

## The Forum for Family and Consumer Issues (FFCI)

Carolyn L. Bird, Ph.D., AFC - Editor In Chief TheForumJournal.org | ISSN 1540-5273 | info@theforumjournal.org

# Healthy, Happy Families Evaluation: Integrating Parent Education into Child Obesity Prevention with Low-Income Parents of Young Children

**Lenna L. Ontai** University of California, Davis

**Shannon Tierney Lipscomb**Oregon State University, Cascades

**Stephanie L. Sitnick** University of Pittsburgh

**Holly Bowers**University of California, Davis

Cathi Lamp University of California

#### **Abstract**

Healthy Happy Families (HHF) is a program designed to improve parenting skills and attitudes important to the development of healthy dietary behaviors. Materials are designed for use with low-income parents of children ages 2 to 5 years. The current study reports on an evaluation of the HHF mini-lessons, delivered as supplements within existing nutrition education classes (N=236). Classes were randomly assigned to intervention and comparison groups. Parents completed pre- and post-measures of general parenting practices and attitudes about child feeding. Results reveal positive effects of HHF on general parenting practices (consistency and follow-through) and attitudes about child feeding (introducing new foods, setting limits on food, and having family meals). Overall, the results indicate that low-income parents in nutrition education classes benefit from targeted lessons about general parenting styles that lay the foundation for children's dietary behaviors.

## **Keywords**

Parenting, child obesity, early childhood, evaluation, low-income

## Introduction

The role that parenting assumes in the development of children's dietary habits is of increasing interest in both research and prevention and intervention efforts. In the United States, obesity rates among 2- to5-year-old children have shown a continual rise since 1980 (Fryar, Carroll, and Ogden 2012), with more than 12 percent in this age range classified as obese in 2010 (Ogden, Carroll, Kit, and Flegal 2012). Furthermore, young children from low-income families demonstrate an even higher rate of obesity (14.4 percent) than the general population (10.4 percent) (Dalenius, Borland, Smith, Polhamus, and Grummer-Strawn 2012). The current study contributes to a growing body of research on obesity prevention in early childhood with the evaluation of a program designed to improve general parenting practices that are considered to lay the foundation for children's dietary behaviors.

# The role of general parenting style in children's dietary and obesity outcomes

Dietary habits are formed early in life and are largely influenced by adults (Institute of Medicine 2011). As such, research on the role parenting assumes in contributing to child obesity is growing, with an increasing emphasis on "general parenting." (See Sleddens, Gerards, Thijs, DeVries, and Kremers 2011 for a review.) General parenting is considered the "style" that sets the emotional context in which specific interactions between parents and children take place. Thus, the success of specific parenting practices in any given situation may depend in part on the style of one's general parenting (Darling and Steinberg 1993; Grusec 2002). General parenting styles are based on two primary dimensions: nurturance (affection and attentive responsiveness to children's needs) and consistency (imposing clear requirements for child behavior compatible with child's developmental level) (Maccoby and Martin 1983). Parents who demonstrate nurturance and consistency in their interactions with their children (i.e., an authoritative style) tend to have children with more positive social (e.g., self-esteem, prosocial peer behavior) and cognitive (e.g., school achievement) developmental outcomes as compared to those who lack either nurturance (i.e., authoritarian style) or consistency (i.e., permissive style) (Larzelere, Morris, and Harrist 2013). Recently these parenting styles have been linked with a variety of diet-related outcomes in children. (See Sleddens et al. 2011 for a review.) Consequently, obesity prevention programs for young children are increasingly aimed at improving general parenting practices. (See Gerards, Sleddens, Dagnelie, De Vries, and Kremers 2011 for a review)

Obesity prevention interventions that focus on general parenting styles may be particularly useful during early childhood given that child dietary behaviors are still being formed (Ritchie et al. 2005; St. Jeor et al. 2002) and are malleable (Landry et al. 2001; Stice, Shaw, and Marti 2006). Moreover, positive parenting (i.e., authoritative style) can reduce child behavior difficulties (Brotman et al. 2012), which are a significant barrier for parents when trying to establish and maintain healthy diets (Kuhl, Clifford, and Stark 2012). Yet most of the programs that emphasize

general parenting for obesity prevention focus on older children; only three that specifically target parents of children prior to school age were identified in a recent review of the field (Gerards et al. 2011). West and colleagues (West, Sanders, Cleghorn, and Davies 2010) added nutrition and physical activity strategies into an existing general parent education curriculum for parents of children ages 4 to 11 years. Evaluation results showed positive effects on children's BMI that lasted a year after the program. Similarly, Harvey-Berino and Rourke (2003) modified an existing general parenting curriculum with parents of children ages 9 months to 3 years with the primary goal of facilitating children's healthy nutrition and physical activity behaviors. The evaluation demonstrated positive effects on parents' dietary-related practices with their children as well as on children's energy intake at 16 weeks post-intervention. Finally, Brotman et al. (2012) found that a general parenting intervention (without a diet or health-related component) targeting low-income parents of preschool-aged children at risk for behavioral problems was associated with children's decreased BMI 3 to 5 years after the intervention. These findings suggest that parents who demonstrate a more authoritative approach to their parenting are more likely to help their children sustain healthy dietary and weight management strategies over time. While these programs offer support for the inclusion of general parent education in efforts to improve young children's dietary behaviors, none measured changes in general parenting. Yet evidence of effects on general parenting may be important to longer-term obesity prevention. The current study expands upon this prior work by examining the effects of Healthy, Happy Families (HHF), a parenting education supplement for nutrition education classes, on changes in general parenting.

## Supporting low-income families

Despite the increased risk of obesity in low-income children (Dalenius et al. 2012), obesity prevention programs with a central focus on general parenting education have not specifically targeted this population (Gerards et al. 2011). However, low-income families face significant challenges to effective parenting, such as high rates of depression, limited education, and inadequate parenting skills (Bradley and Corwyn 2002; Magnuson and Duncan 2002), making parent education a critical need. A study conducted with educators from two large-scale, federal nutrition education programs for low-income audiences, the Supplemental Nutrition Assistance Program-Education (SNAP-Ed; serves families eligible for federal food stamp benefits) and the Expanded Food Nutrition Education Program (EFNEP; serves families with incomes at or below 125 percent of federal poverty guidelines), revealed that problems with parenting in this population create significant barriers to making nutritional changes with their children (Ontai, Lipscomb, Lamp, Smith, and Families with Young Children Workgroup 2007). Educators reported that parents convey feeling uncertain about how to use parenting strategies to implement changes in their child's diet and nutrition educators felt unprepared to address parenting skills.

# Healthy, Happy Families program

The current dearth of programs designed specifically for low-income parents of young children limits our understanding of how to effectively improve critical general parenting skills relevant to the development of children's dietary habits in one of the most vulnerable populations. The HHF program was designed to address this gap by helping low-income parents of 2- to 5-yearold children learn to use nurturing and consistent parenting in the context of child feeding. The goal of HHF is to positively impact both general parenting practices and parents' attitudes related to appropriate feeding behaviors with young children. Two versions of the program were developed: mini-lessons and workshops. The current study reports on an evaluation of the minilessons which were designed to be used flexibly in conjunction with nutrition programming for low-income families (Ontai and Families with Young Children Workgroup 2012a, b). Each of the eight mini-lessons addresses essential parenting skills involved in developing healthy dietary habits in young children, and which are associated with nurturing and consistent parenting (Maccoby and Martin 1983): awareness of children's age-related abilities, creating and using age appropriate routines, setting and enforcing appropriate limits with sensitivity, using open and sensitive communication, creating environments that encourage play, supporting children's exploration of their environments and abilities, and involving children in family activities. Materials include a parent handout and educator materials for 20-minute lessons focused on a key parenting skill with an emphasis on its importance for children's dietary behavior. For instance, setting regular meal and snack times is used to exemplify the general parenting skill of creating consistent and age appropriate routines. Each parent brochure includes information on the target parenting skill, goal setting, quick tips, and take home activities regarding a common parenting theme. The materials for nutrition educators are aimed at helping educators feel prepared to answer parents' questions and support them in developing more effective parenting behaviors. The educator materials include a brief overview of the relevant research, 15-minute lesson plans for in-class activities, and discussion topics. Materials can be used in a flexible format to address issues relevant to a particular nutrition lesson or other issues that arise in discussion. Parent materials were written at a 6th-grade or lower level and translated for lowliteracy Spanish-speaking populations. The content of both the English and Spanish versions was field tested with parent education classes through the University of California Cooperative Extension system.

### Method

## Sample

Parents who were enrolled in either EFNEP or SNAP-Ed in 13 participating counties in California and who had at least one child between 2 and 5 years of age were eligible to participate. All participants were female and the majority (N=236) identified as Hispanic (79)

percent) and spoke Spanish as their primary language (77 percent). A total of 54 parents (19 percent) terminated before study completion and therefore were not included in the final analyses. Parents who terminated early from the study were more likely to be younger (t (289) = -2.06, p = .04) and less likely to use food stamps (t (288) = -2.26, p = .03). Comparisons of pretest scores to test for differential attrition did not reveal significant differences for any of the outcome measures.

#### **Procedure**

Each of the 13 participating counties was randomly assigned to one of three experimental conditions. Randomization occurred at the county level in order to avoid cross-contamination by educators teaching multiple classes within their county. The first group of counties (n = 4counties, 66 parents) used the full mini-lesson format (in-class HHF lessons and distribution of the HHF parent brochures). The second group (n = 5 counties, 59 parents) simply distributed the HHF parent brochures after the regular nutrition class with no additional instruction. The third group (comparison) (n = 4 counties, 111 parents) did not use HHF materials but delivered the regular nutrition course. The nutrition education classes existed in formats of either 4 or 8 weeks. Thus, for consistency across classes in the evaluation, only the four HHF lessons that were prioritized by parenting and nutrition experts as most fundamental to the development of children's dietary behaviors and parenting were used: Begin Healthy Habits Early, Trying New Foods, Encouraging Positive Behavior, and Enjoying Family Meals. The HHF materials were delivered by the EFNEP and SNAP-Ed nutrition educators as a supplement after the delivery of the regular class content. The nutrition educators are paraprofessionals from the target community trained to conduct University of California Cooperative Extension nutrition curricula with low-income families. The intervention group educators participated in a training for the study conducted online and over the telephone. Educators were trained on the HHF materials, the study protocol, and provided written protocol instructions and implementation checklist. Lessons were delivered once a week for four weeks. In the full intervention condition the HHF materials were introduced at the end of each nutrition class session as a 20-minute "application" of the nutrition lesson and in the second condition the parent brochures were distributed at the end of the nutrition class. Parents completed the pre-test measures at the beginning of the first day of class. Post-test measures were completed either at the end of the final HHF lesson or in the next nutrition education class session (some classes continued after the HHF lessons were completed).

#### Measures

## General parenting

The Parenting Dimensions Inventory, shortened edition (PDI-S) (Power 2002), a self-report measure, was used to assess nurturance and consistency. The PDI-S is designed to measure

parental support, control, and structure in a general parenting context and includes five scales: nurturance, consistency, organization, permissiveness, and type of control. The PDI-S is available in both English and Spanish and has been validated with low-income Caucasian and Hispanic families. Three subscales (thirteen items) most relevant to the HHF content were used to measure consistency (four items; Cronbach's alpha = .77; e.g., "There are times I just don't have the energy to make my child behave as he (or she) should," reverse scored), follow-through in discipline (three items; Cronbach's alpha = .83; e.g., "I always follow through on discipline for my child, no matter how long it takes"), and nurturance (six items; Cronbach's alpha = .93; e.g., "My child and I have warm, intimate moments together"). All items were scored on a 6 point scale (0 = Never; 5 = Always).

# Attitudes about child feeding

The Nutrition Attitudes Questionnaire (Horodynski, Coleman, Hoerr, and Contreras 2005), a self-report measure, was used to assess parents' attitudes about child feeding. This measure was developed for use with low-income families and contains 15 items rated on a 5-point scale (1 = Strongly Disagree; 5 = Strongly Agree). Exploratory factor analysis results suggested that nine of the fifteen items could reasonably be combined into three subscales with acceptable internal consistency: limit setting (two items, Cronbach's alpha = .74; e.g., "Caregivers should decide what children eat from the foods served"), family meals (three items, Cronbach's alpha = .68; e.g., "Caregivers should sit with children at meals and snacks"), and introducing new foods (four items, Cronbach's alpha = .65; e.g., "It is better to serve only foods that children will eat," reverse scored). The remaining six items did not adhere to any of the three subscales, nor did they comprise their own subscale, and therefore were not used in the evaluations presented here.

### **Results**

All means and standard deviations for the outcome measures are reported for each of the three groups in Table 1. The two intervention groups did not differ in their levels or degree of change in any of the measures and were therefore combined into one intervention group. Preliminary independent sample t-tests were conducted to detect any differences in demographic characteristics between the participants who were randomly assigned to the HHF intervention groups and the comparison group. Maternal age was slightly higher in the comparison group than the combined HHF intervention group, t(178) = 2.04, p = .04. No other differences were detected.

To test the hypothesis that use of the HHF materials with the intervention group (both parent handouts only and parent handouts with in-class lessons) was associated with improvements in attitudes about child feeding practices and general parenting, a repeated measures analysis of variance (ANOVA) was conducted for each of the three general parenting subscales

(consistency, follow-through in discipline, nurturance) and three attitudes about child feeding subscales (limit setting, introducing new foods, family meals) with a 2 (Group: intervention versus comparison) x 2 (Time: pre-test versus post-test) design. Covariates for the number and type of classes (EFNEP vs. SNAP-Ed) were included.

For general parenting, results indicated a significant Group x Time interaction for the consistency subscale (F(1, 190) = 3.78, p = .04) and a significant interaction for the follow-through in discipline subscale (F(1, 192) = 3.54, p = .05) indicating that the intervention group experienced a greater increase in consistency and follow-through in discipline than did the comparison group. No significant Group x Time effect was detected for the nurturance subscale (F(1, 192) = .28, p = .34); covariates for number and type of class attended were not significant predictors.

For attitudes about child feeding, a significant Group x Time interaction was detected for parents' attitudes about limit setting (F(1, 191) = 6.25, p = .01), and introducing new foods F(1, 191) = 11.68, p = .001). The intervention group showed greater improvement on both measures than did the comparison group. There was also a significant Group x Time interaction for attitudes concerning family meals (F(1, 191) = 4.67, p = .05), in which the intervention group improved their attitudes about family meals significantly more than the comparison group. Covariates for number and type of class attended were not significant predictors.

#### **Discussion**

The results of the HHF evaluation offer a promising look at the benefits of incorporating targeted delivery of general parent education into nutrition education for low-income parents of young children. Parents who received the HHF mini-lesson program demonstrated significant improvement in general parenting and attitudes about child feeding compared to parents who only received nutrition education. The results indicate that these parents became better equipped to be consistent with their children and embrace appropriate attitudes about how to apply these parenting skills in the context of introducing new foods and setting limits about food. For example, planning family meals provides consistency for children, which can lesson children's hunger-related tantrums or the need to use food as a regulator of emotions.

The current study adds to a growing body of evidence pointing to the value of including general parenting in obesity prevention efforts. While previous studies have demonstrated the value of general parent education on children's BMI and diet-related behaviors (Gerards et al. 2011), this study documents effects on general parenting as well as attitudes about child feeding, and does so with low-income families. These findings are particularly important in light of mixed-evidence from studies of interventions focused on specific feeding practices rather than general parenting (Ritchie et al. 2005), and studies reporting difficulty in implementing changes in

family nutrition due to parents' difficulties addressing resistance from children (Kuhl et al. 2012; Ontai et al. 2007). Moreover, we also demonstrated that including general parenting in nutrition education can improve parents' attitudes about children's dietary behaviors. This is consistent with the Brotman et al. (2012) study whereby a general parenting intervention alone was associated with lower obesity rates. Changing attitudes related to children's dietary behaviors may be an important prequel for general parenting behaviors (e.g., consistency) to translate into specific dietary-related parenting practices (e.g., consistency with family meals and limits about food). Future research is needed to examine whether the attitude change reported here leads to long-term behavior change, as well as the potential impacts on children's weight. It is noteworthy that HHF helps to fill an important gap in obesity prevention efforts focused on general parenting for low-income parents of young children. Programs such as HHF, designed to work in concordance with federal food assistance and education programs, can have a significant impact with low-income families given that these federal programs serve low-income families in all fifty states and six U.S. territories (U.S. Department of Agriculture Food and Nutrition Service) and have an emphasis on obesity prevention in their legislative mandate. However, general parenting skills education and training are not commonly incorporated into the curricula for these programs.

## Limitations and future directions

The current study was limited by the existing structure of the nutrition education classes. The lack of a significant difference between the parents who only received parent brochures and those who received both the brochures and the 20-minute in-class application lesson may have been a result of insufficient opportunity for educator-facilitated discussion. The relatively short nature of the program used for the current evaluation may have kept the educators from having an impact beyond the simple receipt of information. More classes or more class time devoted to parenting may engender deeper discussions as parents gain experience with using the information. In such cases, the presence of knowledgeable educators may be beneficial. Alternatively, structured homework assignments beyond the simple in-home activities contained in the brochures may also help improve the impact of educator facilitated discussions. Future research should investigate the value of having nutrition educators trained in child development and parenting issues, which may help facilitate more in-depth discussion and longer-term impacts. One-hour workshops designed with these goals in mind have been developed and are currently being evaluated. Additionally, future research with additional follow-ups is needed to examine whether the kinds of short-term improvements documented in the current study are sustained over time and whether they lead to long-term behavior change and ultimately to obesity prevention.

## Acknowledgements

Support for this project came from USDA's SNAP-Ed program and the University of California Division of Agriculture and Natural Resources. The work carried out for these projects was conducted as part of the University of California Cooperative Extension Families with Young Children Workgroup. Human subjects approval was granted from the University of California, Davis Institutional Review Board. The authors wish to thank the nutrition educators and parents who gave their time and effort to participate in this study.

## References

Bradley, R. H., and R. F. Corwyn. 2002. "Socioeconomic status and child development." *Annual Review of Psychology* 53:371-399. doi: 10.1146/annurev.psych.53.100901.135233

Brotman, L. M., S. Dawson-Mcclure, K. Huang, R. Theise, D. Kamboukos, J. Wang, E. Petkova, and G. Ogedegbe. 2012. "Early childhood family intervention and long-term obesity prevention among high-risk minority youth." *Pediatrics* 129:e621-e628. doi: 10.1542/peds.2011-1568

Dalenius, K., E. Borland, B. Smith, B. Polhamus, and L. Grummer-Strawn. 2012. *Pediatric Nutrition Surveillance 2010 Report*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved from <a href="https://www.cdc.gov/pednss">www.cdc.gov/pednss</a>.

Darling, N.S., and L. Steinberg. 1993. Parenting style as context: An integrative model. *Psychological Bulletin* 113:487-496. doi: <a href="http://dx.doi.org/10.1037/0033-2909.113.3.487">http://dx.doi.org/10.1037/0033-2909.113.3.487</a>.

Fryar, C. D., M. D. Carroll, and C. L. Ogden. 2012. *Prevalence of obesity among children and adolescents: United States, trends 1963-1965 through 2009-2010* (NCHS Health E-Stats report, Sept. 2012). Hyattsville, MD: National Center for Health Statistics. Retrieved from <a href="http://www.cdc.gov/nchs/data/hestat/obesity-child-09-10/obesity-child-09-10.pdf">http://www.cdc.gov/nchs/data/hestat/obesity-child-09-10/obesity-child-09-10.pdf</a>.

Gerards, S. M. P. L., E. F. C. Sleddens, P. C. Dagnelie, N. K. De Vries, and S. P. J. Kremers. 2011. Interventions addressing general parenting to prevent or treat childhood obesity. *International Journal of Pediatric Obesity* 6:e28-45. doi: 10.3109/17477166.2011.575147.

Harvey-Berino, J., and J. Rourke. 2003. Obesity prevention in preschool native-American children: A pilot study using home visiting. *Obesity Research* 11:606-611. doi: 10.1038/oby.2003.87.

Horodynski, M. A., G. Coleman, S. Hoerr, and D. Contreras. 2005. *The Nutrition Attitudes Questionnaire*. Developed for the Nutrition Education Aimed at Toddlers (NEAT) research project, funded by the Department of Health and Human Services Administration for Children and Families Head Start University Partnership Grant 90-YD-0110 (9/30/01-9/29/04).

Institute of Medicine (IOM). 2011. *Early Childhood Obesity Prevention Policies*. Washington, DC: The National Academies Press. Retrieved 12/31/2012 from <a href="http://books.nap.edu/openbook.php?record">http://books.nap.edu/openbook.php?record</a> id=13124.

Kuhl, E. S., L. M. Clifford, and L. J. Stark. 2012. "Obesity in preschoolers: Behavioral correlates and directions for treatment." *Obesity* 20:3-29. doi:10.1038/oby.2011.201.

Landry, S. H., K. E. Smith, P. R. Swank, M. A. Assel, and S. Vellet. 2001. "Does early responsive parenting have a special importance for children's development or is consistency across early childhood necessary?" *Developmental Psychology* 37:387–403. doi: 10.1037/0012-1649.37.3.387.

Larzelere, R. E., A. S. Morris, and A. W Harrist. 2013. *Authoritative Parenting: Synthesizing Nurturance and Discipline for Optimal Child Development*. American Psychological Association, Washington, DC. doi: <a href="http://dx.doi.org/10.1037/13948-000">http://dx.doi.org/10.1037/13948-000</a>.

Maccoby, E., and J. Martin. 1983. Socialization in the context of the family: Parent-child interaction. In *Handbook of Child Psychology: Socialization, Personality and Social Development*, edited by E. Hetherington , pp. 1-101. New York: Wiley.

Magnuson, K. A., and G. J. Duncan. 2002. Parents in poverty. In *Handbook of Parenting*, edited by M. H. Bornstein, vol. 4, pp. 95-121. Mahwah, NJ: Erlbaum.

Ogden, C. L., M. D. Carroll, B. K. Kit, and K. M. Flegal. 2012. *Prevalence of obesity in the United States*, 2009-2010 (NCHS Data Brief, No. 82). Hyattsville, MD: National Center for Health Statistics. Retrieved from <a href="http://www.cdc.gov/nchs/data/databriefs/db82.pdf">http://www.cdc.gov/nchs/data/databriefs/db82.pdf</a>.

Ontai, L., and Families with Young Children Workgroup. 2012a. *Healthy, Happy Families – Educator's Edition*. University of California Division of Agriculture and Natural Resources. Retrieved from <a href="http://anrcatalog.ucdavis.edu/Details.aspx?itemNo=21646">http://anrcatalog.ucdavis.edu/Details.aspx?itemNo=21646</a>

Ontai, L., and Families with Young Children Workgroup. 2012b. *Healthy, Happy Families – Parent's Edition*. University of California Division of Agriculture and Natural Resources. Retrieved from <a href="http://anrcatalog.ucdavis.edu/Details.aspx?itemNo=21645">http://anrcatalog.ucdavis.edu/Details.aspx?itemNo=21645</a>

Ontai, L.L., S. T. Lipscomb, C. Lamp, D. Smith, and Families with Young Children Workgroup. 2007. An integrative approach to addressing childhood overweight: Inclusion of parenting information in nutrition education programs. *Journal of Extension* 45: No. 3FEA2. Retrieved from <a href="http://www.joe.org/joe/2007june/index.shtml">http://www.joe.org/joe/2007june/index.shtml</a>.

Power, T. G. 2002. Parenting dimensions inventory (PDI-S): A research manual. Unpublished manuscript. Washington State University.

Ritchie, L. D., G. Welk, D. Styne, D. E. Gerstein, and P. B. Crawford. 2005. Family environment and pediatric overweight: What is a parent to do? *Journal of the American Dietetic Association* 105:70-79. doi: 10.1016/j.jada.2005.02.017.

Sleddens, E. F. C., S. M. P. L Gerards, C. Thijs, N. K. De Vries, and S. P. J. Kremers. 2011. General parenting, childhood overweight and obesity-inducing behaviors: A review. *International Journal of Pediatric Obesity* 6:e12-e27. doi: 10.3109/17477166.2011.566339.

St. Jeor, S. T., S. Perumean-Chaney, M. Sigman-Grant, C. Williams, and J. Foreyt. 2002. Family-based interventions for the treatment of childhood obesity. *Journal of the American Dietetic Association* 102:640-644. <a href="http://www.elsevier.com/journals/journal-of-the-american-dietetic-association/0002-8223">http://www.elsevier.com/journals/journal-of-the-american-dietetic-association/0002-8223</a>.

Stice, E., H. Shaw, and C. N. Marti. 2006. A meta-analytic review of obesity prevention programs for children and adolescents: the skinny on interventions that work. *Psychological Bulletin* 132:667-91. doi:10.1037/0033-2909.132.5.667

US Department of Agriculture Food and Nutrition Service. Retrieved May 24, 2013, from http://www.fns.usda.gov.

West, F., M. R. Sanders, G. J. Cleghorn, and P. S. W. Davies. 2010. Randomised clinical trial of a family-based lifestyle intervention for childhood obesity involving parents as the exclusive agents of change. *Behaviour Research and Therapy* 48:1170-1179. doi:http://dx.doi.org/10.1016/j.brat.2010.08.008.

**Table 1.** Means and standard deviations for general parenting and attitudes about child feeding practices at pre- and post-test

[Summary: Raw mean data evidencing significant mean increases in general parenting subscales for consistency and follow-through, and in child feeding attitude subscales for introducing new foods, setting limits, and family meals.

Outcome Measures		Comparison (n=111)		Parent Handouts (n=59)		Lesson + Parent Handouts (n=66)	
		Pre-test M (SD)	Post-test M (SD)	Pre-test M (SD)	Post-test M (SD)	Pre-test M (SD)	Post-test M (SD)
Parenting	Consistency	2.86 (1.10)	2.80 (1.16)	2.91 (1.13)	3.03 (1.07)	2.64 (1.15)	2.80 (1.17)
	Nurturance	3.96 (.89)	4.01 (.81)	4.23 (.67)	4.21 (.64)	4.01 (.80)	3.92 (.83)
	Follow-through	3.33 (.79)	3.39 (.80)	3.47 (.87)	3.56 (.84)	3.37 (.96)	3.56 (.86)
Child Feeding	Family Meals	3.15 (.65)	3.06 (.79)	3.20 (.75)	3.18 (.76)	3.05 (.72)	3.20 (.80)
	Limit Setting	3.35 (.70)	3.11 (.73)	3.24 (.77)	3.36 (.66)	3.24 (.67)	3.32 (.63)
	Introducing New Foods	2.40 (1.22)	2.27 (.73)	2.13 (.90)	2.47 (.67)	2.28 (.90)	2.53 (.76)