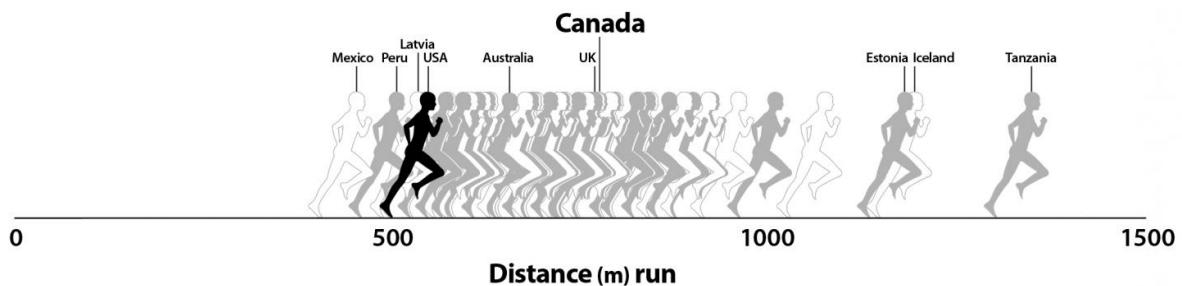


# 50-country comparison of child and youth fitness levels

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Credit: Children's Hospital of Eastern Ontario

An international research team co-led from the Children's Hospital of Eastern Ontario (CHEO) and the University of North Dakota studied the aerobic fitness levels of children and youth across 50 countries. The results are available now in the esteemed *British Journal of Sports Medicine*.

"Kids who are aerobically fit tend to be healthy; and healthy kids are apt to be healthy adults. So studying aerobic fitness in the early years is very insightful to overall population health," said Justin Lang, lead author, Healthy Active Living and Obesity (HALO) research group, CHEO and PhD student, University of Ottawa. "It's important to know how kids in Canada or America fare on the world stage, for example, because we can always learn from other countries with fitter kids."

The study involved analyzing 20-meter shuttle data, also called the beep test, from 1.1 million kids aged 9 to 17 years old from 50 countries. The beep test is the most popular field-based test of aerobic fitness levels of children and youth. It is also standardized and commonly used around the world.

"If all the kids in the world were to line up for a race, the average American child would finish at the foot of the field," said Dr. Grant Tomkinson, senior author, associate professor, University of North Dakota. "Canada, on the other hand, fared moderately well placing just above middle of the pack. This study is the largest of its kind so it's exciting to have this evidence at hand."

Another key finding of this study is that income inequality – the gap between rich and poor as measured by the Gini Index – is strongly correlated with [aerobic fitness](#). Children and youth from countries with a small gap between rich and poor appear to have better fitness.

Study collaborators include co-authors from the University of Montreal and University of South Australia.

Ranking highlights:

- \* Top 5 fittest countries: Tanzania, Iceland, Estonia, Norway, Japan
- \* Canada placed 19 out of 50
- \* America placed 47 out of 50
- \* The least fit is Mexico

**More information:** Justin J Lang et al. International variability in 20 m shuttle run performance in children and youth: who are the fittest from a 50-country comparison? A systematic literature review with pooling of aggregate results, *British Journal of Sports Medicine* (2016). [DOI: 10.1136/bjsports-2016-096224](https://doi.org/10.1136/bjsports-2016-096224)

Provided by Children's Hospital of Eastern Ontario

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