

Little kids' regular bedtimes and ability to regulate emotions may lessen obesity risk

24 April 2017, by Misti Crane



This is an image of a weight scale. Credit: CDC/Deborah Cartagena

Family structure including regular bedtimes, mealtimes and limited screen time appear to be linked to better emotional health in preschoolers, and that might lower the chances of obesity later, a new study suggests.

"This study provides more evidence that routines for preschool-aged [children](#) are associated with their healthy development and could reduce the likelihood that these children will be obese," said lead author Sarah Anderson of The Ohio State University.

The study - the first to look at the connections between early childhood routines and self-regulation and their potential association with weight problems in the pre-teen years - appears in the *International Journal of Obesity*.

Researchers evaluated three [household routines](#) when children were 3 years old: regular bedtime, regular mealtime and whether or not parents limited television and video watching to an hour or less daily. Then they compared those to parents'

reports of two aspects of children's self-regulation at that same age.

Lastly, they investigated how the routines and self-regulation worked together to impact obesity at age 11, defined based on international criteria. (The U.S. criteria for childhood obesity is set lower and would have included more children.)

The research included 10,955 children who are part of the Millennium Cohort Study, a long-term study of a diverse population of children born in the United Kingdom from September of 2000 to January of 2002. At age 3, 41 percent of children always had a regular bedtime, 47 percent always had a regular mealtime and 23 percent were limited to an hour or less daily of TV and videos. At age 11, about 6 percent were obese.

All three household routines were associated with better emotional self-regulation - a measure based on parents' responses to questions such as how easily the child becomes frustrated or over-excited. Those children with greater emotional dysregulation were more likely to be obese later.

"We saw that children who had the most difficulties with emotion regulation at age 3 also were more likely to be obese at age 11," said Anderson, an associate professor in Ohio State's College of Public Health.

Anderson and her colleagues also found that the absence of a regular preschool bedtime was an independent predictor of obesity at 11. Obesity risk increased even when children "usually" had a regular bedtime, as opposed to "always." The risk was greatest for those who had the least amount of consistency in their bedtimes.

How persistent and independent children were at age 3 - another aspect of self-regulation - was not related to [obesity risk](#), nor were routines associated with these aspects of self-regulation.

The new findings build on previous research by Anderson and her colleagues showing an association between earlier preschool bedtimes and decreased odds of obesity later. Previous work published in 2010 showed in a US national sample that obesity prevalence was lowest for children who got enough sleep, had limits on screen time and ate meals with their families.

"This research allows us to better understand how young children's routines around sleep, meals, and screen time relate to their regulation of emotion and behavior," Anderson said. "The large, population-based, UK Millennium Cohort Study afforded the opportunity to examine these aspects of children's lives and how they impact future risk for obesity."

This research should prompt future work looking at the role of emotional self-regulation in weight gain in children and how bedtime routines can support healthy development, Anderson said.

"Sleep is so important and it's important for children in particular. Although there is much that remains unknown about how sleep impacts metabolism, research is increasingly finding connections between obesity and poor sleep," she said.

While it's impossible from this work to prove that routines will prevent [obesity](#), "Recommending regular [bedtime](#) routines is unlikely to cause harm, and may help children in other ways, such as through emotion regulation," Anderson said.

But competing family pressures including parents' work schedules don't always allow for consistency, Anderson pointed out.

"As a society, we should consider what we can do to make it easier for parents to interact with their children in ways that support their own and their children's health."

More information: S E Anderson et al, Self-regulation and household routines at age three and obesity at age eleven: Longitudinal analysis of the UK Millennium cohort study, *International Journal of Obesity* (2017). DOI: 10.1038/ijo.2017.94

APA citation: Little kids' regular bedtimes and ability to regulate emotions may lessen obesity risk (2017, April 24) retrieved 9 November 2022 from <https://medicalxpress.com/news/2017-04-kids-regular-bedtimes-ability-emotions.html>

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