

HEALTH

Children's fitness levels are falling, research shows

The decline over the past two decades has been made worse recently by the Covid-19 pandemic

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Children's grip strength seems to be improving year over year but other measures of their fitness levels are declining, recent research shows.

Throughout 2020, Grant Tomkinson, professor of education, health and behaviour at the University of North Dakota, in the US, led a research team to measure the disparities in children's fitness levels over time using physical strength indicators.

Tomkinson used aerobics, cardio-respiratory fitness and muscular strength and power as measures of fitness levels to calculate the physical disparities of children aged nine to 17 years worldwide compared to previous generations.



1 hour

WHO recommends that children and adolescents should do at least this much moderate to vigorous physical activity daily

"When it comes to kids, I would say it's probably widely accepted that their cardio-respiratory or aerobic fitness – that is, their ability to perform long and exhaustive exercises that use the big muscles of the body like cycling, running and swimming – is the most important measure of health," he says.

Results showed that, internationally, children's grip strength had increased over time. But other measures of fitness such as abdominal endurance, leg power or the ability to jump horizontally, rose until the year 2000 – and have been in decline ever since.

Examining these studies now comes at an important time: over the past two years, childhood obesity in Hong Kong has accelerated thanks to lifestyle changes caused by the pandemic.

Although it is accepted that physical fitness is good for overall wellness, recent research shows sports and cardio-respiratory fitness are also linked to improved brain functioning, memory and academic performance.

"In 2020, the World Health

Organization recommended that children and adolescents aged five to 17 years should do at least 60 minutes of moderate to vigorous physical activity daily," says Cindy Sit, professor and chairwoman of the Department of Sports Science and Physical Education at Chinese University.

Sit says the university's Active Healthy Kids 2018 Hong Kong Report Card gave a D grade for Hong Kong children and young people's physical fitness.

"Using cardio-respiratory fitness as an indicator, this means that about 30 per cent of Hong Kong children and youth met the international benchmark for relative peak oxygen uptake determined by a 20-metre shuttle-run test, suggesting poor cardio-respiratory fitness," she says.

When it comes to grip strength, Sit believes the increase could be indicative of children's daily activities or chores, such as turning doorknobs, opening jars, manipulating phones, iPads, computers and more.

However, she says a handgrip test is used to measure the maximum force generated by one's forearm muscles, which is less dependent on exercise technique or other general fitness levels.

"Based on Grant's research, it appears that children's muscular fitness or what we now call 'strength fitness' has seemed to decline," Sit says. "As such, a group of researchers came up with a construct of 'paediatric dynapenia' in 2017."

"Paediatric dynapenia refers to children's poor muscular fitness and consequent functional limitations not resulting from neurological or muscular disorders, activity-related injuries and adverse health outcomes."

Troublingly, Sit and other experts have found this to be a particular issue in Hong Kong.

"Hong Kong children's fitness levels are low and require much attention," Sit says. "In addition to sedentarism, often considered its own 'global pandemic', Hong Kong children are also found to be obese or overweight. This indicator was graded as D- in our 2018 Hong Kong Report Card."

Some of the reasons Sit and other experts believe this to be a big factor in Hong Kong is inactive and busy parents, a high emphasis on academic performance, high usage of technology such as computers and smartphones that result in sedentary behaviour, and convenient and "passive modes" of public transport.

Another factor that has been apparent during the pandemic is insufficient facilities or neighbourhood parks that promote opportunities for active play and outdoor play. Hong Kong is considered to be among the top 10 cities in the world for population density, yet it does not have adequate park space to reflect this.

Both Sit and Grant believe the pandemic has offered a chance to rethink our approach to fitness and reshape our relationship with it for the future.