

Study: Stressed kids more likely to become obese

Cornell University

The more ongoing stress children are exposed to, the greater the odds they will become obese by adolescence, reports Cornell environmental psychologist Gary Evans in the journal *Pediatrics* (129:1).

Nine-year-old children who were chronically exposed to such stressors as poverty, crowded housing and family turmoil gain more weight and were significantly heavier by age 13 than they would have been otherwise, the study found. The reason, Evans and his co-authors suggest, is that ongoing stress makes it tougher for children to control their behavior and emotions -- or self-regulate. That, in turn, can lead to obesity by their teen years.

"These children are heavier, and they gain weight faster as they grow up. A very good predictor of adults' ability to follow healthy habits is their ability to self-regulate. It seems reasonable that the origins of that are probably in childhood. This [research] is starting to lay that out," said Evans, the Elizabeth Lee Vincent Professor of Human Ecology in the Departments of Design and Environmental Analysis and of Human Development in Cornell's College of Human Ecology.

Evans conducted the study with former students Thomas Fuller-Rowell, Ph.D. '10, now a Robert Wood Johnson postdoctoral fellow at the University of Wisconsin-Madison, and Stacey Doan, Ph.D. '10, an assistant professor of psychology at Boston University.

The researchers measured the height and weight of 244 9-year-olds in rural New York state and calculated their various physical and psycho-social stressors -- for example, exposure to violence, living in a substandard house or having no access to such resources as books. They also measured the children's ability to delay gratification by offering them a choice between waiting for a large plate of candy versus having a medium plate immediately. The researchers measured the children's height and weight again four years later.

While the study doesn't prove that a child's inability to delay gratification causes her to gain weight, there's strong evidence to suggest that it does, Evans said. First, previous studies have shown that chronic stress is linked to weight gain in children and teenagers, and that children eat more sugary, fatty foods when stressed.

Second, there's a plausible neurocognitive mechanism that may help better understand this behavior, Evans said. "There's some evidence that parts of the brain that are vulnerable and sensitive to stress, particularly early in life, are some of the same parts involved in this self-regulatory behavior."

The study has implications for education policies such as No Child Left Behind that emphasize testing cognitive abilities but ignore children's ability to control their

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Published on Electronic Component News (<http://www.ecnmag.com>)

behavior and emotions, Evans said.

"A child's ability to self-regulate is not just predictive of things like whether you're going to have trouble with weight -- it predicts grades, graduating from high school. A 4-year-old's ability to self-regulate even predicts SAT scores. This is a very powerful phenomenon," he said.

The findings also have implications for interventions and policies aimed at reducing individual stressors. "If it's the cumulative impact of stress on these families that is important, that means an intervention that only looks at one stressor -- say, just drug abuse, which is how most interventions are designed -- is doomed to fail," Evans concluded.

The research was supported by the W.T. Grant Foundation, the John D. and Catherine T. Mac Arthur Foundation, Network on Socioeconomic Status and Health and the Robert Wood Johnson Foundation.

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