EFFECTIVENESS OF A PARENT HEALTH REPORT IN INCREASING FRUIT AND VEGETABLE CONSUMPTION AMONG PRESCHOOLERS AND KINDERGARTENERS

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INTRODUCTION

- Patterns of healthy fruit and vegetable consumption start in childhood and track to adulthood (Mikkilä et al., 2004).
- Increasing fruit and vegetable intake in preschool and kindergarten aged children to five servings a day may reduce the probability of chronic disease and obesity (Gerberding & Marks, 2004; Van Duyn & Pivonka, 2000).
- Parents, as gatekeepers of their child's nutrition, are highly infleuntial in modifying their child's dietary behavior.
- Increasing availability and accessibility of fruits and vegetables in the home has been associated with increased intake (Patrick & Nicklas, 2005). This may represent a modifiable aspect of the home environment.
- A health report targeting parents may be a simple and sustainable way to disseminate health information.

Hypothesis: Preschoolers' and kindergarteners' fruit and vegetable consumption will increase after parents receive a personalized health report targeting these behaviors. Their juice consumption will decrease after receiving the health report.

PARTICIPANTS

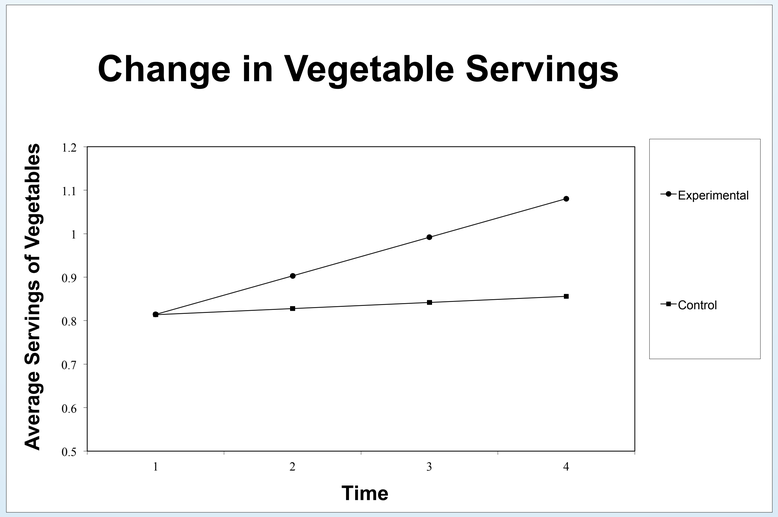
- Parents of preschoolers and kindergarteners from a university-sponsored school.
- The parent who was most responsible for preparing meals was invited to participate.
- No significant mean differences in demographic variables existed across intervention groups.

Demographic Information

	Intervention	Control
Participants	32	33
Mean Age	4.7 (SD = 0.44)	4.8 (SD = 0.44)
Mean BMI Percentile	47.7 (SD = 31.2)	51.6 (SD = 25.4)
Mean BMI	15.4 (SD = 1.2)	15.4 (SD = 1.13)
Mean Monthly Income	$6103 (SD = $3323)	$5776 ($2101)

METHOD

- **Participants were randomly assigned to either experimental or control treatment conditions.**
- **Experimental group:** Parents were emailed a health report that provided them with (1) information about their child's average daily juice, fruit, and vegetable intake as compared with the national standard of five fruits and vegetables per day and (2) recommendations to increase consumption.
- **Control group:** Received a health report at the end of all measurement procedures.
- **Measure:** The National Cancer Institute (NCI) Fruit and Vegetable Screener
  - 100% juice, fruit, lettuce salad, white potatoes (not French fries), beans, tomato sauce, vegetable soup, other vegetables
  - Assesses serving and portion size
- **Procedure**: Parents completed the NCI Fruit and Vegetable Screener at baseline, and then again at 1, 2, and 4 weeks after the intervention.
- **Data Analysis**: Latent growth curve modeling with Bayesian estimation was used to adapt to the small sample size and non- normality. No informative prior distributions were specified.
  - The variances of the slope factor were fixed at 0 to help the convergence of estimation; therefore, no covariance between the intercept and slope factors was estimated.



RESULTS

- The latent growth model for vegetable intake fit the data well, as indicated by the posterior predictive p-value of 0.07.
- The median estimate of the initial values was 0.81 and was not different between the two groups as indicated by the non-significance of the difference parameter (Mean Δ = 0.001, p = 0.47).
- **Experimental Group:** The median of the slope mean estimate was 0.09 (p < 0.01) with a Credibility Interval of [0.02, 0.14].
- **Control Group**: The median of the slope mean estimate was 0.01 with a credibility interval of [-0.01, 0.06]. This estimate was not significantly different from 0 (p = 0.19).
- By the end of the experiment the experimental group consumed 0.22 servings of vegetables more per day than the control group.
- Different change patterns were compared in terms of Bayesian Information criteria but an accelerated change was no better than the linear change.
- No significant differences were found between the control and the experimental groups for juice or fruit intake.

CONCLUSIONS/ IMPLICATIONS

- A parent health report card may be a simple and cost-effective method for increasing vegetable consumption in preschoolers and kindergarteners.
  - This method could be employed by schools.
  - The new online NCI Screener would simplify the intervention.
- The growth model revealed an positive trend, suggesting that consumption may increase over time.
- Because participants were monitored over time in both conditions, attention effects may have attenuated the intervention effect.

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