Global Matrix 3.0: International Results from 49 Countries

Mark Tremblay, Ph.D., D.Litt. (hons), F-CSEP, FACSM, CSEP-CEP President, Active Healthy Kids Global Alliance Director, Healthy Active Living and Obesity Research Group Children's Hospital of Eastern Ontario Research Institute Professor, Department of Pediatrics, University of Ottawa





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



Benchmarks

Overall Physical Activity	Any bodily movement produced by skeletal muscles that requires energy expenditure.	% 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.
Organized Sport and Physical Activity	A subset of physical activity that is structured, goal-oriented, competitive and contest-based.	% of children and youth who participate in organized sport and/or physical activity programs.

Grading Framework

Table 2 Global Matrix 3.0 Grading Rubric

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



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

Global Matrix 1.0



Journal of Physical Activity and Health, 2014, 11(Supp 1), S113-S125 http://dx.doi.org/10.1123/jpah.2014-0177 © 2014 Human Kinetics. Inc. Physical Activity & Health
Official Journal of ISPAH
www.JPAH-Journal.com

BRIEF REPORT

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







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



National Media Campaign achieved

media impressions



Report Card

Deep editorial coverage

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

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

share with my colleagues and networks via email and social media

keeping up with the research

make changes personally within my own family

integrate into education and training activities



The #AHKCReportCard

hashtag was trending on twitter for the day of the release





Global Matrix 2.0



Journal of Physical Activity and Health, 2016, 13 (Suppl 2), S343-S366 http://dx.doi.org/10.1123/jpah.2016-0594 © 2016 Human Kinetics, Inc.



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. Onywera, 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 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.

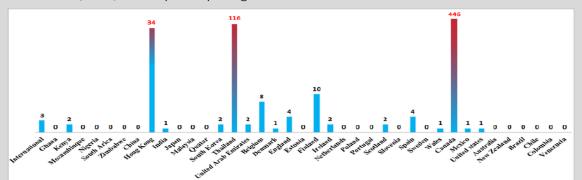


Figure 1: Number of media hits reported per country participating in the Global Matrix 2.0. The size of the column for Canada and Thailand has been reduced for more clarity.



Global Matrix 3.0



Journal of Physical Activity and Health, 2018, 15(Suppl 2), S251-S273 https://doi.org/10.1123/jpah.2018-0472 © 2018 Human Kinetics. Inc.



Global Matrix 3.0 Physical Activity Report Card Grades for Children and Youth: Results and Analysis From 49 Countries

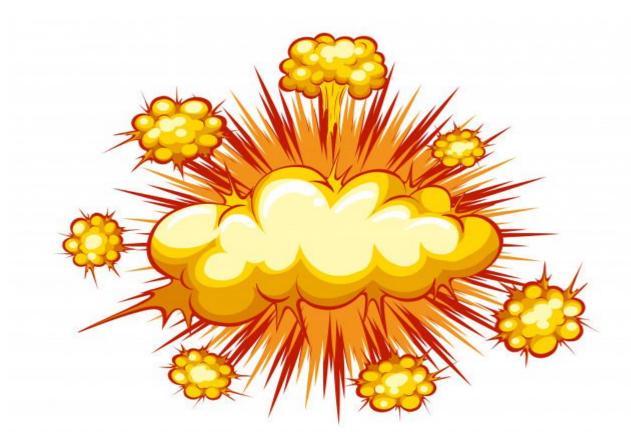
Salomé Aubert, Joel D. Barnes, Chalchisa Abdeta, Patrick Abi Nader, Ade F. Adeniyi, Nicolas Aguilar-Farias, Dolores S. Andrade Tenesaca, Jasmin Bhawra, Javier Brazo-Sayavera, Greet Cardon, Chen-Kang Chang, Christine Delisle Nyström, Yolanda Demetriou, Catherine E. Draper, Lowri Edwards, Arunas Emeljanovas, Aleš Gába, Karla I. Galaviz, Silvia A. González, Marianella Herrera-Cuenca, Wendy Y. Huang, Izzeldin A.E. Ibrahim, Jaak Jürimäe, Katariina Kämppi, Tarun R. Katapally, Piyawat Katewongsa, Peter T. Katzmarzyk, Asaduzzaman Khan, Agata Korcz, Yeon Soo Kim, Estelle Lambert, Eun-Young Lee, Marie Löf, Tom Loney, Juan López-Taylor, Yang Liu, Daga Makaza, Taru Manyanga, Bilyana Mileva, Shawnda A. Morrison, Jorge Mota, Vida K. Nyawornota, Reginald Ocansey, John J. Reilly, Blanca Roman-Viñas, Diego Augusto Santos Silva, Pairoj Saonuam, John Scriven, Jan Seghers, Natasha Schranz, Thomas Skovgaard, Melody Smith, Martyn Standage, Gregor Starc, Gareth Stratton, Narayan Subedi, Tim Takken, Tuija Tammelin, Chiaki Tanaka, David Thivel, Dawn Tladi, Richard Tyler, Riaz Uddin, Alun Williams, Stephen H.S. Wong, Ching-Lin Wu, Paweł Zembura, and Mark S. Tremblay

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

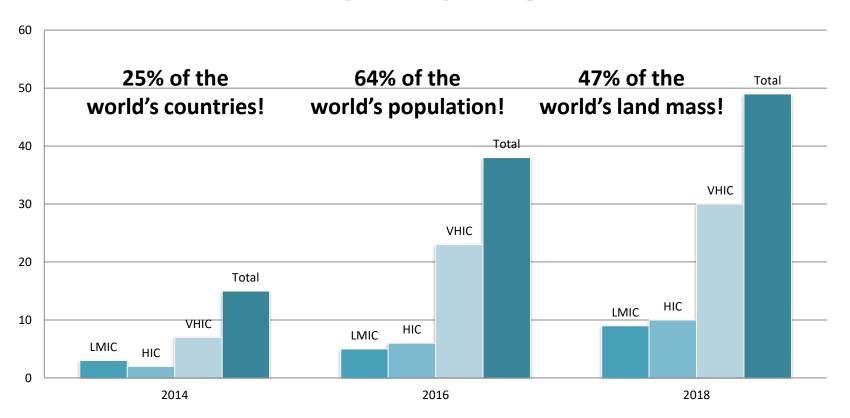


Global Matrix 3.0 Breaks the Internet!



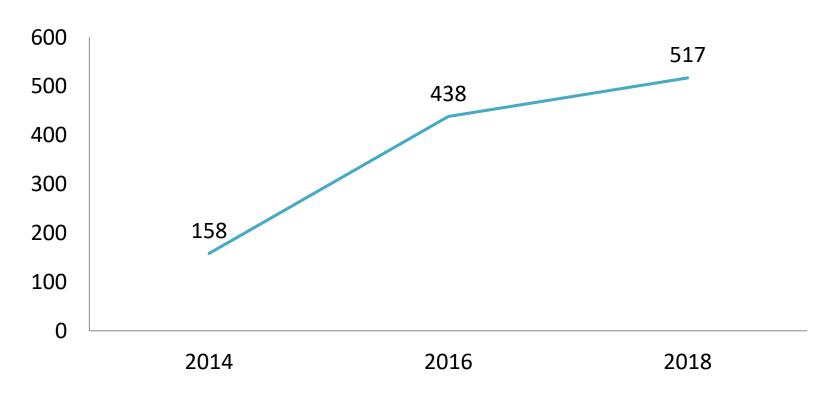


Growth in countries participating in Global Matrices



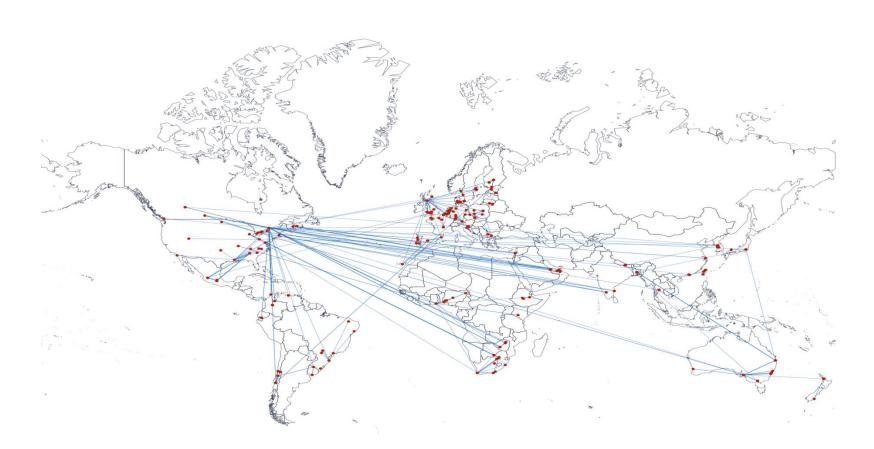


Number of experts involved in country Report Cards





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



- 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

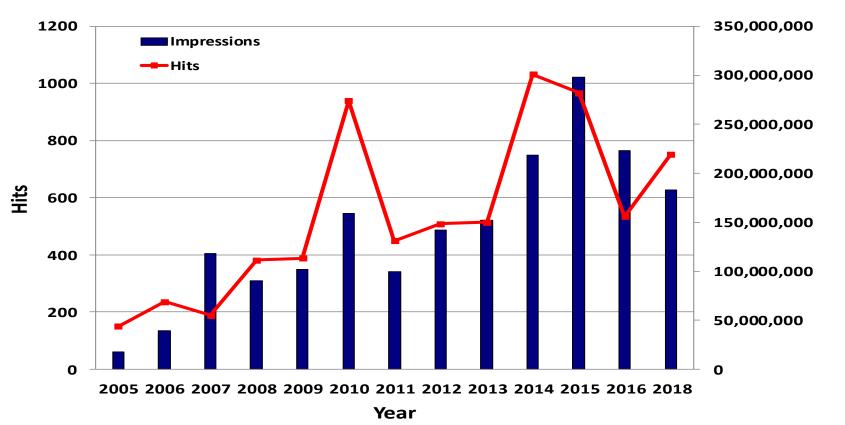
- 81% of report card leaders felt that the Global Matrix 2.0 contributed to an increase in scientific knowledge and to "powering the movement to get kids moving"
- 72% of the Report Card leaders thought that the Global Matrix
 2.0 provided other benefits to society
- 97% expect their Report Card to have a positive influence on "powering the movement to get kids moving"

Media Uptake



Impressions

Canadian Report Card





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

	PA	SP	AP	AT	SB	PF	FAM	SCH	COM	GOV	AVG
Australia	D-	В-	INC	D+	D-	D+	C+	B+	A-	D	C-
Bangladesh	C-	INC	INC	C-	A-	INC	INC	INC	INC	C-	C
Belgium (Flanders)	F	В	INC	C+	C	INC	C+	В-	В	В	C
Botswana	INC	INC	D-	C	В-	INC	INC	C-	INC	C	C-
Brazil	D	C+	D+	C	D-	D	C-	C	C-	D+	D+
Bulgaria	D+	C+	C+	В-	D	INC	D	C	C	INC	C-
Canada	D+	B+	D	D-	D+	D	C+	В-	B+	C+	C-
Chile	D-	D-	INC	F	C-	D	F	D	В	В-	D
China	F	D-	D+	C+	F	D	D+	D+	F	F	D-
Colombia	D+	C	INC	В	D+	D-	INC	D	В-	В	C-
Czech Republic	D	B-	D-	C+	D-	C+	C+	B+	В	C+	C
Denmark	D-	A-	INC	B+	D+	INC	INC	A-	B+	A-	В-
Ecuador	D	INC	INC	C-	C	INC	F	INC	D+	INC	D
England	C-	D+	INC	C-	D+	C-	INC	B+	C	INC	C-
Estonia	D-	C	F	D	F	INC	D	C+	В	В	D+
Ethiopia	D	C	В	C	F	INC	F	D	F	D	D
Finland	D	C+	C	B+	D-	C	В-	A	B+	A-	C+
France	D	C-	INC	C-	D-	B-	INC	В	INC	C	C-
Germany	D-	В	D-	C-	D-	INC	В-	B+	B+	INC	C
Ghana	C	C+	В-	C+	INC	INC	F	D	D+	D	D+
Guernsey	D	C+	INC	D	C	INC	INC	INC	INC	D	D+
Hong Kong	C-	C	INC	B+	C-	D	D-	C	В	C	C-
India	D	INC	C-	B-	C-	F	D	INC	D	D	D
Japan	INC	B-	INC	A-	C-	A	C-	B+	В-	В	B-
Jersey	D-	INC	INC	D+	C	D	C	В-	C	D	D+
Lebanon	D	F	INC	D	C-	INC	INC	D	INC	C+	D
Lithuania	C-	C	INC	C-	C-	C+	D	C+	C	C	C-
Mexico	D+	C	INC	C+	D-	INC	INC	D+	D+	C	D+
Nepal	D+	INC	INC	A-	B+	INC	A	INC	C-	INC	B-
The Netherlands	C	В	В	B-	C-	INC	INC	C	INC	INC	C+
New Zealand	D-	В	C+	C-	D	INC	C-	В-	В	B+	C
Nigeria	C	C-	C	В	В-	INC	INC	C-	INC	В	C
Poland	D-	D	INC	C	D	C-	C-	В	C	C+	C-
Portugal	D	В-	INC	C-	C-	C	C	A	В	В	C+
Qatar	D	D+	INC	N/A	D+	INC	INC	C	INC	B+	C-
Scotland	F	В	INC	C	F	INC	INC	INC	В-	C	D+
Slovenia	A-	C+	D	C	B+	A-	B+	A	В	A	В
South Africa	C	D	INC	C	INC	INC	C-	D-	C-	C	D+

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

Global Matrix Comparisons



Indicator	Global Matrix 2.0	Global Matrix 3.0
Overall Physical Activity	D	D
Organized Sport and PA	С	С
Active Play	С	D+
Active Transportation	С	С
Sedentary Behaviour	D	D+
Physical Fitness	-	C-
Family and Peers	С	D+
School	С	С
Community and Environment	С	С
Government	С	С



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.



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.



Key Message # 3

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.



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



Global Matrix 3.0 Testimonials

"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."

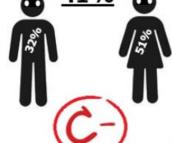
Dr. Javier Brazo Sayavera, Uruguay







Healthy Body Size <u>41%</u>



Sedentary Behaviour

40% ≤2 h/d









Government

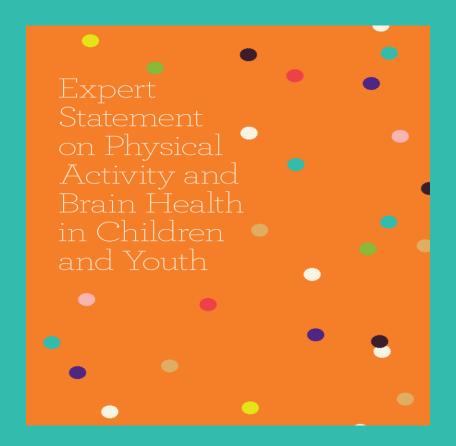


Results from the 2018
ParticipACTION Report
Card on Physical Activity
for Children and Youth

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.







Revista Brasileira de Cineantropometria & Desempenho Humano

Print version ISSN 1415-8426On-line version ISSN 1980-0037

Table of contents

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 (\$\mathbb{2} \text{ 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

Maillane-Vanegas, Santiago; Codogno, Jamile Sanches; Turi, Bruna Camilo; Christofaro, Diego Giuliano Destro; 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 Ceolim dos Santos; Nardo Júnior, Nelson

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

Summary of Outputs for Global Matrix 3.0

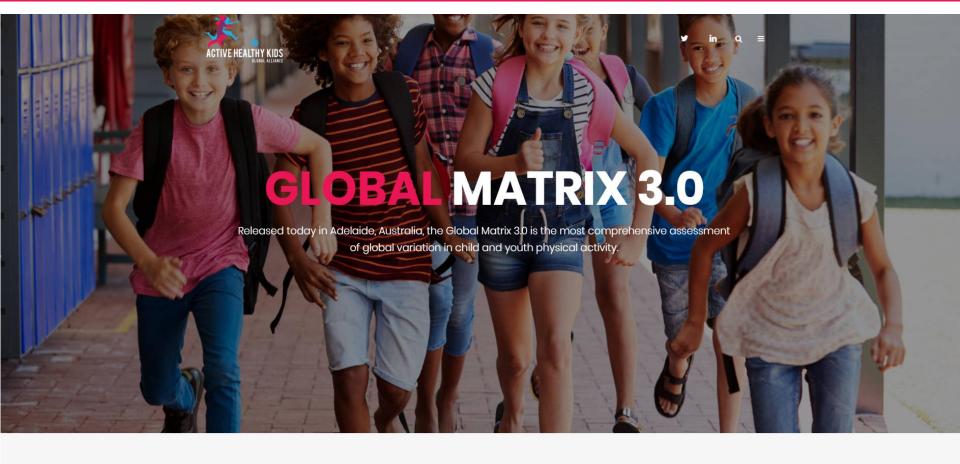


- Report Cards from each country (49)
- Supplement of the Journal of Physical Activity and Health (@JPAH)
 - Published Global Matrix 3.0 manuscript
 - Published separate manuscripts for
 - Low and medium HDI countries (9)
 - High HDI countries (10)
 - Very high HDI countries (30)
 - Published short manuscript 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 (<u>www.activehealthykids.org</u>) including page for each participating country with all country resources



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.















1 Search the grades by country or continent.

Search:

Country -	Overall Physical Activity	Organized Sport and Physical Activity	Active Play 🔺	Active Transportation •	Sedentary Behavior *
Australia	D-	B-	INC	D+	D-
Bangladesh	C-	INC	INC	C-	A-
Belgium (Flanders)	F	В	INC	C+	С
Botswana	INC	INC	D-	С	B-
	_				_



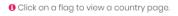




















Australia

Bangladesh

Belgium (Flanders)

Botswana









Brazil

Bulgaria

Canada

Chile































Report Card Grades

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

Related Links

- % Short form (en version)
- % Short form (fr version)
- % Long form (en version)
- % Long form (fr version)
- % Conference abstract
- Poster
- Website

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 of recreational screen time.
- 3. Invest resources and energy to facilitate awareness, understanding and adherence to the 24-hour guidelines across the entire Control of the Contro



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 copilitie 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.



Common Physical Activity Indicators

Overall Physical Activity
Organized Sport and Physical Activity
Active Play
Active Transportation
Sedentary Behaviors

Physical Fitness Family and Peers School Community and Environment Government



Experts around the world



Participating countries from 6 continents



Physical Activity Grades



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 failing 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-), Family and Peers (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**:



 Creating a global movement for comprehensive school physical activity programs that supports 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.

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 <u>www.linkedin.com/company/ahkga</u>
- Forthcoming papers
 - Global impact paper
 - Global Matrix 3.0 evaluation paper
- SWAG@



Global Matrix 3.0 Events at M2M

WHAT	WHEN	WHERE	
Pre-conference workshop	Nov 26 15:30-17:00	The Vines	
AHKGA website launch	Nov 27 00:01	Internet	
Open access publications published	Nov 27 00:01	JPAH website	
Global Matrix 3.0 launch presentation	Nov 27 9:00-10:00	Hickinbotham Hall	
Country Leader Recognition	Nov 27 9:55-10:00	Hickinbotham Hall	
Launch of Australian Report Card	Nov 27 10:00-10:20	Hickinbotham Hall	
Availability of country leaders for press	Nov 27 8:30-20:00	National Wine Centre	
Country Report Card Expo: HDI country papers	Nov 27 11:00-12:30	Hickinbotham Hall	
Report Card Display	all conference	Hickinbotham Hall/Terrace	
Welcome Dinner and AHKGA Launch and Awards	Nov 27 18:30-21:30	Hickinbotham Terrace	
Event Wrap-up	Nov 29 12:45-13:00	Hickinbotham Hall	
Post-conference workshop	Nov 29 15:00-17:00	Hickinbotham Hall	







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**.

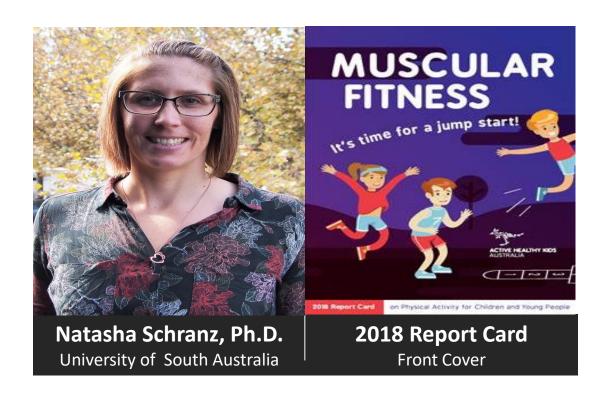
Thank you for helping to power the movement to get kids moving!

Mark S. Tremblay President

Peter Katzmarzyk Vice-President

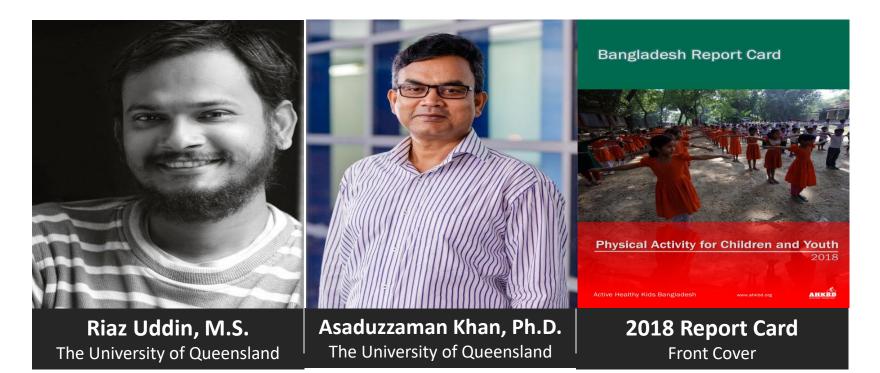


Australia





Bangladesh



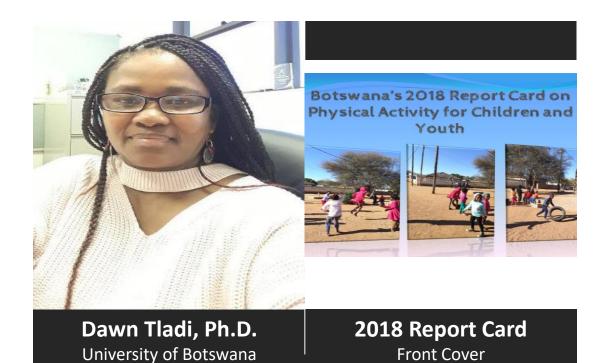


Belgium (Flanders)





Botswana





Brazil





Bulgaria





Canada





Chile





China



Yang Liu, Ph.D.
Shanghai University of Sport

2018 Report Card
Front Cover



Chinese Taipei (Taiwan)



Chen-Kang Chang, Ph.D.

National Taiwan University of Sport

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

tions of the second sec

The Active Healthy Kids

Taiwan Report Card

on Physical Activity for Children and Youth

2018

2018 Report Card
Front Cover

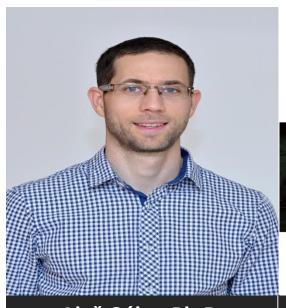


Colombia





Czech Republic





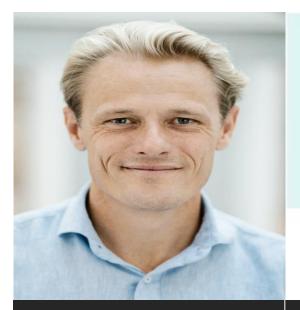




Aleš Gába, Ph.D.Palacký University Olomouc



Denmark



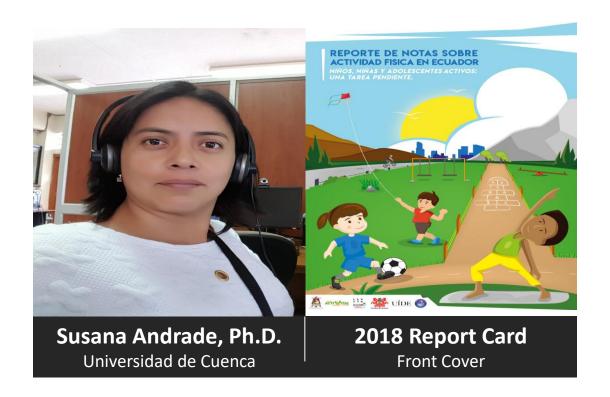


2018 The Danish Physical Activity Report Card for Children and Youth

Thomas Skovgaard, Ph.D.University of Southern Denmark



Ecuador





England





Martyn Standage, Ph.D.
University of Bath



Estonia



Jaak Jürimäe, Ph.D. University of Tartu



2018 Report Card
Front Cover

TARTU GLIKOOL sporditeaduste ja füsiotevaapia instituut TARTU ČLIKOGE.



Ethiopia





Finland



Tuija Tammelin, Ph.D.LIKES – Research Center for Physical Activity and Health



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



2018 Report Card
Front Cover



France



David Thivel, Ph.D.Clermont Auvergne University



Germany





Ghana



Reginald Ocansey, Ph.D.
University of Ghana

Vida Nyawornota, MPhil
Univesity of Ghana



Guernsey





Hong Kong



Stephen Wong, Ph.D.

The Chinese University of Hong Kong

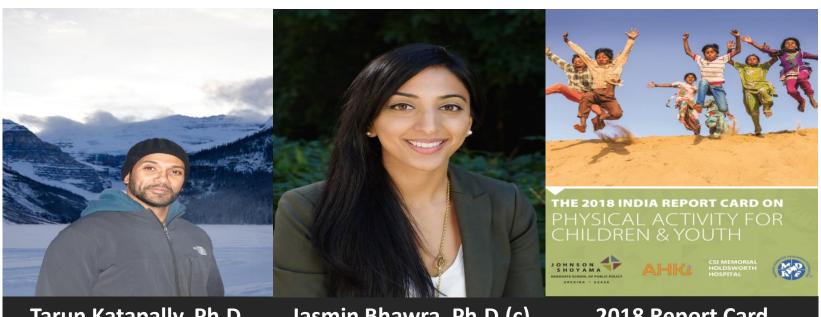




2018 Report Card
Front Cover



India

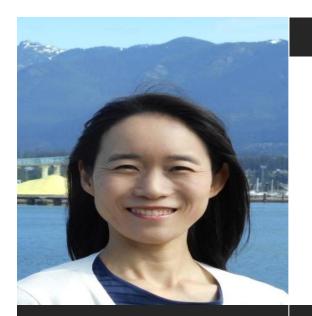


Tarun Katapally, Ph.D.
University of Regina

Jasmin Bhawra, Ph.D.(c)
University of Waterloo

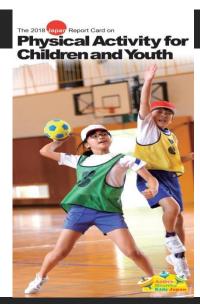


Japan



Chiaki Tanaka, Ph.D.

J.F. Oberlin University





Jersey



John Scriven, M.Sc.Jersey Sport Foundation



Lebanon





Lithuania



Arunas Emeljanovas, Ph.D. Lithuania Sports University



Mexico





Nepal



Narayan Subedi, Ph.D.(c)
Tribhuvan Univesity



The Netherlands



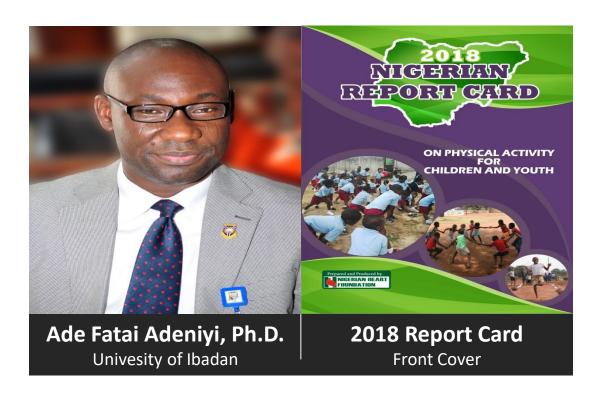


New Zealand



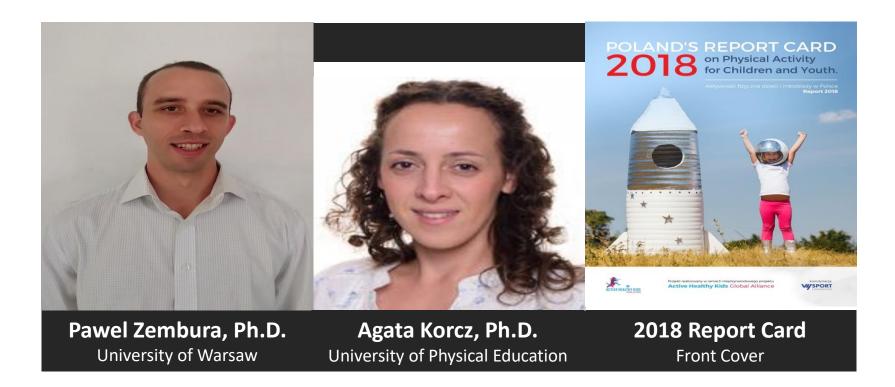


Nigeria





Poland





Portugal





Qatar



Izzeldin El Jack Ibrahim, M.D.
Aspetar Hospital



Abdulla Saeed Al-Mohannadi, MSc Aspetar Hospital



Scotland





Slovenia



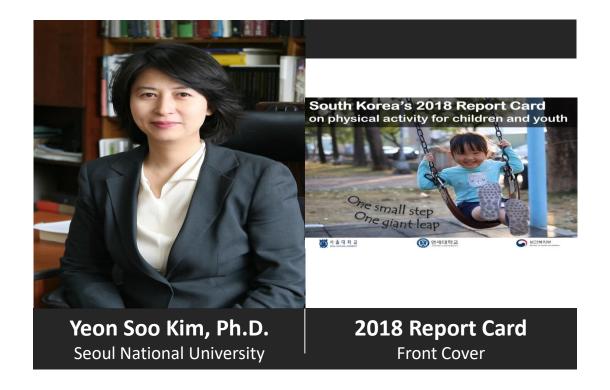


South Africa





South Korea





Spain



Blanca Roman Viñas, M.D., Ph.D.

Nutrition Research Foundation

Informe 2018: Actividad Física en niños y adolescentes en España

Es un gráfiteis del grado de cumplimiento de las recomendaciones de actividad flática y sedentaciono en militar y adobacembre estadobre fundicado perún. A Aseco estivo frara de la esla metodología proposata por la red Xotive Healthy 4. Trinasporte activo

El informe es el trabajo conjunto de un grupo de invertications y expertise en artholist finite de uni. 8 Comunidad y entorno urban versidades y centros de investigación en España.

molificore, exercises, investigadores, mindesinna las de la educación física y de la satud y alimentación, esper- A La mayoría de los nitios y adolesces tor en actividad fisics, familias, escuelas, etc., para syudat en la planificación y en la puesta en marcha de programas de promoción de la actividad física para constituir una población syna, fisicamente acti-va y consciente de la importancia de Bevar un estitode vida spludable y activo.

Se amplicam los datos disponifoles de 9 truticados es v la información recogida re-compara-con lar recomendactones de actividad fisicay redentartemo para población unfantil y boventi. Según el grado de adherencia. re galgna una puntuación a cada insticados

1. Actividad Pinica global

- 9. Gobiera o, estrategias y politicas de promoción 10. Condición física

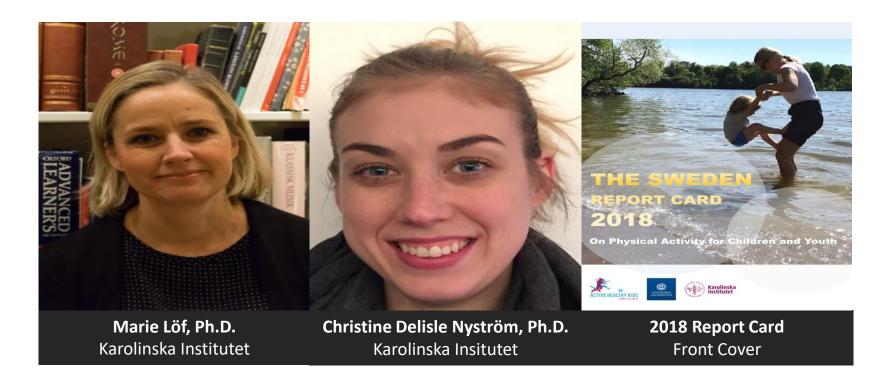
Este informe ha de ser la herramienta que utilicen. Punhación asignada o inforprotación.

- las recomendaciones (81-500%). Bi-tás de la mitad de los nátice y adoleso
- plen has recomendaciones (62-60%) C Alrededor de la mitad de los mitos y adolescentes
- D Manor de la mitad de los niños y adolescentes
- F May pope niffer y adolescentes cumplen las re-
- INC Incompleto. No key información disponíble

En algun or indicado terre ha afigilido un aigno negal tro pain destacar las diferencias entre niños y niñas o un rigno portitvo el se han encontrado diferencias entre los natitios durante la semana y et fin de semana.



Sweden



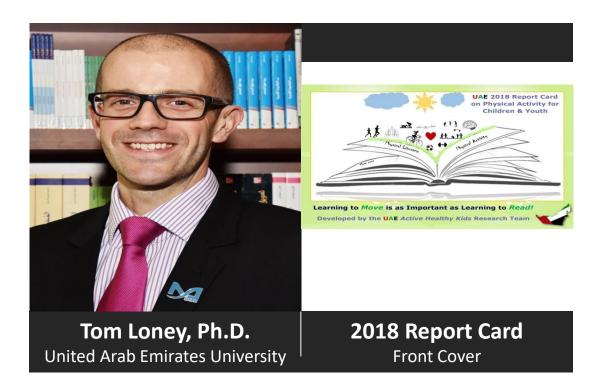


Thailand



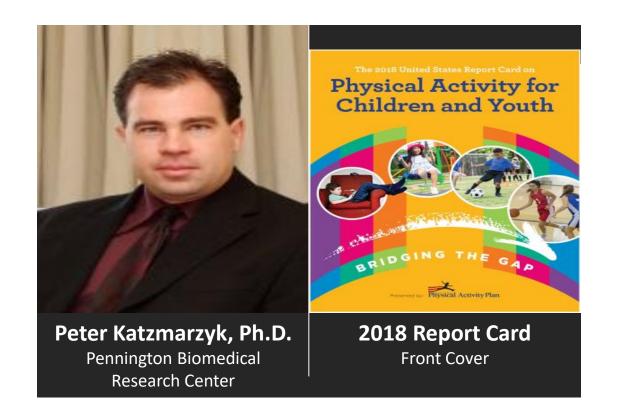


United Arab Emirates





United States of America





Uruguay





Javier Brazo Sayavera, Ph.D.Centro Universitario de Rivera



Venezuela





Wales

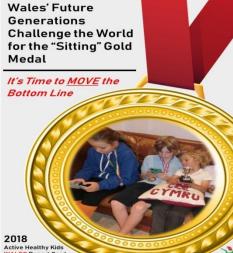


Gareth Stratton, Ph.D.Swansea University



Lowri Edwards, Ph.D.Swansea University

Richard Tyler, Ph.D.Swansea University



2018 Report Card Front Cover



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!







www.activehealthykids.org