

Soothing infants with food focus of childhood obesity study

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Both genetics and parents who comfort their infants with food are the focus of a study funded for \$1 million by the National Institute of Diabetes and Digestion and Kidney Disease investigating risk factors for childhood obesity. The grant is part of the National Institutes of Health American Recovery and Reinvestment Act funding.

"When the infant cries, parents typically have a set of soothing techniques they'll use to comfort their child -- if one doesn't work, they move to the next -- and somewhere on that list is feeding," said Cynthia Stifter, professor of human development and family studies and principal investigator on the project. "It may be, with some children, that using [food](#) as a means of soothing distress promotes the association of food with emotional comfort, a characteristic of emotional eaters that is associated with adult [obesity](#)."

One goal of Stifter's study is to provide a detailed description of how and when parents use feeding to soothe infants and its relation to weight gain in [infancy](#). Rapid weight gain in infancy has been linked to [childhood obesity](#).

"There has been much speculation about the role of food in parent soothing of infant distress, but there is no research," said Stifter. "What is known is that food, especially that containing sugar, has an immediate effect on infant distress and that many middle-income and lower-income mothers endorse using food to soothe an infant's distress."

To see how parents respond to their infants' distress, researchers will go with families to routine doctor appointments where infants receive vaccinations. These immunizations commonly cause distress. The researchers will also keep track of children's rate of weight gain and parents will complete a "daily diary," at five minute intervals for three days, recording whether their child fussed, cried, slept, was content or was fed. Parents will also participate in a number of laboratory visits to assess the infants' emotional reactivity and regulation, and a variety of interviews including one conducted by Penn State's Diet Assessment Center, which will examine the food environment -- meal location, the context in which food is eaten -- whether the child was crying or fell asleep after eating and child feeding practices -- whether food was offered to soothe the child.

Stifter will also look at the brain's natural reward system, which releases dopamine into the brain, producing a feeling of pleasure.

"Dopamine basically makes you want more of something," says Stifter.

Dopamine in the brain is associated with nicotine, alcohol and other addictions. Stifter and her colleagues will consider food as the object of an addiction for certain individuals. They will draw upon previous research pinpointing a set of genes that determine a person's dopamine system activity. Certain individuals may be genetically predisposed to be more sensitive to their brain's reward system.

"We are hypothesizing that the parenting practice of feeding to soothe, or the use of food to soothe infant distress not related to hunger, may interfere with the development of the ability to read internal cues of hunger and fullness, which, in certain children with sensitive dopamine systems, may lead to increased energy intake, rapid [weight gain](#) in infancy, and subsequent childhood obesity," said Stifter.

No previous studies have examined parent feeding style in infancy and genetics as precursors to [childhood obesity](#).

Provided by Pennsylvania State University

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