

## Book-Based Nutritional Literacy Effects Preschoolers' Nutritional Knowledge and Willingness to Consume Fruits and Vegetables

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### BACKGROUND:

- Low **fruit and vegetable consumption** are leading **predictors of childhood obesity**.<sup>1</sup>
- Nationally, over **50% of preschoolers do not eat the recommended servings of fruit** and almost **80% do not eat the recommended servings of vegetable**.<sup>2</sup>
- While behavioral interventions are an effective means to increase fruit and vegetable consumption, **there is little research on the effect of health literacy on fruit and vegetable consumption among preschool age children**.<sup>3</sup>

### RESEARCH AIMS:

To test the effectiveness of the Husky Reads Program, a 10-week health literacy intervention by:

1. Determining if preschoolers' health literacy improved their ability to recognize fruits and vegetables
2. Evaluating if willingness to try/taste fruits or vegetables relates to preschoolers recognition ability



### METHODS:

- A summative evaluation was conducted using pre/post-test surveys.
- A 23-item survey was used to record preschool students' ability to identify two fruits and two vegetables.
- Survey was used to record the number of students that consumed the fruits and vegetables after identifying the items.
- Potential factors that may influence preschooler's participation such as emotional state and the amount time since the last feeding was recorded.
- The evaluation was conducted with 284 preschool students at six school sites in Hartford, CT (summer of 2012)



### RESULTS :

#### Aim1

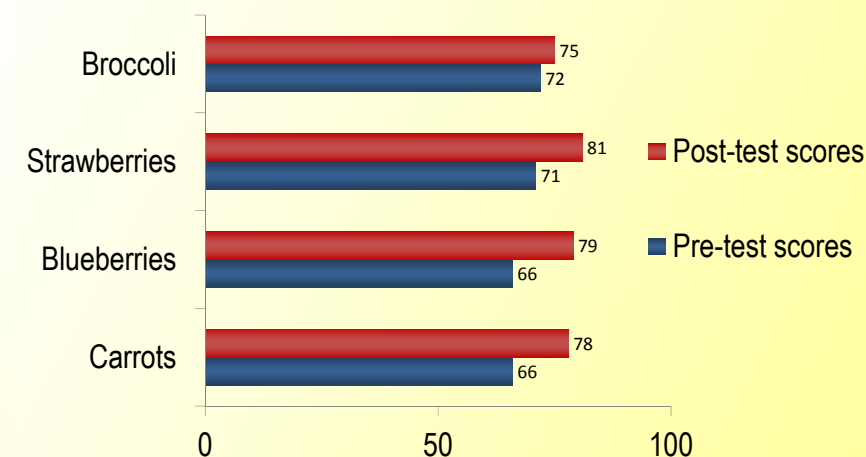
Overall, preschoolers that participated in the health literacy program had an increase in ability to recognize common fruits and vegetables (Table 1).

#### Aim 2

At post-testing, students' ability to identify fruit correlated with consumption of the fruit [strawberries  $r(20)=.44$ ,  $p<.05$ , blueberries  $r(20)=.14$ ,  $p<.05$ ]

The correlation between vegetable recognition and consumption was non-significant [broccoli  $r(20)=-.275$ ,  $p=n.s.$ , carrots  $r(20)=.006$ ,  $p=n.s.$ ].

**TABLE 1: Fruit and Vegetable Recognition**



### CONCLUSIONS :

Similar to other school based health programs with older children, our health literacy program was not able to successfully impact vegetable consumption.<sup>3</sup> However, at the classroom level **exposure to a health literacy program may increase preschoolers ability to recognize fruits and vegetables**. Moreover, fruit recognition can be an effective means to increase fruit consumption among preschool aged children. Future research should evaluate changes at the student level.

<sup>1</sup> Davis, M. G.-C. (2009). Recommendations for prevention of childhood obesity. *Pediatrics*, 229-253.

<sup>2</sup> Lorson, B. M.-Q. (2009). Correlates of Fruit and Vegetable Intakes in US Children. *Journal of American Dietetic Association*, 474-478.

<sup>3</sup> Thomson, C. R. (2011). A Systematic Review of Behavioral Interventions to Promote Intake of Fruit and Vegetables. *Journal of American Dietetic Association*, 1523-1535.