

# Study reveals strength training can decrease heart risks in children

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Early strengthening activities can lead to a decrease in cardiometabolic health risks in children and adolescents, according to results of a new study by a Baylor University professor and a team of researchers.

Until recently, treatment for adolescent obesity and associated health problems has focused mostly on diet modifications and aerobic exercise such as walking or swimming.

But a recent research study appearing this month in *Pediatrics* by Paul M. Gordon, Ph.D., professor and chair of health, human performance and recreation department in Baylor's School of Education concludes that adding strength-building exercises will help adolescents reduce the risks of cardiometabolic diseases such as heart disease, diabetes and other [health problems](#).

With these findings, the research team demonstrated for the first time that strength capacity is robustly associated with lower cardiometabolic risk in adolescents, even after controlling for the influence of BMI, [physical activity](#) participation, and [cardiorespiratory fitness](#).

The findings contradict a popular belief that only high BMI, low cardiorespiratory fitness, and excessive sedentary behaviors are the primary drivers of cardiometabolic abnormalities, Gordon said.

"Our study bolsters support for early strength acquisition and strategies to maintain healthy BMIs (body-mass index measurements) and body

compositions among children and adolescents," Gordon said.

"Unfortunately, to date, most clinical reports have focused on the safety or efficacy of [strength training](#) in pediatrics, rather than its potential viability for health outcomes."

Gordon and his team of researchers collected data from over 1,400 boys and girls, ages 10-12. Results of the study showed that boys and girls with greater strength-to-body mass ratios had lower BMIs, lower percent body fat, smaller waist circumferences, higher levels of cardiorespiratory fitness, and significantly lower clinical markers of risk.

To reach those conclusions, researchers used measurements of the child's cardiometabolic risk components – percentage of body fat, fasting glucose levels, blood pressure, plasma triglycerides levels and HDL cholesterol.

The research team examined numerous potential predictors of positive and negative [health](#), such as fitness, physiologic parameters and behavioral factors. "We were specifically interested in how BMI, physical activity, cardiorespiratory fitness and muscular strength were related to the cardiometabolic risk," Gordon said.

Combined with other recent research, Gordon said the results of this study provide "strong support" for the use of strengthening exercises to supplement traditional weight loss interventions among pediatric populations.

**More information:** The study can be found at [pediatrics.aappublications.org ... 3-3169.full.pdf+html](http://pediatrics.aappublications.org ... 3-3169.full.pdf+html)

Provided by Baylor University

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