

World-first regulations to combat sedentary behavior among children in China show global promise

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Pioneering measures to tackle sedentary behavior among children in China have proved effective, according to new research.

The study, led by the University of Bristol, reveals regulations recently introduced by the Chinese government to reduce school children's [sedentary behavior](#) by restricting online gaming companies catering for this age group, limiting the amount of homework schoolteachers can assign, and curtailing when private tuition businesses can provide lessons, significantly reduced total sedentary time as well as how long they spent on different sedentary activities.

The measures were associated with a 13.8% daily sedentary drop overall, equating to more than three-quarters of an hour less spent daily in this physically inactive mode.

The findings, published today in the *International Journal of Behavioral Nutrition and Physical Activity*, have important implications for future policies and measures aimed at improving children's physical and mental well-being globally.

Lead author Dr. Bai Li, from the Center for Exercise, Nutrition and Health Sciences at the University's School for Policy Studies, said, "The results are exciting as this type of regulatory intervention across multiple settings has never been tried before. Traditionally, children and their parents or caregivers have been guided with education and encouraged to make behavioral changes themselves, which hasn't really worked.

"With these regulatory measures, the onus has shifted to online gaming companies, schools and, private tutoring companies to comply. This very different approach appears to be more effective, because it is aimed at improving the environment in which children and adolescents live, supporting a healthier lifestyle."

The team of researchers in the U.K. and China analyzed individually matched surveillance data gathered from more than 7,000 primary and [secondary school students](#) in 2020 and 2021, before and after the

regulations were introduced. Participants were recruited from 31 urban or rural areas across 14 cities in the Guangxi region of Southern China.

Over this period, statistics showed the average amount of time students spent on sedentary pursuits each day reduced by 46 minutes. This was particularly pronounced among students in urban areas, compared to those from rural areas. Average daily screen-viewing time—including using mobile phones, handheld game consoles, tablets, televisions, games consoles connected to televisions, or computers—reduced by 6.4% (10 minutes).

Students were also shown to be 20% more likely to meet the screen time recommendation of less than two hours daily, applicable in the U.K. and U.S., after the regulations were implemented.

The findings revealed students overall were nearly three (2.8) times more likely to meet the Chinese government's recommendations for the maximum amount of time spent on homework. This likelihood lessened with age, dropping from 3.6 times among [primary school children](#) to 2.1 times among secondary school children.

Dr. Li, who directs a Master of Science (MSc) Program in Nutrition, Physical Activity and Public Health said, "Our findings certainly suggest the government regulations may have helped lower sedentary behavior among children and young people in this region of China. Further research is needed to assess whether such interventions have a similar impact in other regions of China and internationally."

Prof Boyd Swinburn, Professor of Global Health at the University of Auckland and Co-Director of the World Health Organization (WHO) Collaborating Center for Obesity Prevention at Deakin University in Melbourne, also a former Co-Chair of World Obesity Federation (WOF) Policy & Prevention section, said, "This is a fascinating study because

most interventions to reduce sedentary behaviors have relied on educational approaches rather than the regulatory measures used here.

"While achieving similar regulations in countries outside China may be a challenge, the impact of the regulations does show how sensitive sedentary behaviors are to the prevailing environmental conditions and rules."

More information: The impact of the world's first regulatory, multi-setting intervention on sedentary behaviour among children and adolescents (ENERGISE): a natural experiment evaluation, *International Journal of Behavioral Nutrition and Physical Activity* (2024).

[ijbnpa.biomedcentral.com/artic ... 6/s12966-024-01591-w](https://www.ijbnpa.biomedcentral.com/articles/10.1186/s12966-024-01591-w)

Provided by University of Bristol

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