



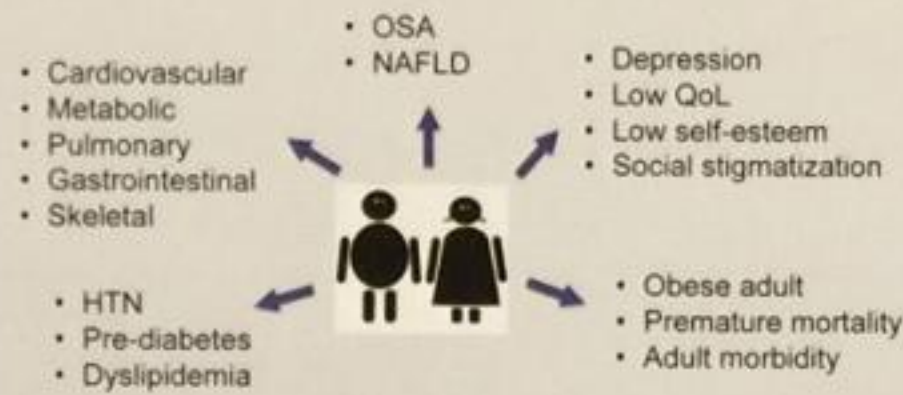
# Childhood Obesity: Parental Self-Efficacy and Perceived Barriers for Fruit and Vegetable Consumption

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## Introduction

- Childhood obesity currently affects 17.1% (12.7 million) US children aged 2-19 (Ogden, Carroll, Kit, & Flegal, 2014). Childhood obesity is of concern because of both its immediate as well as long-term effects on the well-being of a child.

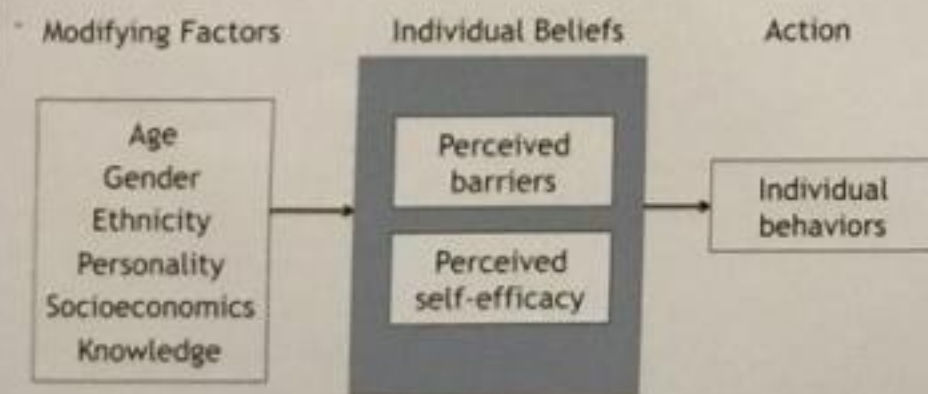


Causes and contributing factors of childhood obesity have been well mapped-out, but the need for more effective interventions persists.

There is evidence that interventions focusing on restriction of foods are counterproductive (Clark, Goyder, Bissell, Blank, & Peters, 2007). Fruits and vegetables are foods that need to be encouraged and that most children continue to consume in suboptimal amounts.

Changing parental behaviors in the home environment has been identified as an important goal, particularly during the pre-school age of the child when basic nutritional habits and preferences are established.

The Health Belief Model provides a theoretical framework through which parental behavior change can be understood (Glanz, Rimer, & Viswanath, 2008)



Parental self-efficacy and perceived barriers for various health behaviors have been associated with parent engagement in health-promoting behaviors.

## Purpose

The purpose of this study was to assess parental self-efficacy and perceived barriers for regularly and adequately providing fruits and vegetables in the home for their pre-school aged children. Its relationship with the actual fruit and vegetable intake of the children as well as the children's weight status was also assessed.

## Hypotheses

- Hypothesis 1:** There is a relationship between child fruit and vegetable intake and weight status.
- Hypothesis 2:** There is a relationship between parental perceived barriers for providing fruits and vegetables and child weight status.
- Hypothesis 3:** There is a relationship between parental self-efficacy for providing fruits and vegetables and child weight status.
- Hypothesis 4:** There is a relationship between parental perceived barriers for providing fruits and vegetables and child fruit and vegetable intake.
- Hypothesis 5:** There is a relationship between parental self-efficacy for providing fruits and vegetables and the child fruit and vegetable intake.

## Methods



## Results

Variables	f	%	Variables	M	SD
Whole fruit			Perceived Barriers	1.72*	.633
Met intake recommendations	38	50.0	Self-Efficacy	4.13*	.664
Did not meet intake recommendations	38	50.0	Highest perceived barrier		"My child doesn't want fruits or vegetables because she/he wants something else (e.g. sweets)"
Vegetables			Lowest perceived barrier		"I don't have time to cook vegetable dishes"
Met intake recommendation	26	34.2	Highest self-efficacy		"I am confident that my child will eat fruit everyday"
Did not meet intake recommendations	50	65.8	Lowest self-efficacy		"I am confident that I can regularly prepare meals in which half the plate is vegetables and/or fruit."
100% Juice			* Perceived barrier score:		1 = low perceived barriers 5 = high perceived barriers
Met intake recommendations	36	47.4	* Self-efficacy score:		1 = low self-efficacy 5 = high self-efficacy
Did not meet intake recommendations	40	52.6			
BMI					
Underweight	4	5.2			
Healthy weight	48	63.2			
Overweight	11	14.5			
Obese	13	17.1			

Parents reporting **lower perceived barriers** and/or **higher self-efficacy** for providing fruits and vegetables at home



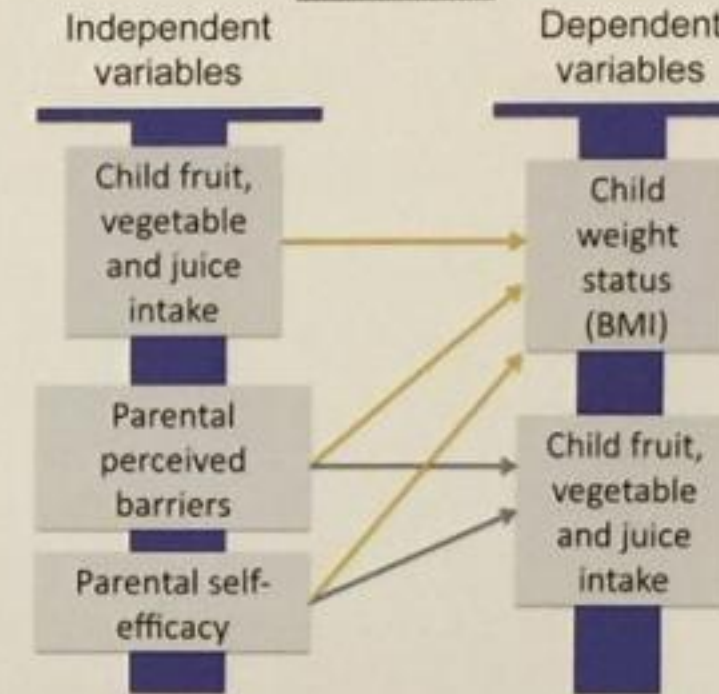
Children significantly **more likely to meet recommendations** for fruit and vegetable intake

Fruit, vegetable, and juice intake; parental self-efficacy; perceived barriers



No statistically significant relationship was found with child weight status

## Variables



## Conclusions

- A statistically significant relationship was found between parental self-efficacy and perceived barriers for providing fruits and vegetables at the home and the fruit and vegetable intake of the children. This finding indicates that future interventions aimed at increasing the intake of fruit and vegetables may benefit from a focus on increasing parental self-efficacy and lowering the perceived barriers experienced in that population.

- No statistically significant relationship was found between a child's fruit, vegetable, and/or 100% juice intake and their weight status, despite previous research suggestion (Cullen et al., 2004; Rolls, Julia A. Eilo-Martin, & Tohill, 2004; Roseman, Yeung, & Nickelsen, 2007). The small samples size and the limited nature of the intake questionnaire may not have been able to detect any possible relationships. Further studies are needed.

- Most dietary guidelines continue to include 100% fruit juice with whole fruit in the "fruit" intake category. Excess juice intake has been associated with excess weight gain (Faith, Dennison, Edmunds, & Stratton, 2006; Wojcicki & Heyman, 2012). Additionally, excess intake may mask suboptimal whole fruit intake, as found in this study. Clearer guidelines and messaging about the appropriate intake guidelines for juice are needed.

## References

- Clark, H. R., Goyder, E., Bissell, P., Blank, L., & Peters, J. (2007). How do parents' child-feeding behaviours influence child weight? Implications for childhood obesity policy. *Journal of Public Health, 29*(2), 132-141. <http://doi.org/10.1093/pubmed/fdm012>
- Cullen, K. W., Baranowski, T., Klesges, L. M., Watson, K., Sherwood, N. E., Story, M., ... Pratt, C. (2004). Anthropometric, parental, and psychosocial correlates of dietary intake of African-American girls. *Obesity Research, 12* Suppl, 205-315. <http://doi.org/10.1038/oby.2004.265>
- Faith, M. S., Dennison, B. A., Edmunds, L. S., & Stratton, H. H. (2006). Fruit Juice Intake Predicts Increased Adiposity Gain in Children From Low-Income Families: Weight Status-by-Environment Interaction. *Pediatrics, 118*(5), 2066-2075. <http://doi.org/10.1542/peds.2006-1117>
- Glanz, K., Rimer, B. K., & Viswanath, K. (2008). *Health Behavior and Health Education: Theory, Research, and Practice*. John Wiley & Sons.
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014). Prevalence of childhood and adult obesity in the United States, 2011-2012. *JAMA, 311*(8), 806-814. <http://doi.org/10.1001/jama.2014.732>
- Rolls, B. J., Julia A. Eilo-Martin, & Tohill, B. C. (2004). What Can Intervention Studies Tell Us about the Relationship between Fruit and Vegetable Consumption and Weight Management? *Nutrition Reviews, 62*(1), 1-17. <http://doi.org/10.1301/nr.2004.jan.1-17>
- Roseman, M. G., Yeung, W. K., & Nickelsen, J. (2007). Examination of Weight Status and Dietary Behaviors of Middle School Students in Kentucky. *Journal of the American Dietetic Association, 107*(7), 1139-1145. <http://doi.org/10.1016/j.jada.2007.04.015>
- Wojcicki, J. M., & Heyman, M. B. (2012). Reducing Childhood Obesity by Eliminating 100% Fruit Juice. *American Journal of Public Health, 102*(9), 1630-1633. <http://doi.org/10.2105/AJPH.2012.300719>



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