

State laws can bolster physical education among children, study finds

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The presence and strength of state physical education (P.E.) laws positively affected P.E. attendance and the frequency and duration of physical activity throughout the day, suggests a new analysis from the Brown School at Washington University in St. Louis.

"We found that compared to those residing in states with weak or no P.E. laws, students in states with strong P.E. laws had an additional 0.2 days of P.E. attendance per week and spent an additional 33.9 minutes participating in P.E. classes per week," said Ruopeng An, associate professor and first author of the paper "State Laws Governing School Physical Education in Relation to Attendance and Physical Activity among Students in the US: A Systematic Review and Meta-Analysis," published in the March print issue of the *Journal of Sport and Health Science*.

An also wrote an editorial on policy and physical activity published in the issue.

Physical activity among children and adolescents has been an indispensable way to prevent

childhood obesity and mental illnesses, An said. Currently, over three-quarters of children and adolescents in the U.S. don't meet the guidelines-recommended daily [physical activity level](#)—at least 60 minutes of physical activity every day of the week, he said.

"In the meantime, nearly half of children and adolescents exceed two hours per day of sedentary behavior," An said. "The [gender disparity](#) is also prominent—28% of boys meet the guidelines-recommended level of physical activity, whereas only 20% of girls do."

Despite the promising policy effect, [state laws](#) mandating P.E. participation have seen a sharp decline by school grade level—only 15%, 9% and 6% of students in elementary, middle and high schools in the U.S., respectively, are required to take P.E. classes on three or more days a week during the entire academic year, An said.

"Our analysis shows that state P.E. laws affected girls' physical activity more than boys," he said, "It is possible that girls are less likely to take P.E. as an elective course so that mandating P.E. increases girls' P.E. time more substantially than boys."

"Not all laws are born equal," An said. "Different aspects of state P.E. laws tended to affect students' P.E. attendance differently. Certain parts of the laws could be counterproductive—reducing rather than increasing students' P.E. attendance."

Based on An's earlier work published in the *American Journal of Health Promotion*, state laws governing P.E. class time, staffing for P.E., joint use agreement for physical activity, assessment of health-related fitness and P.E. curriculum all were associated with increased weekly P.E. attendance.

In contrast, state laws governing physical activity time in P.E., P.E. proficiency and recess time were

associated with reduced P.E. attendance. "For example, mandating fitness tests could raise concerns and anxiety and reinforce peer pressure and a competitive atmosphere among students. Consequently, some students may choose to skip P.E. to avoid performance assessment," An explained.

An conducts research to assess environmental influences and population-level interventions on weight-related behaviors and outcomes throughout the life course. He is an expert on physical activity and the sedentary lifestyle.

A total of 17 studies were included in the review, and five contributed to the meta-analyses. Eight used nationally representative school- or student-level data; three focused on multiple states; and the remaining six examined the P.E. laws of a single state.

An and his co-authors, Jianxiu Liu and Ruidong Liu of Tsinghua University in China, found that some states have policy waivers that may exempt children from P.E. attendance in school.

"Some of those policy waivers could compromise students' participation in P.E. and their physical activity levels at school," An said. "Based on the available evidence, states should implement strong evidence-based P.E. laws to increase P.E. attendance and promote [physical activity](#) engagement among school students."

More information: Ruopeng An et al. State laws governing school physical education in relation to attendance and physical activity among students in the USA: A systematic review and meta-analysis, *Journal of Sport and Health Science* (2020). DOI: [10.1016/j.jshs.2020.09.004](https://doi.org/10.1016/j.jshs.2020.09.004)

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