



Congress
2024

Workshop

Active Healthy Kids Global Alliance Global Matrix 5.0 Preparation Workshop



Dr Mark Tremblay



Dr Salomé Aubert



Dr Javier Brazo-Sayavera



Dr Taru Manyanga



Dr Diego Augusto Santo Silva



Dr Iryna Demchenko

Agenda

- Welcome and Introduction
- Overview of AHKGA
- Report Cards and Global Matrix
- Benefits of participating in Global Matrix
- Review and discussion of indicator definitions and benchmarks
- Global Matrix 5.0 modifications for equity, diversity, and inclusion data
- Publication plan
- Timelines, funding, mentorship
- Q+A

Welcome and Introduction



- Introductions
 - Who are you? Where are you from? Any previous Global Matrix involvement?
- Housekeeping
- Objectives
 - Meet fellow leaders (or prospective leaders) of the Global Matrix 5.0
 - Provide tutorial on Global Matrix and country Report Card process
 - Discuss and debate potential changes to indicators and benchmarks
 - Discuss and describe equity, diversity and inclusion changes for GM5.0
 - Help craft the GM5.0 publication plan
 - Explain timelines, funding, mentorship and logistics of GM5.0
 - Answer questions country leaders may have

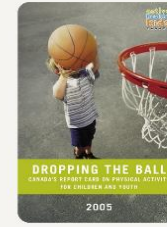
AHKGA: Who we are? What we do?

- **Active Healthy Kids Global Alliance (AHKGA)** is a **registered not-for-profit organization** made up of researchers, health professionals, and stakeholders who work together to advance physical activity in children and adolescents around the world
- AHKGA's **vision** is a world of active healthy kids
- AHKGA's **mission** is to power the global movement to get kids moving through thought leadership, knowledge translation and mobilization, capacity building, and advocacy
- The dominant effort of the AHKGA to date has been its **Global Matrix** initiative



www.activehealthykids.org

Historical timeline



2005

Due to growing concerns of physical inactivity among kids in Canada, the **first Report Card on Physical Activity** for Children and Youth was released by the not-for-profit organization **Active Healthy Kids Canada**.

2014

Toronto, Canada - Active Healthy Kids Canada organized the **Global Summit** on the Physical Activity of Children.

Due to the success of the Global Summit, the **AHKGA** was established.



At the Global Summit **15 countries** simultaneously released their respective **country-specific Report Cards** on Physical Activity for Children and Youth. Together this created the **Global Matrix 1.0**.



2016

Bangkok, Thailand - The **Global Matrix 2.0** was released on **November 26th 2016** featuring participation from **38 countries**.



2018

May 25th, 2018 - AHKGA officially became **incorporated** as a not-for-profit organization.



Adelaide, Australia - The **Global Matrix 3.0** was released at the **Movement To Move** event on **November 27th 2018** featuring data from **49 countries**.

2022

Abu Dhabi, United Arab Emirates - The **Global Matrix 4.0** was released at the **ISPAH 2022 Congress** on **October 24th 2022** featuring data from **57 countries** from six continents.



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
- Where available includes an 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



Country Report Card Leadership Committee

- National in scope
- Cross-sectoral representation
- Unbiased
- Transparent
- Participatory
- Consensus driven
- Harmonization with AHKGA



Common Indicators in Global Matrix 4.0

- 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. Or % of children and adolescents meeting the guidelines on at least 4 d/wk (when an average cannot be estimated).
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

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–		13
B+	74%–79%	12
B	We are succeeding with well over half of children and youth (67%–73%)	11
B–		10
C+	54%–59%	9
C	We are succeeding with about half of children and youth (47%–53%)	8
C–		7
D+	34%–39%	6
D	We are succeeding with less than half but some children and youth (27%–33%)	5
D–		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
- Additional communication materials
 - Infographics
 - Social media
 - Published manuscript(s)
 - Presentations
- Housed on the AHKGA website and 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 compass for identifying strengths, weaknesses, priorities
 - Data driven policy-making
- A process for identifying research and surveillance needs
- A challenge to other jurisdictions to implement similar processes to allow comparisons and facilitate improvements

Global Matrix

- The **Global Matrix** initiative involves the production and subsequent comparison of country-specific **Physical Activity Report Cards for children and adolescents**, using a harmonized process to assess and assign letter grades to a number of common physical activity indicators
- To date, there have been **four iterations of the Global Matrix** initiative
- Registrations for the **Global Matrix 5.0** started in **January 2024** (launch in Fall 2026)



Global Matrix expansion



Global Matrix 1.0

15 Participating countries
147 Experts from around the world



Global Matrix 2.0

38 Participating countries
349 Experts from around the world



Global Matrix 3.0

49 Participating countries
512 Experts from around the world



Global Matrix 4.0

57 Participating countries
682 Experts from around the world

Global Matrix 1.0

2014



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.

JOURNAL OF
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

Global Matrix 2.0

2016



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.

Human Kinetics 
ORIGINAL RESEARCH

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

Global Matrix 3.0

2018



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

Human Kinetics 
ORIGINAL RESEARCH

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 4.0

2022



Journal of Physical Activity and Health, 2022, 19, 700-728
<https://doi.org/10.1123/jpah.2022-0456>
© 2022 Human Kinetics, Inc.



Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses From **57 Countries**

Salomé Aubert, Joel D. Barnes, Iryna Demchenko, Myranda Hawthorne, Chalchisa Abdeta, Patrick Abi Nader, José Carmelo Adsuar Sala, Nicolas Aguilar-Farias, Susana Aznar, Peter Bakalár, Jasmin Bhawra, Javier Brazo-Sayavera, Mikel Bringas, Jonathan Y. Cagas, Angela Carlin, Chen-Kang Chang, Bozhi Chen, Lars Breum Christiansen, Candice Jo-Anne Christie, Gabriela Femanda De Roia, Christine Delisle Nyström, Yolanda Demetriou, Visnja Djordjic, Arunas Emeljanovas, Liri Findling Endy, Aleš Gába, Karla I. Galaviz, Silvia A. González, Kylie D. Hesketh, Wendy Yajun Huang, Omphile Hubona, Justin Y. Jeon, Danijel Jurakić, Jaak Jürimäe, Tarun Reddy Katapally, Piyawat Katewongsa, Peter T. Katzmarzyk, Yeon-Soo Kim, Estelle Victoria Lambert, Eun-Young Lee, Sharon Levi, Pablo Lobo, Marie Löf, Tom Loney, José Francisco López-Gil, Juan López-Taylor, Evelin Mäestu, Agus Mahendra, Daga Makaza, Marla Frances T. Mallari, Taru Manyanga, Bojan Masanovic, Shawnda A. Morrison, Jorge Mota, Falk Müller-Riemenschneider, Laura Muñoz Bermejo, Marie H. Murphy, Rowena Naidoo, Phuong Nguyen, Susan Paudel, Željko Pedišić, Jorge Pérez-Gómez, John J. Reilly, Anne Kerstin Reimers, Amie B. Richards, Diego Augusto Santos Silva, Pairoj Saonuam, Olga L. Sarmiento, Vedrana Sember, Mohd Razif Shahril, Melody Smith, Martyn Standage, Gareth Stratton, Narayan Subedi, Tuija H. Tammelin, Chiaki Tanaka, Riki Tesler, David Thivel, Dawn Mahube Tladi, Lenka Tlučáková, Leigh M. Vanderloo, Alun Williams, Stephen Heung Sang Wong, Ching-Lin Wu, Paweł Zembura, and Mark S. Tremblay

Global Matrix 4.0 Launch



October 24, 2022, Abu Dhabi, United Arab Emirates

GLOBAL MATRIX 4.0

October 23-26, 2022 in Abu Dhabi, UAE in conjunction with the [ISPAH Congress 2022](#)

THE GLOBAL MATRIX 4.0 ON PHYSICAL ACTIVITY FOR CHILDREN AND ADOLESCENTS

October 23–26, 2022 in Abu Dhabi, UAE in conjunction with the [ISPAH Congress 2022](#)

57

COUNTRIES

6

CONTINENTS

570

GRADES

 NEWS RELEASE







 THE GLOBAL MATRIX 4.0

 PARTICIPATING COUNTRIES

 SOCIAL MEDIA TOOLKIT

 Search the grades by country or continent. View the [grading rubric](#) to learn more about how grades are assigned.

Search:

Country 	Overall Physical Activity 	Organized Sport and Physical Activity 	Active Play 	Active Transportation 	Sedentary Behavior 
Argentina	D+	C-	INC	INC	D+
Australia	D-	B-	INC	D+	D-
Basque Country	INC	B-	INC	C+	B-
Botswana	D+	D+	C-	C	C-
Brazil	D	C-	F	C	D
Canada	D	C+	D-	C-	F
Chile	D+	C-	INC	D	D-
China	C	F	C-	C	D+
Chinese Taipei	F	D-	F	C-	D+
Colombia	D+	D+	INC	B	D+

THE GLOBAL MATRIX 4.0 ON PHYSICAL ACTIVITY FOR CHILDREN AND ADOLESCENTS

October 23–26, 2022 in Abu Dhabi, UAE in conjunction with the [ISPAH Congress 2022](#)

57

COUNTRIES

6

CONTINENTS

570

GRADES

[NEWS RELEASE](#)

[THE GLOBAL MATRIX 4.0](#)

[PARTICIPATING COUNTRIES](#)

[SOCIAL MEDIA TOOLKIT](#)

Click on a flag to view a country page.



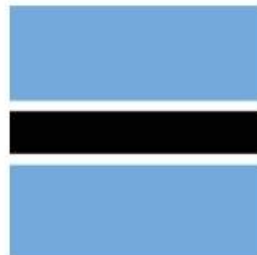
Argentina



Australia



Basque Country



Botswana



CANADA

Access physical activity grades, report cards and other related documents from all Global Matrix events in which Canada has participated.

[THE GLOBAL MATRIX 4.0](#)

[THE GLOBAL MATRIX 3.0](#)

[THE GLOBAL MATRIX 2.0](#)

[THE GLOBAL MATRIX 1.0](#)



Report Card Grades

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

Related Links

- [Short form \(en version\)](#)
- [Short form \(fr version\)](#)
- [Long form \(en version\)](#)
- [Long form \(fr version\)](#)
- [Website](#)

Global Matrix 4.0 Report Cards





Global Matrix 4.0 on physical activity for children and adolescents

Country rankings and grades by physical activity indicators and aggregated indicators



Overall Physical Activity	Organised Sports and Physical Activity	Active Play	Active Transportation	Sedentary Behaviour	Physical Fitness	Family and Peers	School	Community and Environment	Government	Behavioral average	Sources of influence average	Overall average
1 Slovenia	A- 1 Denmark	A 1 Spain (Region of Murcia)	B+ 1 Denmark	A- 1 Indonesia	B 1 Slovenia	A 1 Nepal	A+ 1 Hungary	A+ 1 Singapore	A+ 1 New Zealand	A 1 Finland	B- 1 Malaysia	B+ 1 Denmark
1 Finland	A- 2 Spain	B+ 2 Ethiopia	B 1 Japan	A- 1 Montenegro	B 2 Japan	B 2 Montenegro	A 2 Portugal	A 1 Slovenia	A+ 1 South Korea	A 1 Japan	B- 1 Sweden	B+ 1 Finland
3 Croatia	B- 2 Sweden	B+ 2 Montenegro	B 3 Finland	A+ 1 Philippines	B 2 Malaysia	B 2 Spain (Extremadura)	A 2 Slovenia	A 1 Sweden	A+ 3 Finland	A- 3 Denmark	C+ 3 Denmark	B 1 Japan
3 Japan	B- 4 Spain (Region of Murcia)	B 2 Serbia	B 3 Hong Kong	B+ 4 Spain (Basque Country)	B- 4 Denmark	B- 4 Thailand	A- 2 South Korea	A 4 Australia	A- 3 Chile	A- 3 Slovenia	C+ 3 Finland	B 1 Slovenia
3 Slovakia	B- 5 Australia	B- 5 Denmark	B- 3 South Korea	B+ 5 Ethiopia	C+ 4 South Africa	B- 5 Sweden	B+ 2 Vietnam	A 4 Chinese Taipei	A- 5 Chinese Taipei	B+ 3 Spain	C+ 3 France	B 5 Czech Republic
3 South Africa	B- 5 Czech Republic	B- 5 Lithuania	B- 6 Colombia	B 5 Israel	C+ 6 Botswana	C+ 5 Sweden	B+ 6 Chinese Taipei	A 6 Denmark	B+ 5 Denmark	B+ 3 Spain (Basque Country)	C+ 3 Portugal	B 5 Montenegro
3 Spain	B- 5 Estonia	B- 5 Spain	B- 6 Serbia	B 5 Portugal	C+ 6 Estonia	C+ 7 France	B 6 Ethiopia	A- 6 Denmark	B+ 5 United Arab Emirates	B+ 3 Spain (Region of Murcia)	C+ 3 Singapore	B 5 Singapore
3 United States	B- 5 Germany	B 8 Mexico	C+ 6 Spain (Region of Murcia)	B 5 Slovenia	C+ 6 Montenegro	C+ 7 Jersey	B 6 Malaysia	A- 6 Ireland	B+ 8 Estonia	B 3 Zimbabwe	C+ 3 Slovenia	B 5 South Korea
8 New Zealand	C+ 5 Hong Kong	B 8 Nepal	B 9 Germany	C 6 Zimbabwe	B 9 Germany	C 6 Spain (Extremadura)	C+ 7 Portugal	B 6 Montenegro	A- 8 Canada	B 8 France	B 8 Czech Republic	B 5 South Korea
8 Czech Republic	C+ 5 Japan	B 8 Wales	B 9 Germany	C 6 Czech Republic	C 6 Sweden	C+ 10 Czech Republic	A- 9 United Arab Emirates	A- 9 Czech Republic	B 8 Greenland	B 8 Guernsey	C 10 Chinese Taipei	C+ 5 Spain (Basque Country)
8 Estonia	C+ 5 Lithuania	B 8 Zimbabwe	C+ 10 Ethiopia	B- 9 Lebanon	C 11 France	C 11 Finland	B- 11 Denmark	B+ 9 Hungary	B 9 Montenegro	B 9 Serbia	C 10 England	B 5 Sweden
8 Guernsey	C+ 5 New Zealand	B 12 Croatia	C 10 Hungary	B- 9 Malaysia	C 11 Lithuania	C 10 Mexico	B- 11 Denmark	B+ 9 France	B 8 Ireland	B 9 Serbia	C 10 Hong Kong	B 12 Estonia
8 Zimbabwe	C+ 5 Scotland	B 12 Czech Republic	C 10 India	B- 9 Nepal	C 11 Poland	C 10 Spain	B- 11 England	B+ 9 Hong Kong	B 8 Japan	B 13 Colombia	C- 10 Hungary	B 12 France
14 China	C 5 Singapore	B 12 France	C 10 South Africa	B- 9 Zimbabwe	C 11 Portugal	C 14 Australia	C+ 11 Japan	B 8 Malaysia	B 13 Croatia	B 13 Croatia	C- 10 Japan	B 12 Guernsey
14 India	C 5 Spain (Basque Country)	B 12 Hungary	C 10 Spain	B+ 15 Botswana	C- 15 Finland	C- 14 Denmark	C+ 11 Jersey	B+ 9 Lithuania	B 8 Philippines	B 13 Ethiopia	C- 10 Jersey	B 12 Hong Kong
14 England	C- 5 Zimbabwe	B 12 Slovenia	C 16 England	C+ 15 Ireland	C- 15 Spain	C- 16 Canada	C 11 Poland	B+ 9 Portugal	B 8 Portugal	B 13 Germany	C- 10 Montenegro	B 12 Hungary
16 Montenegro	C 17 Canada	C+ 15 Botswana	C 16 Mexico	C+ 15 Japan	C- 15 United States	C 12 Serbia	B+ 9 Spain	B 8 Singapore	B 13 Hong Kong	C- 10 Spain (Extremadura)	B 12 Lithuania	C 10
16 Singapore	C 17 Finland	C+ 15 China	C- 16 Spain (Basque Country)	C+ 15 New Zealand	C- 15 Wales	C- 16 Lithuania	C 11 Uruguay	B+ 9 Spain (Extremadura)	B 8 Sweden	B 13 India	C- 10 Thailand	B 12 Malaysia
16 Ireland	C 17 Guernsey	C+ 15 Finland	C- 16 Thailand	C+ 15 Serbia	C- 16 Australia	D+ 16 Spain (Region of Murcia)	C 19 Brazil	B 19 Croatia	B- 18 Indonesia	B- 13 Lithuania	C- 10 Vietnam	B 12 New Zealand
20 Argentina	D+ 17 Poland	C+ 15 Germany	C 20 Botswana	C 15 Singapore	C- 19 Brazil	D+ 16 Vietnam	C 19 Finland	B 19 Colombia	B- 20 Canada	B- 13 Mexico	C+ 10 Poland	C 10
20 Botswana	D+ 17 France	C 15 Singapore	C- 20 Brazil	C 15 Slovakia	C- 19 Germany	D+ 21 Botswana	C- 19 France	B 19 Germany	B- 20 Indonesia	B- 13 Nepal	C- 20 Canada	C+ 10 Portugal
20 Chile	D+ 17 Ireland	C 15 Slovakia	C 20 China	C 15 South Africa	C- 19 Slovakia	D+ 21 Brazil	C- 19 Hong Kong	B 19 Slovakia	B- 20 Slovakia	B- 13 New Zealand	C- 20 Czech Republic	C+ 12 Serbia
20 Colombia	D+ 21 Mexico	C 23 Portugal	D+ 20 Germany	C 15 Vietnam	C- 23 Hong Kong	D 21 China	C- 19 Slovakia	B 19 Slovakia	B- 20 Vietnam	B- 13 Poland	C- 20 Estonia	C+ 12 Slovakia
20 Lithuania	D+ 21 Montenegro	C 24 Estonia	D 20 Nepal	C 24 Argentina	D+ 24 Spain (Region of Murcia)	D 21 Estonia	C- 19 Sweden	B 19 Sweden	B- 20 Colombia	C+ 13 Singapore	C- 20 Germany	C+ 12 Zimbabwe
20 Nepal	D+ 21 Slovenia	C 24 Hong Kong	D 20 Singapore	C 24 China	D+ 24 Thailand	D 21 Japan	C- 25 Canada	B- 25 Serbia	C+ 24 Guernsey	C+ 13 Slovakia	C- 20 Ireland	C+ 25 Australia
20 Serbia	D+ 21 United States	C 26 Canada	D 20 Canada	C 24 Chinese Taipei	D+ 26 Indonesia	F 21 Poland	C- 25 Croatia	B- 26 Brazil	C 24 Hong Kong	C+ 13 South Africa	C- 20 Lithuania	C+ 25 Canada
20 Sweden	D+ 21 Wales	C 27 Brazil	F 20 Slovenia	C 24 Colombia	D+ 26 Argentina	INC 21 Serbia	C- 25 Germany	B- 26 England	C 24 India	C+ 13 South Korea	C- 20 New Zealand	C+ 25 Chinese Taipei
28 Brazil	D 28 Argentina	C- 27 Chinese Taipei	F 20 Sweden	C 24 Croatia	INC 21 Singapore	C- 25 Canada	C- 25 Guernsey	B- 26 Montenegro	C 24 Lithuania	C+ 13 Sweden	C- 20 Philippines	C+ 25 Colombia
28 Canada	D 28 Brazil	C- 27 Indonesia	F 20 Uruguay	C 24 Denmark	D+ 21 Chile	INC 21 Slovakia	C- 25 Thailand	B- 26 Nepal	C 29 Ethiopia	C- 29 Argentina	D+ 20 Slovakia	C+ 25 Croatia
28 Denmark	D+ 28 Chile	C- 27 Thailand	F 30 Canada	C- 24 England	D+ 21 China	INC 21 South Africa	C- 25 Wales	B- 26 Australia	C 29 Israel	C 29 Australia	D+ 20 Spain	C+ 25 England
28 Mexico	D 28 Croatia	C- 27 Argentina	INC 30 Chinese Taipei	C- 24 Lithuania	D+ 21 Chinese Taipei	INC 21 South Korea	C 31 Australia	C+ 26 United States	C 29 Jersey	C 29 Botswana	D+ 20 United Arab Emirates	C+ 25 Ethiopia
28 Spain (Region of Murcia)	D 28 Ethiopia	C- 27 Australia	INC 30 Croatia	C- 24 Spain (Region of Murcia)	D+ 21 Colombia	INC 32 Croatia	D+ 31 Estonia	C+ 26 Vietnam	C 29 Mexico	C 29 China	D+ 20 Uruguay	C+ 25 Germany
28 Thailand	D 28 Hungary	C- 27 Chile	INC 30 Guernsey	C- 24 Uruguay	D+ 21 Croatia	INC 32 Hungary	D+ 31 Israel	C+ 26 Wales	C 29 Montenegro	C 29 England	D+ 20 Brazil	C 25 India
34 Australia	D 28 Nepal	C- 27 Colombia	INC 30 Israel	D+ 21 Czech Republic	D+ 21 Czech Republic	INC 32 Ireland	D+ 31 Lithuania	C+ 26 Argentina	C- 29 Poland	D+ 31 Estonia	D+ 20 Chile	C 25 Ireland
34 France	D 28 Portugal	C- 27 Poland	INC 30 England	C- 34 Czech Republic	D 21 England	INC 32 Wales	D+ 31 New Zealand	C+ 26 Ethiopia	C 29 Scotland	C 29 France	D+ 20 Serbia	C 25 Jersey
34 Greenland	D 28 Serbia	C- 27 Greenland	INC 30 Scotland	C 34 Hong Kong	D 21 Ethiopia	INC 36 Chile	D 31 Spain (Extremadura)	C+ 26 Israel	C- 29 South Africa	C 29 Hungary	D+ 20 Croatia	C 25 Mexico
34 Israel	D 28 Slovakia	C- 27 Guernsey	INC 30 Wales	C 34 Hungary	D 21 Greenland	INC 36 Guernsey	D 31 Spain (Region of Murcia)	C+ 26 Thailand	C 29 Ireland	D+ 20 Spain	D+ 20 Greenland	C 25 Nepal
34 Lebanon	D 38 Botswana	D+ 34 India	INC 38 Australia	D+ 34 Jersey	D 21 Guernsey	INC 36 New Zealand	D 38 Chile	C 34 Uruguay	C 29 Uruguay	C 29 Israel	D+ 20 Guernsey	C 25 Philippines
34 Malaysia	D 38 Colombia	D+ 34 Ireland	INC 38 Estonia	D+ 34 Poland	D 21 Hungary	INC 39 Chinese Taipei	D 38 India	C 34 Zimbabwe	C- 29 Wales	C 29 Lebanon	D+ 20 Nepal	C 25 South Africa
34 South Korea	D 38 Spain (Extremadura)	D+ 34 Israel	INC 38 France	D+ 34 South Korea	D 21 India	INC 39 Israel	D- 38 Nepal	C 40 Chile	D+ 40 Australia	C- 29 Philippines	D+ 20 Poland	C 25 Spain (Extremadura)
34 Germany	D 38 Thailand	D+ 34 Japan	INC 38 Lebanon	D+ 34 Spain	D 21 Ireland	INC 39 Scotland	D 38 Zimbabwe	C 40 Greenland	D+ 40 Spain (Extremadura)	C- 29 Portugal	D+ 20 Serbia	C 25 Spain (Region of Murcia)
34 Portugal	D 42 England	D 34 Jersey	INC 38 Montenegro	D+ 34 Spain (Extremadura)	D 21 Israel	INC 39 United Arab Emirates	D 42 Botswana	C- 40 Indonesia	D+ 42 Argentina	D+ 29 Scotland	D+ 20 Wales	C 25 Vietnam
34 Hong Kong	D 42 Greenland	D 34 Lebanon	INC 38 Vietnam	D 34 Sweden	D 21 Jersey	INC 43 Ethiopia	F 42 Ireland	C 40 Spain (Region of Murcia)	D+ 42 Brazil	D+ 29 United States	D+ 43 Ethiopia	C 43 Argentina
44 Chinese Taipei	F 42 Israel	D 44 Malaysia	INC 44 Chile	D 34 United States	D 44 Lebanon	INC 43 Indonesia	F 42 Philippines	C 44 India	D 42 Croatia	D+ 44 Brazil	D 43 India	C 43 Botswana
44 Ethiopia	F 45 Chinese Taipei	D 44 New Zealand	INC 44 Ireland	D 34 Mexico	D 44 Lebanon	INC 43 Argentina	INC 42 Spain	D 44 Mexico	D 42 Czech Republic	D+ 44 Canada	D 43 Israel	C 43 Brazil
44 Hungary	F 45 South Africa	D 44 Philippines	INC 44 Jersey	D 34 Chile	D 44 Nepal	INC 43 Colombia	INC 46 Colombia	D+ 44 South Africa	D 42 Serbia	D+ 44 Chile	D 43 Mexico	C 43 Chile
44 Indonesia	F 47 China	I 44 Lithuania	D 45 England	D 45 Mexico	D 44 New Zealand	INC 46 Mexico	D+ 47 China	D 47 Botswana	D 47 China	D 44 Malaysia	D 43 Scotland	C 43 Greenland
44 Jersey	F 47 Indonesia	I 44 Scotland	INC 44 New Zealand	D 45 France	D 44 Philippines	INC 46 Greenland	INC 48 China	D 47 China	D 47 Lebanon	D 44 Vietnam	D 43 Spain (Region of Murcia)	C 43 Israel
44 Philippines	F 47 Uruguay	I 44 South Africa	D 45 India	D 45 Scotland	D 44 Hong Kong	INC 48 Lebanon	D 48 Guernsey	INC 47 Slovenia	D 44 Wales	D 49 Argentina	D+ 43 Scotland	D+ 43
44 Spain (Extremadura)	F 47 India	INC 44 South Korea	INC 50 Indonesia	D 45 Mexico	D 44 Serbia	INC 48 India	INC 50 South Africa	D 48 Hungary	INC 47 Spain (Region of Murcia)	D 50 Chinese Taipei	D+ 43 Thailand	D+ 43
44 Uruguay	F 47 Jersey	INC 44 Spain (Basque Country)	INC 50 Malaysia	D 45 United Arab Emirates	D+ 44 Singapore	INC 48 Lebanon	INC 50 United States	D 48 Jersey	INC 47 United States	D 50 Greenland	D+ 43 United Arab Emirates	D+ 43
44 Vietnam	F 47 Lebanon	INC 44 Spain (Extremadura)	INC 50 Portugal	D 52 Canada	F 44 South Korea	INC 48 Malaysia	INC 52 Indonesia	F 48 Lebanon	INC 52 Botswana	D- 50 Indonesia	D+ 43 United States	D+ 43
44 Wales	F 47 Malaysia	INC 44 Sweden	INC 50 United States	D 52 Scotland	F 44 Spain (Basque Country)	INC 48 Philippines	INC 48 Argentina	INC 48 Malaysia	INC 53 Nepal	D 53 Jersey	D 43 Uruguay	D+ 43
44 United Arab Emirates	F 47 Philippines	INC 44 United Arab Emirates	INC 54 United Arab Emirates	F 52 Thailand	F 44 United Arab Emirates	INC 48 United Arab Emirates	INC 48 Spain (Basque Country)	INC 48 Greenland	INC 48 New Zealand	INC 48 England	INC 50 Spain (Extremadura)	D 53 China
44 Poland	INC 44 South Korea	INC 44 United States	INC 44 Argentina	F 52 Wales	F 44 Uruguay	INC 48 United States	INC 48 Scotland	INC 48 Philippines	INC 48 Germany	INC 48 United States	D 53 Indonesia	D 53 Lebanon
44 Scotland	INC 44 United Arab Emirates	INC 44 Uruguay	INC 44 Finland	INC 44 Vietnam	INC 44 Uruguay	INC 48 Vietnam	INC 48 Singapore	INC 48 Spain (Basque Country)	INC 48 United States	INC 48 United States	D 53 Lebanon	D 55 Lebanon
44 Spain (Basque Country)	INC 44 Vietnam	INC 44 Spain (Extremadura)	INC 44 Vietnam	INC 44 Greenland	INC 44 Zimbabwe	INC 48 Zimbabwe	INC 48 Spain (Basque Country)	INC 48 United States	INC 48 United States	INC 48 United States	INC 57 United Arab Emirates	INC 55 Indonesia

Graded B- to A+

Graded C- to C+

Graded F to D+

Graded INC

Learn more at www.activehealthykids.org !



@activehealthyk1



ActiveHealthyKids



Active Healthy Kids Global Alliance

Infographics

Global Matrix 4.0 on physical activity for children and adolescents

What is the Global Matrix 4.0?

Purpose: To learn more about the state of 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 adolescents** following a standardized development process to compile the best available evidence and grade (from A+ to F) 10 common physical activity indicators. This initiative allowed researchers to perform **global comparisons**.

10 Physical Activity Indicators

Overall Physical Activity	Physical Fitness
Organized Sport and Physical Activity	Family and Peers
Active Play	School
Active Transportation	Community and Environment
Sedentary Behaviours	Government

57 Participating Countries

Africa & the Middle East (n = 7) Involving 682 physical activity leaders & experts

Anglosphere (n = 10)

Asia-Pacific (n = 13)

Europe (n = 21)

Latin America (n = 6)

What has the Global Matrix 4.0 shown?

- D** Overall Physical Activity is the indicator with the lowest average grade (D): only 27%–33% of children and adolescents are estimated to meet the recommended amount of physical activity globally.
- The challenges for assessing indicators highlighted the **need for the development of a physical activity measurement instrument/protocol** that would be globally accepted, harmonised, translated, utilised, and culturally adaptable.
- Inequities in terms of grades and surveillance (difference in number of incomplete grades (INC)) across geo-cultural regions were observed, highlighting the persistence of **inequities between countries** for the surveillance and promotion of physical activity in children and adolescents. There is a **general lack of representativeness of some specific populations** (i.e., children: under 10 years, living in rural areas, with a disability, not attending school, indigenous, 2SLGBTQ+, and from other equity-seeking groups).
- The **COVID-19 pandemic** adversely affected the physical activity indicator grades in most countries, their surveillance, and the research activity of physical activity experts. Sedentary Behaviour, followed by Organised Sport and Physical Activity, and Overall Physical Activity, were the indicators most frequently reported as affected negatively by the COVID-19 pandemic.
- Report Card Leaders from **14% (n = 8)** of the countries participating in the Global Matrix 4.0 reported that **war/local conflict** was potentially affecting the physical activity of children and adolescents in their country.
- Report Card Leaders from **30% (n = 17)** of the countries participating in the Global Matrix 4.0 considered that children and adolescents physical activity was currently affected by local **climate change/climate change mitigations**.
- Report Card Leaders from **about half (n = 28)** of the countries participating in the Global Matrix 4.0 estimated that the physical activity of children and adolescents in their country was currently affected by **local economic changes/challenges**.

Conclusions

The Global Matrix 4.0 represents the **largest compilation of children's and adolescents' physical activity characteristics to date**. While variation in the data informing the grades across countries was reported, this initiative highlighted that the global situation regarding the physical activity of children and adolescents remains a serious public health concern. The Global Matrix 4.0 provides an overview of the global situation in terms of surveillance, and prevalences are provided for the 10 common physical activity indicators. We offer concrete priority actions and examples from successful countries, to support the development of needed physical activity practices and policies internationally.

For more details or to read the global priorities themes reported by the Report Card Leaders (n = 83) to improve the grades in their country/jurisdiction for each indicator, consult the following open access publication: Aubert S et al. Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses from 57 Countries. *Journal of Physical Activity and Health*. 2022.



www.activehealthykids.org

@activehealthyk1

ActiveHealthyKids



Active Healthy Kids Global Alliance



Active Healthy Kids Global Alliance

Global Matrix 4.0 on physical activity for children and adolescents

What can we learn from the most successful countries?

A- Overall Physical Activity

In Finland, the role of physical activity in supporting growth, development and learning of children and adolescents of different ages has been taken into consideration in documents that guide early childhood education and teaching. National physical activity promotion programs have been kindred to create a more physically active operational culture in educational institutions.

A Organized Sport and Physical Activity

In Denmark, several national policies support physical activity for children and adolescents in day care, school, transport, city planning, leisure, and health policies. In regard to organised sport and physical activity, the Danish legislation obliges municipalities to make facilities available for sports clubs and other voluntary associations and to provide financial support for activities for children and young people under the age of 25 years.

A- Active Transportation

In Japan, enforcement order of the Act on National Treasury's Sharing of Expenses for Facilities of Compulsory Education Schools determines school commuting distances within around 4 km for public primary schools and around 6 km for public junior high schools. This policy, associated with high level of independent mobility in children, potentially led to the observed high percentage of Japanese children and adolescents walking or cycling to school, in particular in urban areas.

A Physical Fitness

In Slovenia, children grow up with a tradition of receiving quality physical education instruction, and this may lead to increased physical literacy so a potentially better ability to maintain their fitness. The national education regulations also dictate that every primary school and secondary school must have at least one sports hall fully equipped with all the necessary sports equipment, including additional outdoor facilities for the children, and all schools in Slovenia have written public physical activity policies (e.g., bike racks at school, traffic calming on school property, outdoor play time).

A+ Family and Peers

In Nepal, parents and schools generally expect students to participate in and win intra- and inter-school competitions. Families usually allow their children and adolescents (especially boys) to play with friends in their neighbourhood after school and on weekends. Activities such as playing, walking, cycling (in plain/Turai regions) among adolescents are considered as ordinary activities by their family members in Nepal.

A+ School

In Hungary, a national physical education curriculum including five sessions of 45 min per week (one per weekday) and recommendations for extracurricular physical activity as well as school sports programs were gradually introduced from 2012 in all Hungarian schools. After the introduction of daily physical education in Hungarian schools, leisure time spent on sports and exercise increased significantly, regardless of gender and age group.

A+ Community and Environment

Sweden has long prioritised green space and the outdoor environment and providing the Swedish people with a usable outdoor environment that promotes physical activity and active transport. In 2012, a Swedish outdoor recreation policy was created to increase opportunities to be in nature and promote outdoor recreation.

In Singapore, public playgrounds are regarded as a basic precinct recreational facility in public housing estates. Playgrounds have evolved over the years from only functional play equipment, such as slides and swings, to thematic playgrounds with a selection of play equipment as a key feature, supporting a wider array of activities such as climbing, swinging, balancing, and jumping.

A Government

In New Zealand, significant central and local government investments in physical activity and sport initiatives have been implemented since 2018. Sport NZ, the Actuaora, a key crown agency supporting children and adolescents through sport and PA initiatives, established a national physical activity framework, strategy, and plan, and conducted evaluations of most initiatives.

Learn more at www.activehealthykids.org !



@activehealthyk1



ActiveHealthyKids



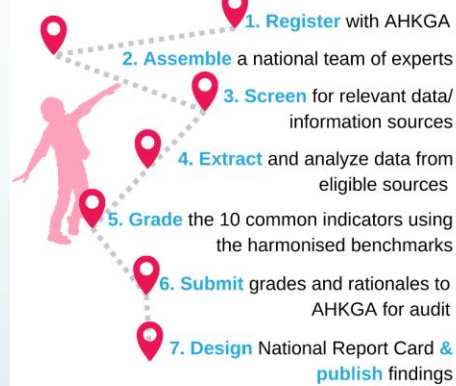
Active Healthy Kids Global Alliance



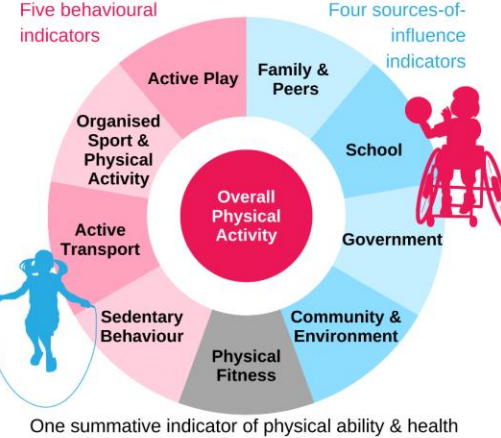
Active Healthy Kids Global Alliance

Physical activity indicators have been assessed internationally for children and adolescents using the AHKGA Report Card methodology since 2014. Country Report Cards are developed using a harmonized protocol and aggregated to create a Global Matrix of grades.

AHKGA harmonised Report Card development process



10 common physical activity indicators



Global impact

AHKGA Report Cards & Global Matrices have been shown to be very effective and influential across multiple sectors for creating awareness; developing capacity; transferring interventions, policies, and practices; improving surveillance; and advocacy purposes.

Trainees
>180

Presentations
>370

Publications
>230

Citations
>7000

AHKGA Global Matrix 4.0 Network



The Global Matrix 4.0 involved a network of:

57 Participating countries or jurisdictions

682 Experts from around the world

Partnerships

Partnership agreements with international groups have been established to synergize collaborative efforts to "power the movement to get kids moving" around the world.



Global Matrix 5.0: How to Join?

Timeline: Registration January-December 2024, Launch – Fall 2026

- Visit www.activehealthykids.org for more details about the AHKGA and the Global Matrices
- Contact us at info@activehealthykids.org (or estone@cheo.on.ca) to express interest and request to be added to the AHKGA Global Matrix 5.0 email distribution list and AHKGA quarterly e-newsletter

Follow AHKGA on social media



@activehealthyk1



ActiveHealthyKids



Active Healthy Kids Global
Alliance

Direct contacts for specific inquiries

- Mark Tremblay (President)
mtremblay@cheo.on.ca
- Salomé Aubert (Vice President)
salome_aubert@hotmail.fr
- Emily Stone (Project Coordinator, Admin Assistant)
estone@cheo.on.ca

Benefits of GM Participation



- Becoming part of a global movement
- Identification of gaps in PA indicators through harmonised methodology
- Opportunity to publish impactful papers
- Access to exclusive information (members' area)
- Joining a large community of researchers and practitioners
- Possibility of joining different committees
- Capacity building
- Educational and professional development opportunities and webinars
- Awards
- Funding opportunities (e.g. Asian countries)

Review of indicators



Indicator	Definition	Benchmark
Overall Physical Activity	Any bodily movement produced by skeletal muscles that requires energy expenditure.	<p>% of children and adolescents who meet the Global Recommendations on Physical Activity for Health, which recommend that children and adolescents accumulate at least 60 min of moderate- to vigorous-intensity PA per day on average.</p> <p>Or % of children and adolescents meeting the guidelines on at least 4 d/wk (when an average cannot be estimated).</p>

- We will clarify how to use alternative benchmark
- Future project to test alternative benchmark in other datasets

Review of indicators



Organized Sport and Physical Activity	A subset of PA that is structured, goal oriented, competitive, and contest based.	% of children and adolescents who participate in organized sport and/or PA programs.
---------------------------------------	---	--

- Definition is only focused on competitive sports even if physical activity is in the title, this has to be updated with a broaden definition
- No specific dose threshold in the benchmark

Review of indicators



Active Play	Active play may involve symbolic activity or games with or without clearly defined rules; the activity may be unstructured/unorganized, social or solitary, but the distinguishing features are a playful context, combined with activity that is significantly above resting metabolic rate. Active play tends to occur sporadically, with frequent rest periods, which makes it difficult to record.	<p>% of children and adolescents who engage in unstructured/unorganized active play at any intensity for more than 2 h/d.</p> <p>% of children and adolescents who report being outdoors for more than 2 h/d.</p>
-------------	--	---

- Definition needs to be updated with international consensus definition from Plato-Net: “A form of play that involves physical activity of any intensity”

Review of indicators



Active Transportation	Active transportation refers to any form of human-powered transportation—walking, cycling, using a wheelchair, in-line skating, or skateboarding.	% of children and adolescents who use active transportation to get to and from places (eg, school, park, mall, friend's house).
-----------------------	---	---

- No specific dose threshold in the benchmark

Review of indicators



Sedentary Behavior	Any waking behavior characterized by an energy expenditure ≤ 1.5 metabolic equivalents, while in a sitting, reclining, or lying posture.	% of children and adolescents who meet the Canadian sedentary behavior guidelines (5–17 y olds: no more than 2 h of recreational screen time per day). Note: The Guidelines currently provide a time limit recommendation for screen-related pursuits, but not for nonscreen-related pursuits.
--------------------	---	--

- Benchmark is based on the Canadian 24h movement guidelines – because the WHO do not propose a threshold for screentime (several other countries do)
- Debate: Should we change the name to Recreational Screen Time?

Review of indicators



Physical Fitness	Characteristics that permit a good performance of a given physical task in a specified physical, social, and psychological environment.	Average percentile achieved on certain physical fitness indicators based on the normative values published by Tomkinson et al. ²³
------------------	---	--

- Previous use of European normative values from Tomkinson et al. for grading physical fitness indicators - global norms for handgrip strength and standing broad jump performance should be available next year
- Global Norms from 2018 for the shuttle run test
- Clear instructions on how to use the norms to interpret and grade fitness data will be provided
- YFIT global test battery to be published

Review of indicators



Family and Peers	<p>Any member within the family who can control or influence the PA opportunities and participation of children and adolescents in this environment.</p>	<p>% of family members (eg, parents, guardians) who facilitate PA and sport opportunities for their children (eg, volunteering, coaching, driving, paying for membership fees, and equipment).</p> <p>% of parents who meet the Global Recommendations on Physical Activity for Health, which recommend that adults accumulate at least 150 min of moderate-intensity aerobic PA throughout the week or do at least 75 min of vigorous-intensity aerobic PA throughout the week or an equivalent combination of moderate- and vigorous-intensity PA.</p> <p>% of family members (eg, parents, guardians) who are physically active with their kids.</p> <p>% of children and adolescents with friends and peers who encourage and support them to be physically active.</p> <p>% of children and adolescents who encourage and support their friends and peers to be physically active.</p>
------------------	--	---

Review of indicators

School	Any policies, organizational factors (eg, infrastructure, accountability for policy implementation), or student factors (eg, PA options based on age, gender or ethnicity) in the school environment that can influence the physical activity opportunities and participation of children and adolescents in this environment.	<p>% of schools with active school policies (eg, daily PE, daily PA, recess, "everyone plays" approach, bike racks at school, traffic calming on school property, outdoor time).</p> <p>% of schools where the majority ($\geq 80\%$) of students are taught by a PE specialist.</p> <p>% of schools where the majority ($\geq 80\%$) of students are offered the mandated amount of PE (for the given state/territory/region/country).</p> <p>% of schools that offer PA opportunities (excluding PE) to the majority ($>80\%$) of their students.</p> <p>% of parents who report their children and adolescents have access to PA opportunities at school in addition to PE classes.</p> <p>% of schools with students who have regular access to facilities and equipment that support PA (eg, gymnasium, outdoor playgrounds, sporting fields, multipurpose space for PA, equipment in good condition).</p>
--------	--	---

Review of indicators



School	Any policies, organizational factors (eg, infrastructure, accountability for policy implementation), or student factors (eg, PA options based on age, gender or ethnicity) in the school environment that can influence the physical activity opportunities and participation of children and adolescents in this environment.	<p>% of schools with active school policies (eg, daily PE, daily PA, recess, "everyone plays" approach, bike racks at school, traffic calming on school property, outdoor time).</p> <p>% of schools where the majority ($\geq 80\%$) of students are taught by a PE specialist.</p> <p>% of schools where the majority ($\geq 80\%$) of students are offered the mandated amount of PE (for the given state/territory/region/country).</p>
--------	--	---

- Benchmark suggestion: national PE curriculum? Y/N, details

Review of indicators

Community and Environment	Any policies or organizational factors (eg, infrastructure, accountability for policy implementation) in the municipal environment that can influence the PA opportunities and participation of children and adolescents in this environment.	<p>% of children or parents who perceive their community/municipality is doing a good job at promoting physical activity (eg, variety, location, cost, quality).</p> <p>% of communities/municipalities that report they have policies promoting PA.</p> <p>% of communities/municipalities that report they have infrastructure (eg, sidewalks, trails, paths, bike lanes) specifically geared toward promoting PA.</p> <p>% of children or parents who report having facilities, programs, parks, and playgrounds available to them in their community.</p> <p>% of children or parents who report living in a safe neighborhood where they can be physically active.</p> <p>% of children or parents who report having well-maintained facilities, parks, and playgrounds in their community that are safe to use.</p>
---------------------------	---	---

Review of indicators



Community and Environment	Any policies or organizational factors (eg, infrastructure, accountability for policy implementation) in the municipal environment that can influence the PA opportunities and participation of children and adolescents in this environment.	<p>% of children or parents who perceive their community/municipality is doing a good job at promoting physical activity (eg, variety, location, cost, quality).</p> <p>% of communities/municipalities that report they have policies promoting PA.</p>
---------------------------	---	--

Potential elements to consider adding in the benchmarks in the future

- Walkability
- Climate change/ climate components: issues with local/geographical variations for a national score
- Development of a new benchmark assessing access to outdoors, nature, green space, maybe also considering climate change and walkability, in collab with Outdoor Play Canada

Issue: local characteristics to generalize at the national level – these will need to be pilot tested

Review of indicators



Government	Any governmental body with authority to influence physical activity opportunities or participation of children and adolescents through policy, legislation, or regulation.	<p>Evidence of leadership and commitment in providing PA opportunities for all children and adolescents.</p> <p>Allocated funds and resources for the implementation of PA promotion strategies and initiatives for all children and adolescents. Demonstrated progress through the key stages of public policy making (ie, policy agenda, policy formation, policy implementation, policy evaluation, and decisions about the future).</p> <p>HEPA PAT (version 2) and the scoring rubric published by Ward et al.²⁴</p>
------------	--	--

Abbreviations: HEPA PAT, Health-Enhancing Physical Activity Policy Audit tool; PA, physical activity; PE, physical education.

Evaluation and improvement the HEPA PAT (version 2) scoring rubric

Review of indicators



Additional indicators?

- PE
- Sleep

“Additional indicators included Sleep (number of countries with the indicator: $n = 14$), Body Mass Index/Weight Status ($n = 12$), Physical Literacy ($n = 5$), Diet ($n = 2$), and 9 other additional indicators each graded by a single country (Mental Health, Anxiety & Stress, Bullying, Student Engagement, Physical Education, Adherence to 24-hour Movement Guidelines, Yoga, Psychosocial Factors, and Seasonal Variation).”

GM 5.0 modifications



- For Global Matrices 1.0 to 3.0, efforts to include equity-focused data in Report Cards were mostly passive, relying on countries/jurisdictions to report as and when data were available
- More proactive approach taken for GM 4.0
 - Countries/jurisdictions participating were invited to report disaggregated data by ability status
 - AHKGA endorsed IFAPA's harmonized development and release of a Global Matrix of fourteen Para Report Cards
 - Most Report Card leaders surveyed after the GM of Para Report Cards, indicated a preference for integrating equity focused data (e.g., data on children and adolescents with a disability) into their national Report Cards

Planning Survey Results

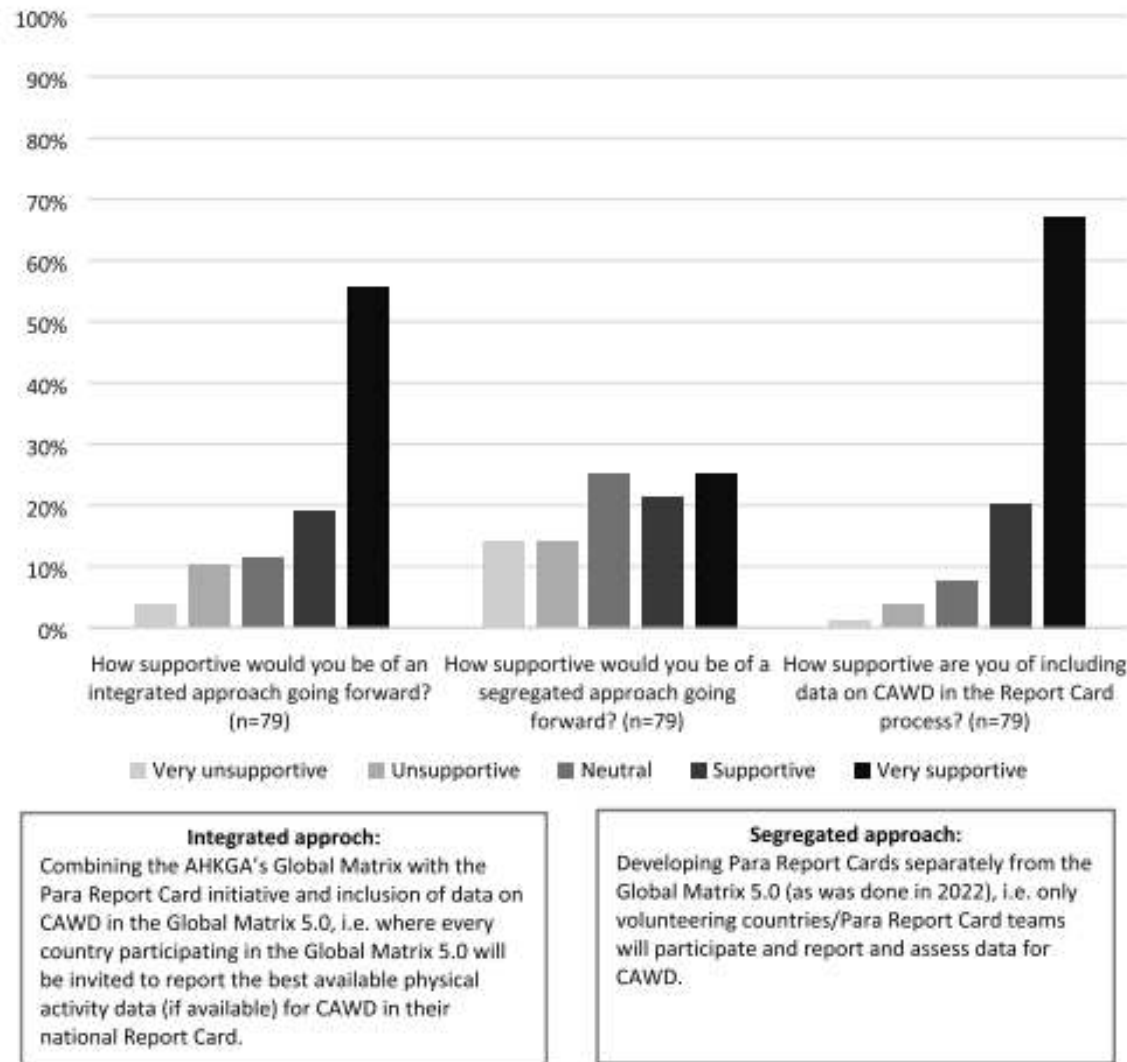


Figure 1 — Response summary from the AHKGA network collected via AHKGA's Global Matrix 5.0 planning survey (August 2023) concerning possible approaches to reporting data on the physical activity of CAWD. AHKGA = Active Healthy Kids Global Alliance; CAWD = children and adolescents with a disability.

GM 5.0 modifications



- For GM 5.0, it is a requirement for participating countries / jurisdictions to report equity-focused data including but not limited to those for children and adolescents with a disability (CAWD) – or report INC
- AHKGA's actions to make this a priority have included
 - The creation of a JEDI Committee
 - Including this requirement as part of the onboarding process
 - Data to be stratified by sex and/ or gender
 - Participants to include best available evidence for any disability groups for as many indicators as possible
 - To include any additional detailed characteristics
 - (e.g., information on sexual minority groups, racialized groups, Indigenous peoples, and other minorities)



Disaggregated physical activity indicator data from countries/jurisdictions

Why does this matter?

Why does this matter?



- **Visibility of Marginalized Groups:** It ensures that individuals from marginalized communities, such as those with disabilities, specific limitations, or belonging to other minority groups (e.g., gender, ethnic, racial, or socio-economic minorities), are more visible in analyses. This prevents their needs from being masked in aggregate data and helps in understanding how different groups are impacted in distinct ways.
- **Informed Decision-Making:** Disaggregated data provides detailed information that supports the creation of more targeted and effective public policies and programs. Without this data, decisions might be based on assumptions or incomplete information, reducing the effectiveness of interventions.

Why does this matter?




- **Promoting Equity:** Reporting data by ability status promotes inclusion and equity, ensuring that interventions reach all groups, especially those facing more barriers, such as people with disabilities. This is crucial for addressing inequalities and promoting equal opportunities.
- **Monitoring Impacts:** It allows governments and organizations to monitor the impact of their policies on different groups. Without disaggregation, it is difficult to know whether initiatives aimed at health, education, or social participation, for example, are truly benefiting people with disabilities.



Journal of Physical Activity and Health, 2022, 19, 737-744

<https://doi.org/10.1123/jpah.2022-0321>

© 2022 Human Kinetics, Inc.

Human Kinetics 
ORIGINAL RESEARCH

Association Between Physical Activity Indicators and Human Development Index at a National Level: Information From Global Matrix 4.0 Physical Activity Report Cards for Children and Adolescents

Diego Augusto Santos Silva,^{1,2} Salomé Aubert,³ Kwok Ng,^{4,5,6} Shawnda A. Morrison,⁷
Jonathan Y. Cagas,⁸ Riki Tesler,⁹ Dawn Tladi,¹⁰ Taru Manyanga,^{11,12} Silvia A. González,^{3,13}
Eun-Young Lee,¹⁴ and Mark S. Tremblay^{3,15,16,17}



Association Between Physical Activity Indicators and Human Development Index at a National Level: Information From Global Matrix 4.0 Physical Activity Report Cards for Children and Adolescents

Diego Augusto Santos Silva,^{1,2} Salomé Aubert,³ Kwok Ng,^{4,5,6} Shawnda A. Morrison,⁷ Jonathan Y. Cagas,⁸ Riki Tesler,⁹ Dawn Tladi,¹⁰ Taru Manyanga,^{11,12} Silvia A. González,^{3,13} Eun-Young Lee,¹⁴ and Mark S. Tremblay^{3,15,16,17}



Context:

PA promotion needs to be equitable among global population subgroups to achieve successful and sustained reductions of insufficient PA worldwide. The promotion of healthy behaviors, including PA in children and youth is critical to avoiding increased cost and mortality burden, and it is incumbent on society to reach as many people as possible, many of whom are from resource-limited communities, vulnerable, and equity-deserving groups, genders, or those facing other barriers to accessing safe, effective PA options.



Association Between Physical Activity Indicators and Human Development Index at a National Level: Information From Global Matrix 4.0 Physical Activity Report Cards for Children and Adolescents

Diego Augusto Santos Silva,^{1,2} Salomé Aubert,³ Kwok Ng,^{4,5,6} Shawnda A. Morrison,⁷ Jonathan Y. Cagas,⁸ Riki Tesler,⁹ Dawn Tladi,¹⁰ Taru Manyanga,^{11,12} Silvia A. González,^{3,13} Eun-Young Lee,¹⁴ and Mark S. Tremblay^{3,15,16,17}

Main objective:

To explore the associations between the 10 key indicators of the Global Matrix 4.0 project and Human Development Index (HDI) at a national level according to **sex, age, area of residence, and ability levels.**

Main hypothesis:

In countries/jurisdictions with better HDI, PA indicators will be better than in countries/jurisdictions with lower HDI for all subgroups analyzed.

METHOD

Two Main Databases

- **Active Healthy Kids Global Alliance Global Matrix 4.0**
[<https://www.activehealthykids.org/>]
- **Human Development Index** of the countries from the United Nations
[<https://hdr.undp.org/data-center>]



METHOD

Measures

- **Active Healthy Kids Global Alliance Global Matrix 4.0**
Report Card grades on **10 indicators** from **57 countries/jurisdictions**

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

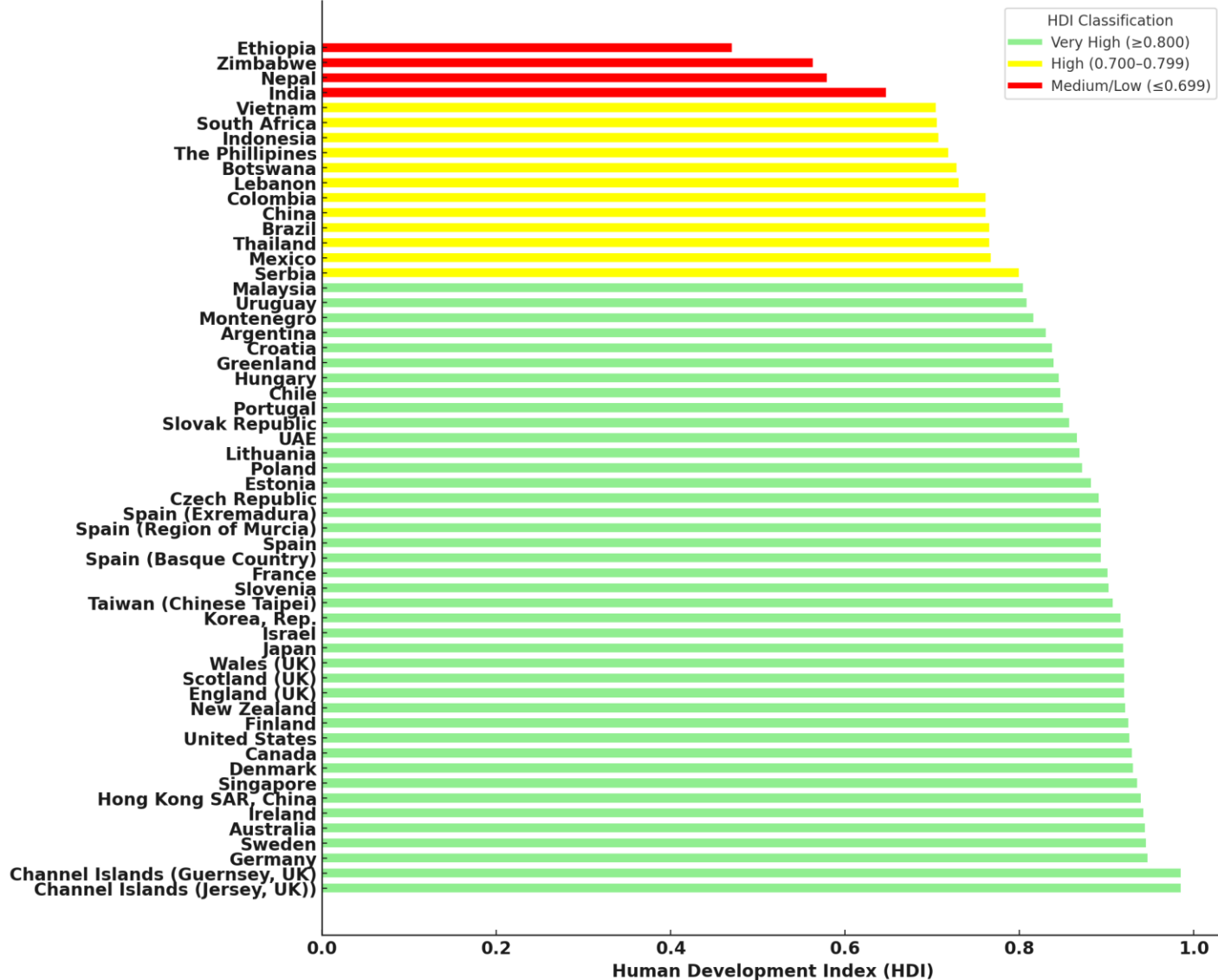
Note. INC: country without sufficient information to assign a grade; * Information treated as missing in data analysis.

10 Physical Activity indicators

- Overall Physical Activity
- Organized Sport and Physical Activity
- Active Play
- Active Transportation
- Sedentary Behavior
- Physical Fitness
- Family and Peers
- School
- Community and Environment
- Government Investments and Strategies

METHOD

Human Development Index by Country



Human Development Index

- 41 countries/jurisdictions were classified with a **very high** HDI;
- 12 countries/jurisdictions were classified with a **high** HDI;
- and only 4 countries/jurisdictions were classified with a **medium or low** HDI.

METHOD

The analysis conducted in this article had **3 sources of information**:

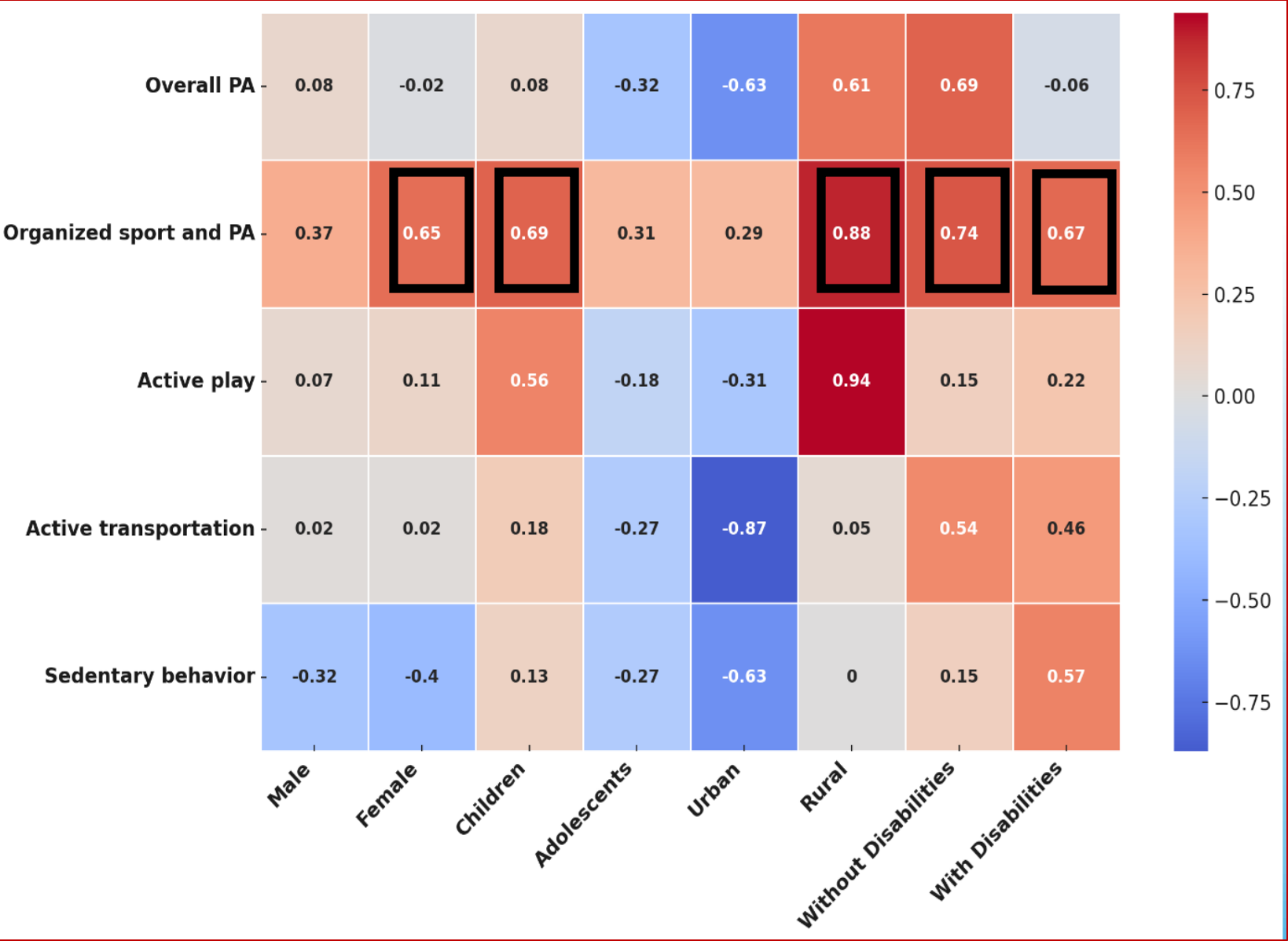
- 1) The grades and rationales approved by the auditors for each of the countries/jurisdictions
 - 2) All the leaders of the Report Cards were invited to provide information on the prevalence of the behavioral indicators according to each subgroup analyzed
 - 3) Information on the ability level breakdown for each indicator was also taken from a companion paper specific to data on children and adolescents with disabilities
- Sex [male and female]
 - Age groups [children: 5–12 y old; adolescents, ≥ 13 y old]
 - Ability levels [with/without disabilities]
 - Residence area [urban and rural])

RESULTS

Table 1. Grades of behavioural indicators according to subgroups.

Subgroups	Overall PA	Organized sport and PA	Active play	Active transportation	Sedentary behavior
	Grade	Grade	Grade	Grade	Grade
Sex					
Male	C-	C+	C	C+	D+
Female	D+	C	C	C+	D+
Age groups					
Children	D+	C+	D+	B-	C-
Adolescents	C	C-	F	B-	D+
Residence area					
Urban	D+	C-	D-	C+	D+
Rural	D+	C-	D-	D	F
Disabilities					
No	D+	C-	C-	C+	C-
Yes	D-	F	F	D-	D-

Fig 1. Spearman coefficient correlation matrix between Human Development Index and grades of the PA indicators according to subgroups.

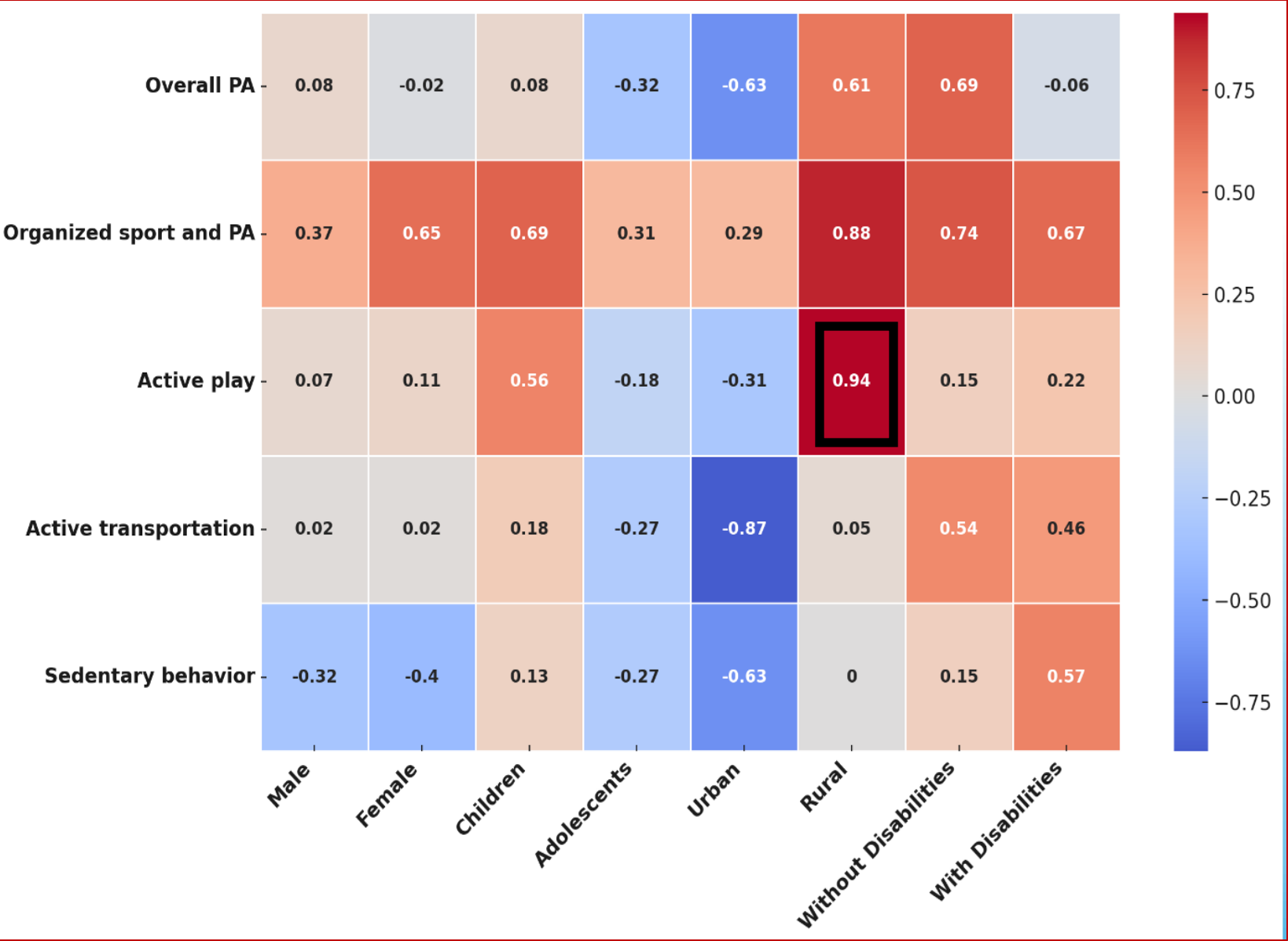


We found a direct and significant association between HDI and the grades of the **Organized Sport and PA** indicator for:

- **Females**
- **Children**
- **Rural residents**
- **People without disabilities**
- **People with disabilities**

This means that for these groups, the higher the HDI of the country, the better the grades for this indicator.

Fig 1. Spearman coefficient correlation matrix between Human Development Index and grades of the PA indicators according to subgroups.

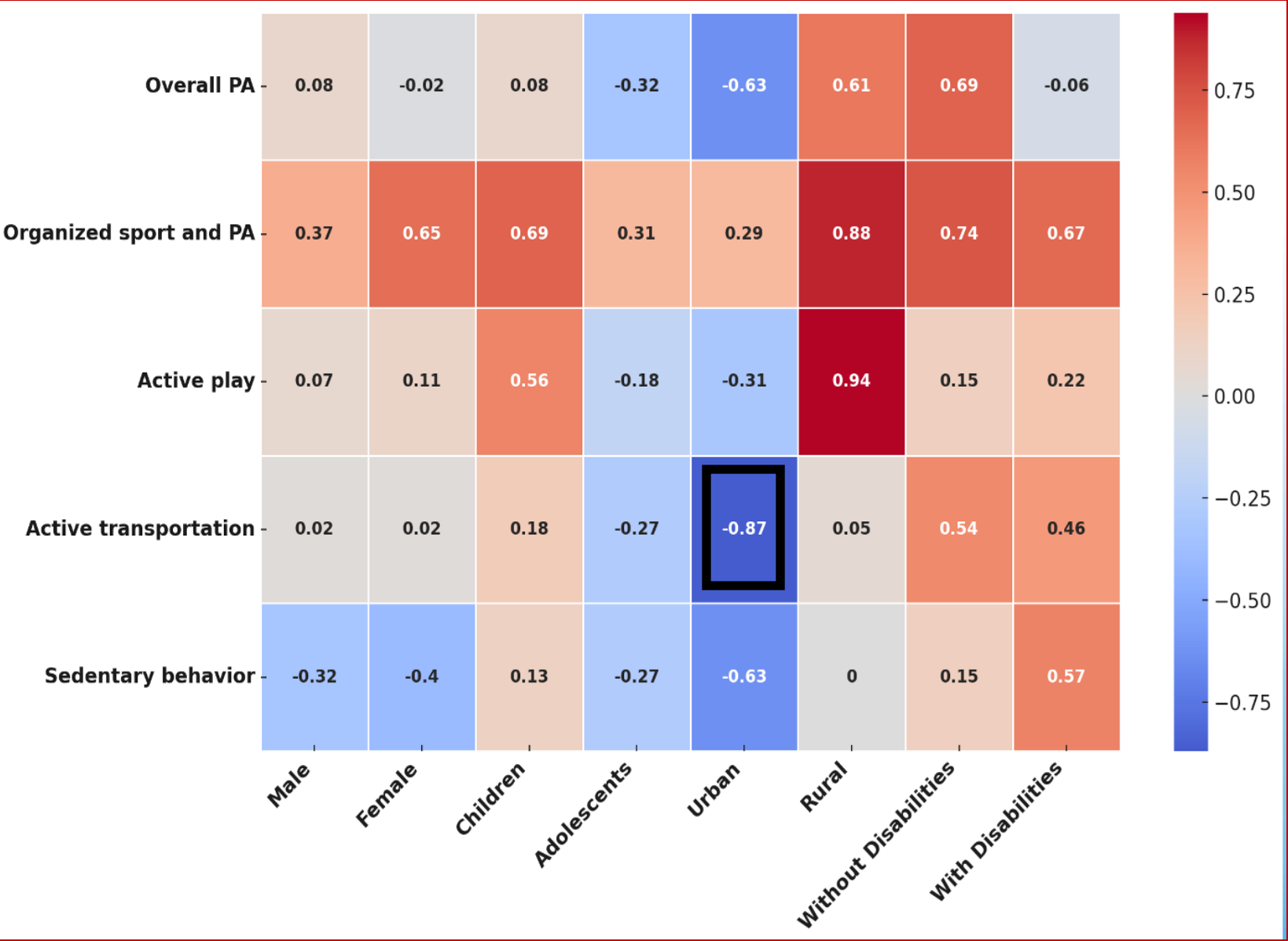


We found a direct and significant association between HDI and the grades of the **Active Play indicator** for:

- **Rural residents**

This means that for this group, the higher the HDI of the country, the better the grade for the indicator.

Fig 1. Spearman coefficient correlation matrix between Human Development Index and grades of the PA indicators according to subgroups.

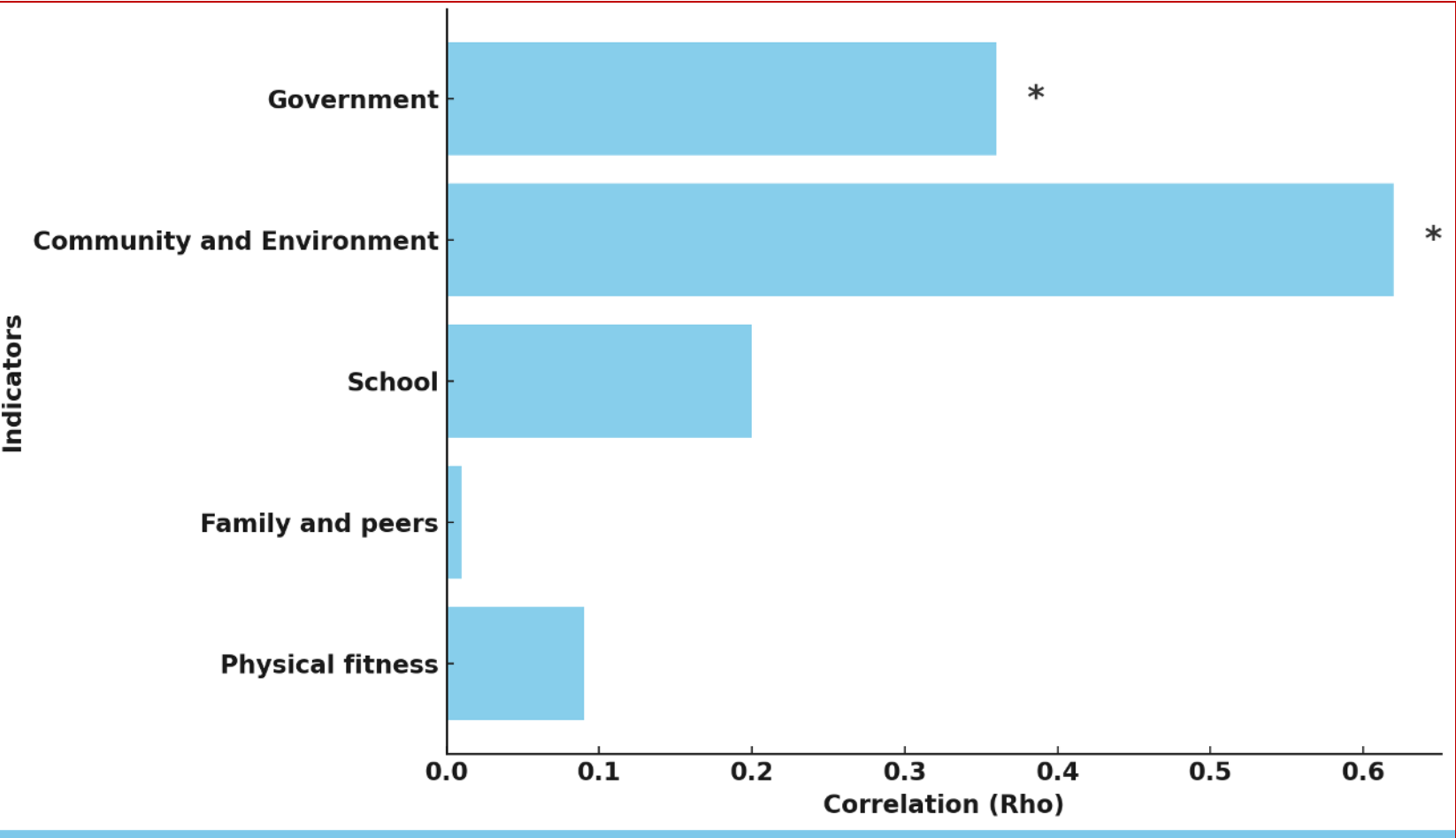


We found an inverse and significant association between HDI and the grades of the **Active Transportation** indicator for:

- **Urban residents**

This means that the higher the HDI of the country, the lower the grade for this indicator (or conversely, the lower the HDI of the country, the higher the grade for this indicator).

Fig 2. Spearman coefficient correlation between Human Development Index and grades of the Physical Fitness and Sources of influence PA indicators.



We found a direct and significant association between HDI and the grades for the indicators:

- **Government**
- **Community and Environment**

This means that the higher the HDI of the country, the better the grades for this indicators.

Sex disparities: Organized Sports and PA

- In countries with higher HDI, females were more involved in Organized Sports and PA, while in countries with lower HDI, their participation was lower. This suggests that in countries with lower HDI, cultural norms create more barriers for females, such as body image issues, fewer opportunities for PA, and stereotypes about females being “sporty” and “active”.
- To address these inequities, efforts from governments, schools, families, and society are needed to support greater involvement of females in Organized Sports and PA to break down these social prejudices from a young age.



Age groups disparities: Organized Sports and PA

- In countries with very high and high HDI, there was a tendency for children to have higher grades in Organized sports and PA indicator. In general, elementary schools in very high and high HDI countries have structures and opportunities for Organized Sports and PA, which are not observed for children in low-income countries.
- To address this inequality between countries with very high and high HDI compared to low HDI countries, several strategies can be implemented. Governments and international organizations can invest in improving school sports infrastructure, ensuring facilities for Organized Sports and PA. Training programs for Physical Education teachers and coaches are essential to promote inclusive and effective Organized Sports in low HDI countries.



Area of residence disparities: Organized Sports and PA, Active Transportation, Active Play

- We found that children and adolescents in urban areas of low/medium HDI countries had better grades in Active Transportation than those in very high/high HDI countries. In contrast, children in rural areas of very high HDI countries performed better in Organized Sports and Active Play than those in lower HDI countries.
- This suggests that rural areas in very high HDI countries offer more opportunities for physical activity, highlighting social inequality. Alternatively, measurement tools may not fully capture the diverse physical activities typical in rural, low/medium HDI settings, such as domestic chores and routine active transportation.
- To address this inequality, investments in rural infrastructure and programs that promote PA in low/medium HDI countries are essential.

Ability level: disparities and/or similarities

- The present study showed that in countries with higher HDI, the grades for the Organized sport and PA indicator were better than in countries with lower HDI for both subgroups with and without disabilities.
- This inequality in the grades between countries according to HDI can be justified because there are few policies to promote sport and PA for children and adolescents with disabilities and without disabilities in countries with lower HDI.
- To address this inequality, countries with lower HDI need to implement inclusive policies that promote organized sports and physical activity for all children, regardless of ability. Governments should invest in accessible sports infrastructure, provide training for inclusive coaching, and raise awareness about the benefits of physical activity for children with and without disabilities.

Sources of influence disparities: Community and Environment, and Government

- For the sources of influence grades, the results of this study are concerning, because for Community and Environment, and Government indicators, countries with very high and high HDI reported better grades than those with medium/low HDI.
- These findings, though perhaps not surprising, are aligned with the socioecological model of behavior change, which emphasizes sources of influence as important factors for promoting PA.
- Lower HDI countries need to prioritize contextual actions for PA, because without government actions such as changing the school environment and legislation, restructuring the neighborhood and schools, there is limited opportunity to promote PA at sufficient levels for health benefits.

Final remarks




- These findings highlight the disparities in physical activity opportunities for children and adolescents, especially in countries with lower HDI, and suggest that promoting physical activity can help reduce inequalities (sex, age groups, residence area, ability level).
- The study underscores the need for interdisciplinary approaches and integrated policies that address the disparities in physical activity access, particularly in lower HDI regions, to tackle global health and sustainable development challenges.
- Future research should further investigate these disparities, focusing on socioeconomic and environmental factors, to inform policies that promote equitable health and well-being.



Journal of Physical Activity and Health, 2022, 19, 737-744

<https://doi.org/10.1123/jpah.2022-0321>

© 2022 Human Kinetics, Inc.

Human Kinetics 
ORIGINAL RESEARCH

Association Between Physical Activity Indicators and Human Development Index at a National Level: Information From Global Matrix 4.0 Physical Activity Report Cards for Children and Adolescents

Diego Augusto Santos Silva,^{1,2} Salomé Aubert,³ Kwok Ng,^{4,5,6} Shawnda A. Morrison,⁷
Jonathan Y. Cagas,⁸ Riki Tesler,⁹ Dawn Tladi,¹⁰ Taru Manyanga,^{11,12} Silvia A. González,^{3,13}
Eun-Young Lee,¹⁴ and Mark S. Tremblay^{3,15,16,17}

GM 5.0 modifications

- Discussion and brainstorming ideas
 - How can we collectively support countries/jurisdictions to prioritize these data for their Report Cards
 - Are there indicators that should be a MUST for countries to report equity-focused data on, even if it is to put a quantified INC grade
 - What else should we be thinking about to ensure a more inclusive GM 5.0

Publication plan



AHKGA Commitments

- At least 5 global papers in JSHS (discuss potential journal country identification issue)
- One paper reporting global findings on children and adolescents with disabilities in APAQ Journal
- AHKGA Fellow (Iryna) to lead the “main Global Matrix paper” that will be submitted to JSHS
- Other journals to consider: JPAH, JESF, WHO Bulletin, The Lancet, IJBNPA

Objectives

- **Designing an ambitious, impactful, and innovative/novel publication plan, but also (and above all) feasible within our timeline.**
- **Designing writing process and authorship strategies to ensure fairness, feasibility, respect of co-authorship guidelines, and successful completion of the Global Matrix 5.0 publication plan.**

Publication plan



Context: Previous Global Matrix publication strategies

- Global Matrix 1.0 – 15 participating countries – special issue in JPAH
 - Commentary on the 2014 Global Summit on PA
 - Impact of the AHK Canadian RC, a 10-year analysis
 - 5-page brief report for each country
 - Main Global Matrix paper (overall findings, who's leading and lagging, disparities and inequities, data gaps and research priorities)
- Global Matrix 2.0 – 38 participating countries – special issue in JPAH
 - Commentary: Introduction paper
 - 5-7-page original research article for each country
 - Main Global Matrix paper (overall findings, successes and challenges by indicators, disparities and inequities, data gaps and research priorities, recommendation and future directions)

Publication plan



Context: Previous Global Matrix publication strategies

- Global Matrix 3.0 – 49 participating countries – special issue in JPAH
 - Main Global Matrix paper (overall findings, Most Successful Countries, Least Successful Countries, integrated discussion)
 - Low to Medium HDI country paper
 - High HDI country paper
 - Very high HDI country paper
 - 49 2-page brief reports (one for each country/jurisdiction)

Publication plan



Context: Previous Global Matrix publication strategies

- Global Matrix 4.0 – 57 participating countries – special issue in JPAH
 - Brief report: Introduction paper “Active Healthy Kids Global Alliance Global Matrix 4.0—A Resource for Physical Activity Researchers”
 - Main Global Matrix paper (overall findings, impact of the Covid19 pandemic, Global Priorities by indicator, Impact of War, Climate Change, and Economic Change, Lessons learned/success stories from countries with the highest grade for each indicator, inequities,
 - Secular trend paper GM 1.0 to GM 4.0
 - Inequity paper exploring the associations between the and HDI according to sex, age, area of residence, and ability levels
 - Paper exploring Economic Freedom, Climate Culpability, and Physical Activity
 - Paper on PA promoting policies for children and adolescents with disabilities
 - Many papers on country Report Cards published in JESF and elsewhere (independent of AHKGA)

Publication plan



AHKGA Publication Committee proposal for the Global Matrix 5.0

- **Main paper (led by AHKGA fellow – Iryna)** presenting overall global findings, general analysis/findings by world region, HDI, level of income, etc, and digging deeper in the Overall Physical Activity indicator – submitted in JSHS.
- One **global disability paper submitted** in APAQ journal
- **9 other global papers** – one for each Global Matrix remaining indicators
 - **Consistent content across papers** (e.g., overall findings and exploring surveillance & standardisation challenges, equities and inequities – at multiple levels country, region, gender, disability, research gaps, priorities and recommendation)
 - **Additional analysis**, links, discussions that would be relevant for each specific indicator

Publication plan



AHKGA Publication Committee proposal for the Global Matrix 5.0

Example 1: Organized Sport and Physical Activity

- Cultural practices: Regional and cultural variations in organized sports, including traditional sports and their preservation in modern contexts.
- Sport for peace: The role of organized sport in conflict resolution, fostering social inclusion, and promoting mental well-being in post-conflict or fragile settings.
- Impact of major sporting events: Influence of global/regional sporting events (Olympics, Youth Games) on youth physical activity, link between country Olympic medal counts and grades

Publication plan



AHKGA Publication Committee proposal for the Global Matrix 5.0

Example 2: Community and Environment

- Link with climate change impacts
- Link with access to nature: The role of green spaces and outdoor environments in promoting PA and the disparities in access between urban and rural areas.
- Community-level interventions: Examples of successful community programs and urban design initiatives that foster active living (e.g., outdoor gyms, walking groups).
- Urban vs. Rural Settings

Publication plan



AHKGA Publication Committee proposal for the Global Matrix 5.0

- Impactful standardized title for each paper, of particular interest considering that they will not be all in the same journal:
 - *“Global state of physical activity in children and adolescents, insights from the Global Matrix 5.0” & “Global state of physical activity in children and adolescents with disabilities, insights from the Global Matrix 5.0”*
 - *“Global state of organized sport and physical activity in children and adolescents/ sedentary behaviour/ active play/ physical fitness in children and adolescents, insights from the Global Matrix 5.0”*
 - *“Global state of school physical activity promoting characteristics in children and adolescents, insights from the Global Matrix 5.0”*
 - *“Global state of environment and community physical activity promoting characteristics in children and adolescents, insights from the Global Matrix 5.0”*
 - *“Global state of family and peers physical activity promoting characteristics in children and adolescents, insights from the Global Matrix 5.0”*
 - *“Global state of government & policy physical activity promoting characteristics in children and adolescents, insights from the Global Matrix 5.0”*

Publication plan



AHKGA Publication Committee proposal for the Global Matrix 5.0

- **Overall Physical activity - JSHS**
- **Organized Sport and Physical Activity – JSHS**
- **Active Play - JSHS**
- **Active Transportation – IJBNPA, Journal of Transport and Health**
- **Sedentary Behavior - JSHS**
- **Physical Fitness – in JESF**
- **School – in JSHS**
- **Family and Peers – in JPAH**
- **Community and Environment – The Lancet Planetary Health, Health & Place, IJBNPA**
- **Government - WHO Bulletin (but limit of 3,000 words!) or The Lancet Public Health**

Writing process and authorship strategies



- Previous GM approaches: a single main Global Matrix paper involved all Report Card (RC) leaders/co-leaders as co-authors.
- Many RC leaders had limited involvement in contributing or reviewing the manuscript, leading to imbalances in workload distribution and reduced accountability.
- Important to ensure that all contributors play a more active and equitable role in the writing process to uphold the integrity of co-authorship and ensure that the insights and expertise from different regions and contexts are fully integrated into each paper.

Writing process and authorship strategies



Steering/Working Groups for Each Paper

- **Formation of Working Groups:** For each paper, we will form a dedicated working group that includes both Report Card (RC) leaders/co-leaders and potentially other relevant experts (within the RC teams). These groups will be responsible for contributing to both the content and development of the paper.
- **Responsibilities of Working Groups:** Each group will oversee key aspects of paper development, including data interpretation, writing specific sections, and providing feedback during revisions. This will create shared ownership and reduce the burden on the lead author.
- **Roles** within the working group should be clearly defined from the start. Steering group will assign specific sections of the paper (e.g., introduction, methods, results, discussion) to different group members based on expertise and interest. Regular virtual meetings (e.g., monthly) should be held to check on progress, resolve any challenges, and ensure ongoing collaboration.

Writing process and authorship strategies



Steering/Working Groups for Each Paper

- **Allocating Co-authorship Based on Expertise:** To distribute RC leaders/co-leaders more evenly across papers, we should assign them to specific indicators where they have expertise or a particular interest (consultation process/survey)
- **Regional and Global Representation:** We will ensure that each working group is diverse, includes representatives from different world regions to maintain the global scope and integrity of the Global Matrix.
- **Lead Author as Coordinator:** The lead author of each paper will also act as a coordinator, ensuring that the group's input is integrated, and the timeline is respected. They will oversee the writing process but not bear the full responsibility for drafting the paper.
- **Capacity building:** Lead writing priority could be given to PhD candidates who are currently working on relevant topics related to the specific paper. Experience writer included who could serve as “back-up” writers.
- **A maximum number of papers co-authored per person?** Potential solution: up to three co-authors (each on a different paper) per Report

Writing process and authorship strategies



Steering/Working Groups for Each Paper.

- A **maximum number of papers co-authored per person**? Potential solution: up to three co-authors (each on a different paper) per Report Card team?
- Potential issue: Most people could be interested in co-authoring the main paper – the main global paper could be limited to AHKGA board and AHKGA committee members
- Each paper will have to include a standardized statement in the acknowledgement section to thank the contribution of all the Report Card teams

Writing process and authorship strategies



Transparent and Structured Co-authorship Guidelines

Criteria for Co-authorship: Co-authorship should be granted based on well-defined contributions. The International Committee of Medical Journal Editors (ICMJE) guidelines can be followed as a baseline, requiring substantial contributions in one or more areas such as:

- Data acquisition or analysis
- Drafting and revising the manuscript
- Interpretation of results
- Final approval of the manuscript before submission
- Agreement to be accountable for all aspects of the work

Establish a minimum contribution threshold for co-authorship. Those not meeting this threshold can be removed from the author list and added in the acknowledgments section rather than receiving co-authorship.

Writing process and authorship strategies



Writing process and timeline

- 1. Formation of steering/working groups for each paper**
- 2. Identification of lead author/coordinator**
- 3. Design and approval of harmonized content across all papers**
- 4. Development and approval of each full paper outline and content**
 - Detailed outline including specific analyses, links, and discussion points, and unique aspects of the paper
- 5. Survey design and distribution**
- 6. Distribution of GM5.0 grades and rationales to writing groups**
- 7. Global analysis by Iryna and distribution of relevant results for each papers**
- 8. Clear writing step deadlines and monitoring of writing progress**
- 9. Submission of final papers**

Writing process and authorship strategies



Writing process and timeline

- 1. Formation of steering/working groups for each paper**
- 2. Identification of lead author/coordinator**
- 3. Design and approval of harmonized content across all papers**
- 4. Development and approval of each full paper outline and content**
- 5. Survey design and distribution**
 - Surveys will be designed to gather additional

data from Report Card leaders including questions specific to individual papers – each working group will have to provide on time specific questions necessary for their paper

- 6. Distribution of GM5.0 grades and rationales to writing groups**
- 7. Global analysis by Iryna and distribution of relevant results for each papers**
- 8. Clear writing step deadlines and monitoring of writing progress**
- 9. Submission of final papers**

Writing process and authorship strategies



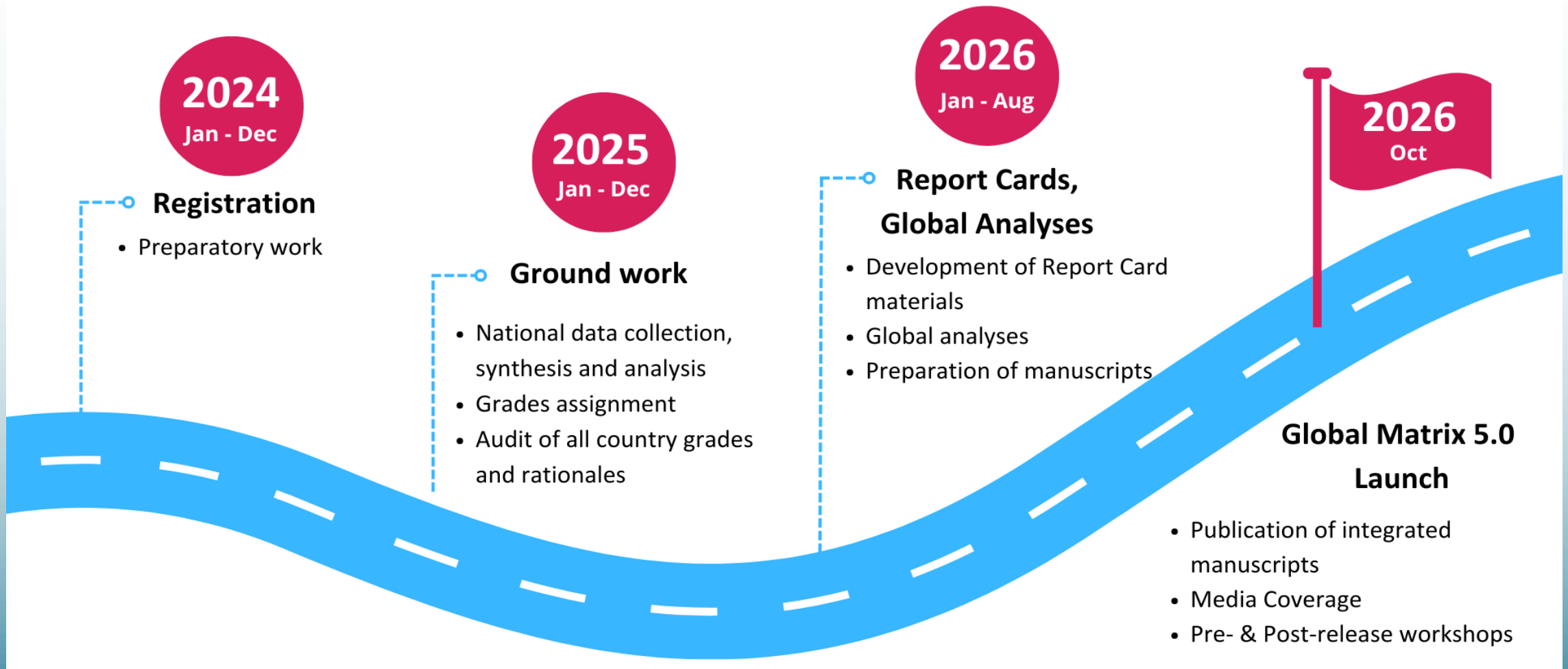
Time management and internal review process

Respect of the writing process timeline will be kept track by the publication committee chair corresponding with the lead author of each paper to control for the need of an “intervention”.

The publication committee will review the proposed outlines in Step 4: “Development and approval of each full paper outline and content”.

Papers will be reviewed internally by one or two members of the publication committee to ensure consistency and compliance with the predefined required sections before submission.

Timeline



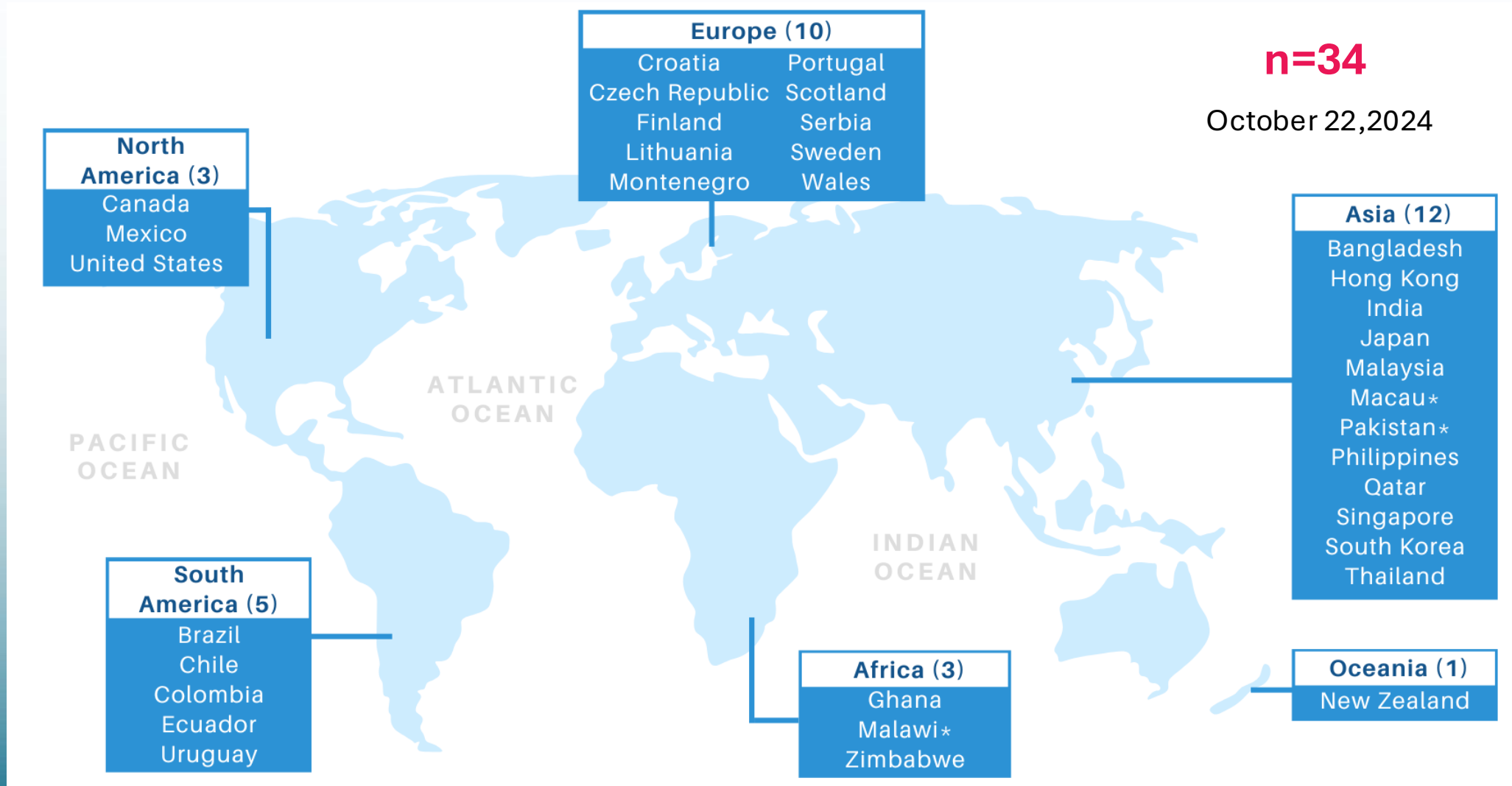
Steps



Steps	2024												2025												2026												
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Register																																					
Sign MOU between Report Card teams and the AHKGA																																					
Form Report Card Teams and report to the AHKGA																																					
Baseline survey																																					
Data identification meeting																																					
Data gathering and synthesis																																					
Summary of gathered evidence, grades assignment, additional research to address gaps																																					
Mid-development survey																																					
Submit Report Card draft grades and rationales to the AHKGA for audit																																					
Submit Report Card final grades and rationales																																					
Prepare Report Card (graphics, cover, translation, website)																																					
Submit short form of Report Card to the AHKGA																																					
Submit finalized Report Card covers and infographics to the AHKGA																																					
Global Matrix 5.0 launch																																					
Post-release Survey																																					

(draft version)

Registrations



Fees



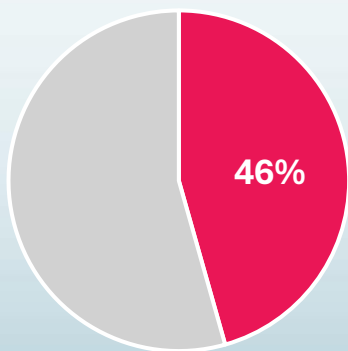
Membership fees for participating in the Global Matrix 5.0: **four tiers** based on the current **World Bank Classifications**:

- US \$500 for low-income countries
- US \$1000 for lower-middle-income countries
- US \$1500 for upper-middle-income countries
- US \$2000 for high-income countries

Funding

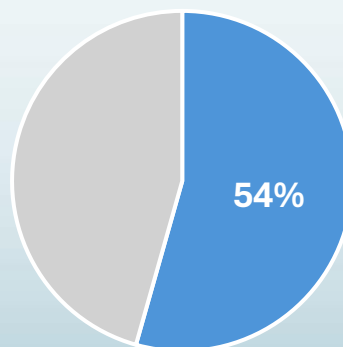
Global Matrix 4.0: **insufficient funding** was one of the most common and biggest challenges

Funding insufficiency



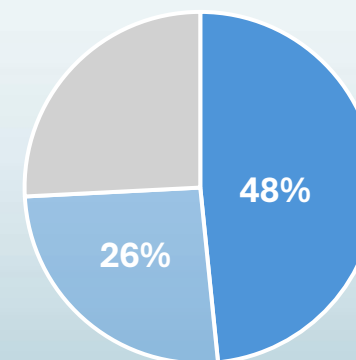
46% (n = 26) of Report Card teams did not have sufficient funds for Report Card development

Funding applications



54% (n = 31) of Report Card teams submitted various applications for funding

Success of applications



Of those who applied for funding (n = 31), 74% (n = 23) were successful:

- fully (48%, n = 15) or
- partially (26%, n = 8)

Funding



- The primary responsibility for securing funding rests with the Report Card teams
- AHKGA Webinar (April 9 and 10, 2024)

“Global Matrix 5.0: General Information and Funding Seeking Strategies”

- The recording is available on the AHKGA website:

<https://www.activehealthykids.org/2024/04/15/missed-the-live-event-watch-the-webinar-recording-here/>

Mentorship



- Report Card teams will receive guidance from the **AHKGA Board of Directors** as well as from **experienced regional leaders** for the various geographic regions represented in the Global Matrix
- **AHKGA support staff** will also be available to respond to any concerns and to help guide Report Card teams through the Report Card development process (data synthesis, grading framework, knowledge translation, etc.)
- **Regular e-blasts** from the AHKGA will guide and direct Report Card leaders throughout the Global Matrix 5.0

Q+A

