</td>
</tr>
</tbody>
</table>
Next Steps

• Promotion and dissemination of Global Matrix 3.0
• Everyone exploit Global Matrix 3.0 findings and resources to help power the movement to get kids moving
• Post-release evaluation surveys
• Evaluation and Impact manuscripts
• Global Matrix 4.0 planning
Summary

• The Global Matrix 3.0 provides a comprehensive summary of physical activity behavior and sources of influence indicators from 49 countries.

• Average grades for Overall Physical Activity, Active Play, Sedentary Behaviour and Physical Fitness around the world are low/poor.

• Results suggest a complex network of strengths and limitations across countries, with some global patterns emerging when comparing countries clustered by HDI.

• High inequality is generally associated with poor grades.

• We need to make the active choice normal/habitual/routine/valued!

• Global Matrix 4.0 planning begins immediately.

• The Global Matrix 3.0 could not have happened without country leaders.
CERTIFICATE OF APPRECIATION

This certificate is awarded to

Natasha Schranz

For your engaged leadership in the development of the Report Card on Physical Activity for Children and Youth in **Australia**.

Thank you for helping to power the movement to get kids moving!

Mark S. Tremblay
President

Peter Katzmarzyk
Vice-President
Australia

Natasha Schranz, Ph.D.
University of South Australia

2018 Report Card
Front Cover
Belgium (Flanders)

Jan Seghers, Ph.D.
KU Leuven

Greet Cardon, Ph.D.
Ghent University

2018 Report Card
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THE 2018 FLEMISH REPORT CARD ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH
Botswana

Dawn Tladi, Ph.D.
University of Botswana

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Brazil

Diego Augusto Santos Silva, Ph.D.
Federal University of Santa Catarina

It’s TIME to take care of CHILDREN and ADOLESCENTS!

2018 Report Card
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Bulgaria

Bilyana Mileva
BF Be Active Association

2018 Report Card
Front Cover

2018 Bulgaria’s Report Card on Physical Activity for Children and Youth is alarming - Bulgarian children are not active enough!
Chile

Nicolas Aguilar-Farias, Ph.D.
Universidad de La Frontera

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Chinese Taipei (Taiwan)

Chen-Kang Chang, Ph.D.
National Taiwan University of Sport

Ching-Lin Wu, Ph.D.
National Taiwan University of Sport

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University of Bath

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LIKES – Research Center for Physical Activity and Health

Katariina Kämppi, Ph.D.
LIKES – Research Center for Physical Activity and Health

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Clermont Auvergne University

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University of Ghana

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University of Ghana

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Alun Williams
States of Guernsey

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The Chinese University of Hong Kong

Wendy Yajun Huang, Ph.D.
Hong Kong Baptist University

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J.F. Oberlin University

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Universidad de Guadalajara

Karla Galaviz, Ph.D.
Emory University

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Wilhelmina Children’s Hospital

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University of Auckland

2018 Report Card
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Ade Fatai Adeniyi, Ph.D.
Univesity of Ibadan

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Jorge Mota, Ph.D.
Universidade do Porto

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John Reilly, Ph.D.
University of Strathclyde

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Vicki Lambert, Ph.D.
University of Cape Town

Catherine Draper, Ph.D.
University of the Witwatersrand

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Informe 2018: Actividad Física en niños y adolescentes en España

Blanca Roman Viñas, M.D., Ph.D.
Nutrition Research Foundation

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Sweden

Marie Löf, Ph.D.
Karolinska Institutet

Christine Delisle Nyström, Ph.D.
Karolinska Insitutet

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United Arab Emirates

Tom Loney, Ph.D.
United Arab Emirates University

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United States of America

Peter Katzmarzyk, Ph.D.
Pennington Biomedical Research Center

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Marianella Herrera, M.D.
Universidad Central de Venezuela

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Swansea University

Lowri Edwards, Ph.D.
Swansea University

Richard Tyler, Ph.D.
Swansea University

2018 Report Card
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Zimbabwe

Daga Makaza, M.Phil.
National University of Science & Technology

Taru Manyanga, Ph.D.(c)
Children’s Hospital of Eastern Ontario

2018 Report Card
Front Cover
Thank you to all involved in the Global Matrix 3.0!

And thank you for your attention!