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Physical fitness linked to better mental health in young people

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Physical fitness among children and adolescents may protect against developing depressive symptoms, anxiety and attention deficit hyperactivity disorder, according to a study published in JAMA Pediatrics.



The study also found that better performance in cardiovascular activities, strength and muscular endurance were each associated with greater protection against such mental health conditions. The researchers deemed this linkage “dose-dependent”, suggesting that a child or adolescent who is more fit may be accordingly less likely to experience the onset of a mental health disorder. These findings come amid a surge of mental health diagnoses among children and adolescents, in the United States and abroad, that have prompted efforts to understand and curb the problem.

THE STUDY

The new study, conducted by researchers in Taiwan, compared data from two large data sets: the Taiwan National Student Fitness Tests, which measures student fitness performance in schools; and the National Insurance Research Databases, which records medical claims, diagnoses prescriptions and other medical information. The researchers did not have access to the students’ names but were able to use the anonymised data to compare the students’ physical fitness and mental health results.

The risk of mental health disorder was weighted against three metrics for physical fitness: cardio fitness, as measured by a student’s time in an 800m run; muscle endurance, indicated by the number of sit-ups performed; and muscle power, measured by the standing broad jump.

Improved performance in each activity was linked with a lower risk of mental health disorder. For instance, a 30-second decrease in 800m time was associated, in girls, with a lower risk of anxiety, depression and ADHD. In boys, it was associated with lower anxiety and risk of the disorder.

An increase of five sit-ups per minute was associated with lower anxiety and risk of the disorder in boys, and with decreased risk of depression and anxiety in girls.

“These findings suggest the potential of cardiorespiratory and muscular fitness as protective factors in mitigating the onset of mental health disorders among children and adolescents,” the researchers wrote in the journal article.

Physical and mental health were already assumed to be linked, they added, but previous research had relied largely on questionnaires and self-reports, whereas the new study drew from independent assessments and objective standards.

THE BIG PICTURE

Surgeon-general Dr Vivek Murthy, has called mental health “the defining public health crisis of our time”, and he has made adolescent mental health central to his mission. In 2021, he issued a rare public advisory on the topic. Statistics at the time revealed alarming trends. From 2001 to 2019, the suicide rate for Americans ages 10 to 19 rose 40% and emergency visits related to self-harm rose 88%.

Some policymakers and researchers have blamed the sharp increase on the heavy use of social media, but research has been limited and the findings sometimes contradictory. Other experts theorise that heavy screen use has affected adolescent mental health by displacing sleep, exercise and in-person activity, all of which are considered vital to healthy development. The new study appeared to support the link between physical fitness and mental health.

“The finding underscores the need for further research into targeted physical fitness programmes,” its authors concluded. Such programmes, they added, “hold significant potential as primary preventative interventions against mental disorders in children and adolescents”.