Dr. Yum Preschool Adventure:

A Head Start-Based Cooking Intervention Associated with Improvements in Weight Status among Young Children

Background:

Nearly 20 percent of children in the United States have obesity, with the transition from young to middle childhood identified as a critical time of excess weight gain. Additionally, many children eat significantly below the recommended amount of fruits and vegetables, which has been linked with an increased risk of obesity, as well as the risk of low weight. It is possible this link is at least partially due to food neophobia (i.e. hesitation to eat or try new foods). Among older children, previous school-based interventions promoting healthy eating have yielded successful outcomes, such as decreased food fussiness, increased willingness to try novel vegetables, and improved weight outcomes. We explored whether an interactive cooking class focused on the enjoyment of food could be an effective means of improving weight statuses among young children.

Participants

Total Sample Size = 614		
	Mean ± SD or %	Range
Age (y)	4.0 ± 0.6	2.8 – 5.1
Gender (% female)	44.6	
Baseline BMI Percentile	53.8 ± 33.1	0 – 99
Underweight at Baseline	7.7%	
Overweight at Baseline	21.2%	
Number of Sessions	6.2 ± 1.9	1 – 9

Methods:

In a non-randomized trial, trained Head Start teachers facilitated the preparation of an age-appropriate snack using an identified novel fruit/vegetable during once-monthly lessons. During these lessons, students were also introduced to the nutritional benefits of the fruit/vegetable and were guided through a mindful appreciation of the new food. Families were provided with information on the curriculum presented at school and encouraged to incorporate new recipes at home. All recipes were previously identified as acceptable by young children. Teachers recorded BMI percentiles at baseline and end-of-year follow-up. ANOVA analyses were used to compare changes in BMI percentile among three initial baseline BMI classes (underweight, healthy weight, and high weight).

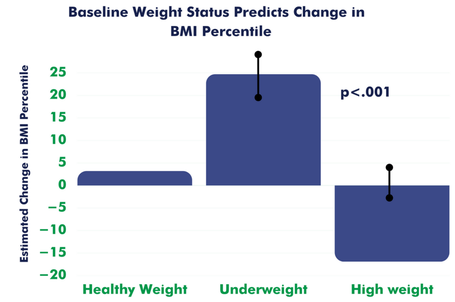
A Head Start-based **cooking intervention** could be an effective prevention strategy for the development of **both high and low-weight**. Exposure to fruits and vegetables may promote positive attitudes toward food and **improvement in weight status**.

Scan here to find out more

Results:

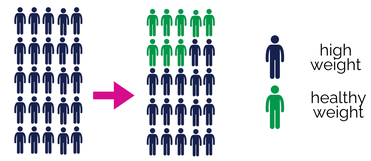
Among 614 Head Start students in Alabama:

- Compared to children with a healthy weight (n=437), those with **high weight** (BMI percentile above the 85th; n=130) **lost 16.9 percentile points** over the year ($p < .001$)
- Conversely, children with **low weight** (below the 5th percentile; n=47) **gained 24.7 percentile points** over the course of the school year ($p < .001$).

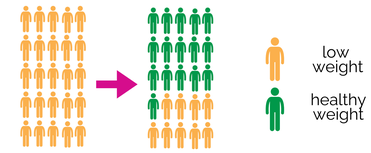


Additional Data on the Distribution of BMI:

Among the 130 with **high weight** at baseline, 44 had healthy weight at the end of the year **(33.8%)**



Among the 47 with **low weight** at baseline, 27 had healthy weight at the end of the year **(57.4%)**



Conclusion:

Baseline weight status predicted a change in BMI percentile over the year such that among those with high weight, a decrease in BMI percentile was detected and among those with low weight an increase was detected. These results highlight the possibility that a school-based cooking intervention could be an effective prevention strategy for the development of both high and low-weight. Exposure to novel fruits and vegetables may promote positive attitudes toward food and improvement in weight status. However, additional data, including the addition of a control group are required to more fully understand the mechanisms that cause beneficial weight changes in preschool-age children.

Authors:

Nimali Fernando, Sarah LeMay-Russell, Andie Chilson, Eliza Goldstein, Heidi DiEugenio, Melanie Potock, Krystal Jennings, Nancy L. Zucker

dr.yumproject eat well. change your world.

Duke University School of Medicine

"Authors have no financial relationships to disclose."