

Exercise shields children from stress

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Exercise may play a key role in helping children cope with stressful situations, according to a recent study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism* (JCEM).

When they are exposed to everyday stressors, the study found sedentary [children](#) had surges of cortisol – a hormone linked to stress. The most active children had little or no increase in their [cortisol levels](#) in similar situations.

"The findings suggest [physical activity](#) plays a role in mental health by buffering children from the effects of daily stressors, such as public speaking," said the study's lead author, Silja Martikainen, MA, of the University of Helsinki, Finland.

The cross-sectional study monitored physical activity and cortisol levels in a birth cohort of eight-year-old children. The 252 participants wore accelerometer devices on their wrists to measure physical activity. Saliva samples were taken to measure cortisol levels. To measure reactions to stress, children were assigned arithmetic and story-telling tasks. The study is the first to find a link between physical activity and stress hormone responses in children.

The children were divided into three groups – most active, intermediate and least active. The most active children's cortisol levels were the least reactive to [stressful situations](#). The most active children exercised more vigorously and for longer periods of time than their counterparts.

"Clearly, there is a link between mental and physical well-being, but the nature of the connection is not well understood," Martikainen said.

"These results suggest [exercise](#) promotes mental health by regulating the stress hormone response to stressors."

More information: The article, "Higher Levels of Physical Activity are Associated with Lower Hypothalamic-Pituitary-Adrenocortical Axis Reactivity to Psychosocial Stress in Children," appears in the April 2013 issue of *JCEM*.

Provided by The Endocrine Society

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