



## Results from the Behavioral Nutrition and Physical Activity Laboratory

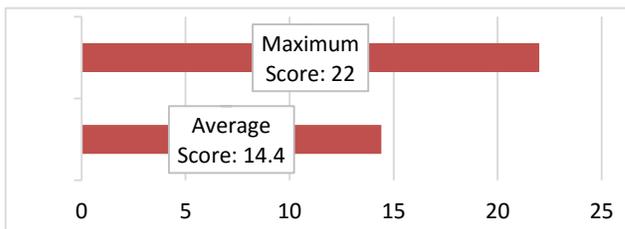
The purpose of this project was to examine the relationship between childcare staff food behaviors and children’s consumption of fruit, vegetable, low-fat dairy high-fat and high-sugar foods. Classroom observation took place in 25 centers which care for children ages 3 to 5 year old. Researchers used visual plate waste to determine children’s food consumption during lunch.

### We wanted to share some of the findings with you

| Project Participants                                                                              |                                                                                                      |                                                                                                                 |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>35 classrooms of</li> <li>3-5 year old children</li> </ul> | <ul style="list-style-type: none"> <li>201 children</li> <li>51% male</li> <li>49% female</li> </ul> | <ul style="list-style-type: none"> <li>40% American Indian</li> <li>36% Caucasian</li> <li>24% Other</li> </ul> |

### Best Practices for Staff Food Behavior Standards:

- Encourage children to listen to satiety cues by asking if their tummy feels full or hungry when removing a plate or giving second helpings.<sup>1,2</sup>
- Modeling good eating behaviors by sitting with children and eating the same food as they do.<sup>1-3</sup>
- Encourage children to try at least one bite of an unfamiliar or less favorite food.<sup>2</sup>
- Talking about healthy food throughout the day.<sup>1,2</sup>
- Providing meals family-style, where children serve themselves from appropriately sized bowls.<sup>1-3</sup>
- Avoiding the use of controlling behaviors such as using food to reward or controlling how much children consume. These behaviors can influence children to eat based on pressure rather than their feelings of hunger or fullness<sup>2,4,5</sup>

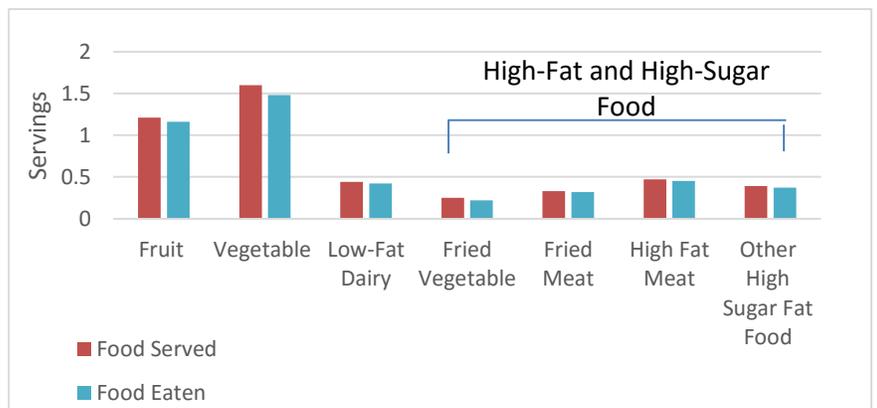


### Center Nutrition Related Staff Behavior Score

A total staff nutrition behavior score was found by observing staff behaviors throughout the full day. The maximum possible score was 22. The graph to the left reflects the average total score of all classes compared to the maximum score.

### Foods Served to and Eaten by Preschool Children at Centers

The average amount of all food groups served to children and the average servings children ate during lunch at childcare centers is shown in the graph to the right. High-fat, high-sugar foods were divided into four separate categories.





## Significant Findings between Staff Behavior and Children's Intake during Lunch:

- 1) Satiety cue behaviors were associated with both desirable and undesirable intake in children
  - Determining fullness before removing a plate was associated with higher fruit but lower vegetable intake in children. It was also associated with lower fried meat and other high-sugar, fat food intake.
  - Determining hunger before seconds was associated with less fruit but more fried meat intake in children.
- 2) Staff sitting at the table during the meal did not contribute to a better meal; but staff eating the same food as the children did.
- 3) Both food control behaviors were associated with children's intake; however, the long term influence of these behaviors may be harmful to children's development of positive eating habits.
  - Using food as a reward was associated with less fruit and less high fat meat and other high-sugar, high-fat food intake in children.
  - Staff using food to control behavior was associated with more fruit and low-fat dairy intake.
- 4) Encouraging children to try at least one bite of food was inconsistently associated with children's food intake.
- 5) There was no association between family-style meal service and children's food intake.
- 6) Talking about healthy food with children was associated with a more balanced meal.
  - Staff talking about healthy food was associated with more vegetables and less other high-sugar, fat food intake.

## How Can You Take Action?



## References:

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3. American Academy of Pediatrics., American Public Health Association., National Resource Center for Health and Safety in Child Care and Early Education. *Preventing childhood obesity in early care and education programs*. Washington, D.C.: American Academy of Pediatrics; 2010.
4. Ramsay SA, MS, RD, LD, Branen LJ, PhD, RD, LD, Fletcher J, EdD, Price E, PhD, Johnson SL, PhD, Sigman-Grant M, PhD, RD. "Are you done?" Child Care Providers' Verbal Communication at Mealtimes That Reinforce or Hinder Children's Internal Cues of Hunger and Satiation. *Nutrition Education and Behavior*. 2010;42(4):265-270.
5. Dev A, Dipti M, McBride BA, PhD, Team TSKR. Academy of Nutrition and Dietetics Benchmarks for Nutrition in Child Care 2011: Are Child-Care Providers across Contexts Meeting Recommendations? *The Academy of Nutrition And Dietetics*. 2013;113(10):1346-1354.