Bone-strengthening physical activity declines most among least fit youth: Study

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Bone-Strengthening Physical Activity Declines Most Among Least Fit Youth. Credit: University of Jyväskylä

For the first time, a Finnish study conducted at the University of Jyväskylä has investigated changes in the amount of exercise that

strengthens the bones in adolescence. The study proved that bone-strengthening physical activity levels decrease during adolescence. The decline is steepest among the least fit youth. Physical activity during childhood and adolescence is essential for developing and maintaining strong and healthy bones.

The study examined changes in bone-strengthening physical activity over a three-year period among youth who were aged 11 years at the start of the study. Although bone-strengthening physical activity levels decreased among all youth, they remained higher among those who were physically fit. The rate of decline was also faster among the least fit youth.

Prepubescence and the onset of puberty are especially favorable times to promote bone health through physical activity. Bone-strengthening activities include sufficiently intense impact and other high-force loading, such as jumping, hopping, and changes of direction. Many racquet sports, bat-and-ball games, and artistic gymnastics are good examples of bone-strengthening activities.

"Most of the bone mass is accumulated during childhood and adolescence. Low bone mass increases the risk of osteoporosis later in life," says Dr. Eero Haapala from the Faculty of Sport and Health Sciences at the University of Jyväskylä.

"This is why it is particularly important to support bone-strengthening activities among the least fit youth."

The research was conducted in the Faculty of Sport and Health Sciences at the University of Jyväskylä. It examined the amount of bone-strengthening physical activity measured with motion sensors on over 550 young people during a three-year follow-up. The research was published in the *Journal of Medicine and Science in Sport*.

More information: Eero A. Haapala et al, Trajectories of osteogenic physical activity in children and adolescents: A 3-year cohort study, *Journal of Science and Medicine in Sport* (2024). DOI: 10.1016/j.jsams.2024.02.005