PARENTING NUTRITION SKILLS WORKSHOPS: AN EVALUATION OF
FACILITATED GROUP DISCUSSIONS TO ENHANCE PARENTING NUTRITION
SELF-EFFICACY

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By
Lisa Dawes, RD, CDE
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COMMITTEE MEMBERSHIP

TITLE: Parenting Nutrition Skills Workshops: An Evaluation of Facilitated Group Discussions to Enhance Parenting Nutrition Self-Efficacy

AUTHOR: Lisa Dawes, RD, CDE

DATE SUBMITTED: May 2013

COMMITTEE CHAIR: Lisa Nicholson, PhD, RD
Professor, Food Science and Nutrition

COMMITTEE MEMBER: Peggy Papathakis, PhD, RD
Associate Professor, Food Science and Nutrition

COMMITTEE MEMBER: Mary Pedersen, PhD
Professor, Associate Vice Provost Academic Programs and Planning

ABSTRACT

Parenting Nutrition Skills Workshops: An Evaluation of Facilitated Group Discussions to Enhance Parenting Nutrition Self-Efficacy

By: Lisa Dawes, RD, CDE

This research study was conducted to determine the effectiveness of using facilitated group discussion (FGD), a less traditional method of nutrition education, for increasing parents' feelings of self-efficacy in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries with their children.

Childhood obesity is on the rise; poor food choices, portion control, and inactivity are identified as contributing causes. Parents play a major role in creating healthy habits and providing a well-balanced diet for their children. Caregivers who act as the nutrition and behavior gatekeepers were targeted in this intervention. The objective of the current study was to enhance parenting nutrition education and identify barriers to healthy feeding practices in order to optimize nutrition and eating behavior.

Twenty-one parents and three grandparents (n = 24) of preschool and school-aged children participated in one-hour FGD parenting nutrition skills workshops. Parent volunteers participated in one of four workshops in a Central California community. Prior to the workshop, topics for discussion were chosen from common feeding issues determined in the literature such as food-related decisions at various locations (home, school, dining out, on the road); feeding jags; and dealing with a picky eater.

Parents completed validated questionnaires both before and immediately following the workshops. Two weeks after the workshops, parents were interviewed by telephone to measure longer-term impact of the FGD. Pre- and post-workshop

questionnaires demonstrated that mean self-confidence levels significantly increased for the ability to set and enforce nutrition-related boundaries for their children directly after, and two weeks after participating in the FGD. Parents also demonstrated an increase in mean self-confidence levels in their ability to purchase nutritious foods and offer those foods to their children two weeks after participating in the FGD. Behaviors associated with an authoritative parenting style—such as modeling healthy eating; encouraging healthy food intake; and offering healthy foods without forcing the child to eat—were significantly higher two weeks after participating in the FGD. Significance may be attributed to the method of information delivery (FGD), the curriculum Feeding the Kids (FtK), or authoritative parents being more receptive to receiving new information, or a combination of all three.

Overall, research results suggest that the use of FGD, coupled with a visual tool such as the Chat Mat created for this project, increased parents' feelings of self-efficacy and elicited positive nutrition-related behaviors in adopting healthy feeding strategies for their children.

Keywords: Nutrition education, facilitated group discussion, self-efficacy, parenting styles, feeding strategies, parenting nutrition skills

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CHAPTER I

Literature Review

Introduction

The rate of childhood overweight is a major public health concern and has increased significantly in the United States over the past few decades and continues to rise (Ogden, Carroll, McDowell, Flegal, 2007). Results from the 2003–04 National Health and Nutrition Examination Survey (NHANES) demonstrated that 17 percent of U.S. children aged 2–19 were classified as overweight and another 17 percent were at risk for becoming overweight (National Center for Health Statistics (NCHS), 2006).

Overweight and obesity are weight categories that have been established for individuals whose weight range is greater than normal for a given height. The Body Mass Index (BMI) was developed by the Centers for Disease Control (CDC), to be used as an indicator of potential health risks associated with being overweight or obese, which correlates to weights for height that are greater than what is considered healthy. The BMI is a tool used to calculate an individual's weight for height range (underweight, healthy weight, overweight, or obese), which for most people correlates with the amount of body fat they are carrying (CDC).

The rate of childhood obesity continues to rise and is now considered an epidemic (Ogden et al., 2007). The data from the 2003–2004 NHANES indicate the rate of childhood overweight has been increasing. Children aged 2–18 with BMI values at or above the 95th percentile of the sex-specific BMI growth charts are categorized as overweight (NCHS, 2006). If overweight children grow into overweight adults

(NCHS, 2006), a shorter life expectancy could be expected in this upcoming generation (Olshansky, 2005). Obesity and overweight can have detrimental effects on health and can lead to an increased risk for developing chronic disease, negatively affect self-esteem, and increase the amount spent on health care dollars (Boucier, Bowen, Meischke, & Moinpour, 2003; Fisher & Birch, 1999; Francis, Hofer & Birch, 2001; Golan & Crow, 2004; Hood, Moore, Sundarajan-Ramamurti, Singer, Cupples, & Ellison, 2000; Rhee, 2008).

The risk of becoming obese starts young. One cause of obesity has been described by researchers as an energy imbalance: too much food consumed (energy in) and not enough energy expended with physical activity (energy out) (Dwyer, Needham, Simpson & Heeney, 2008). In a review by Rhee (2008), the prevalence of increased risk of and actually becoming overweight increased in children from 26 percent at preschool ages (2–5) to 37 percent in grade school ages (6–11). Children’s environments that promote unhealthy eating and inactivity, both at home and away from home, are partly responsible for the rise in the rate of childhood obesity. Increased screen time, sedentary lifestyle, increased portion sizes, high fat food snacks, and the consumption of convenience foods have all been identified as contributors to overweight (Ogden et al., 2007).

Most of the contributors to overweight are modifiable behaviors that have the potential to be changed into more positive health-enhancing behaviors (Hood et al., 2000). This review focused on the home environment in which the family ecology may predict habits. Research suggests that planning a nutrition intervention targeting the family environment may potentially decrease or halt the rise in the rate of childhood

overweight (Rhee, 2008; Skelton, Buehler, Irby, & Grzywacz, 2012). Educating parents on making informed nutrition-related decisions when attempting to buy and prepare foods for their children can positively affect the child's environment and health. Parents are key players in the establishment of healthy eating habits (Rhee, 2008; Skelton et al., 2012). These nutritional gatekeepers decide where, what, and how much to feed their children and should be targeted in nutritional education interventions.

Eating habits develop early in a child's life (Golan & Crow, 2004) and if poor nutritional habits continue into adulthood, there may be an increased risk for development of chronic diseases. Therefore the establishment of healthy nutritional habits in early childhood by the nutritional gatekeepers is a primary intervention target. Not all parents are alike and each face different struggles. Families have different levels of economic means, self-efficacy, and social support or family structure, such as being the head of a single parent household. All of these factors may affect the way parents feed his or her child. Early nutrition intervention that focuses on increasing exposure to healthy foods has been shown to be important during the developmental years (ages 1–5) (Hildebrand & Betts, 2009). Childhood is a time of particular sensitivity for developing food preferences and acceptance patterns (Hildebrand & Betts, 2009). Effective nutrition education methods have been defined as those that focus on identifying healthy behaviors; potential barriers to adopting healthy behaviors; and positive parenting practices in making healthy nutrition-related decisions (Skelton et al., 2012; Dwyer et al., 2008; Rhee, 2008). Effective methods of nutrition education that result in positive, long-term behavior changes in the growing child need to be established. These

parents of children who are “at risk” of becoming obese and overweight would learn to make healthy lifestyle choices for their families.

Nutrition Education for Parents

Is the current epidemic of childhood obesity avoidable? Nutrition information is currently readily available to the public, but current research makes clear that providing information is not enough to foster lifetime behavior changes (AbuSabha, Peacock, & Achterberg, 1999; Skelton et al., 2012; Swindle, Baker & Auld, 2007) . Feeding children can be frustrating and difficult because parents are confused about what to feed, how much to feed and when to feed their children (Gould & Taylor, 2007). Parents also have difficulty integrating nutrition knowledge and boundary setting (Gould & Taylor, 2007). Hepburn & Wiggins (2007) stated a need for nutrition education that is focused on providing simplified nutrition recommendations that include behavior change theories, in order to elicit behavior change and healthy food practices. For example, consuming fruits and vegetables and eating together as a family would be a simple clear message to a family (Hepburn & Wiggins, 2007).

In a literature review of 220 studies on nutrition education (Contento, Randell, & Basch, 2002), researchers concluded that nutrition education was most effective when behavior change was a focus of the nutrition intervention, as well as being an appropriate outcome criterion. Nutrition education has been defined as “any set of learning experiences designed to facilitate the voluntary adoption of eating and other nutrition-related behaviors conducive to health and well-being.” (Contento, Randell, & Basch, 2002). Research on establishing the most effective method of nutrition education on

eliciting the desired amount of behavior change is of key importance in the medical and health field (Contento, Randell, & Basch, 2002).

Historically, doctors have focused on and treated only the individual within the family with the weight issue. Skelton, Buehler, Irby & Grzywacz (2012) recommended instead that the entire family be included in the education and treatment of obese and overweight family members. They explain that issues may arise, such as family members with conflicting schedules and varying health needs of family members, but the entire unit needs to be considered in the education and treatment process if a successful intervention is to occur. These authors state, “If we don’t find more effective treatments for obesity, and this epidemic continues, these children will likely go on to become obese adults, resulting in an entire generation with lower life expectancies than their parents’ generation.” The traditional one-on-one treatment of obesity is not decreasing, or even slowing the rise in the incidence of childhood overweight and obesity, which provides more evidence for the need of effective, supportive nutrition education strategies that prevent and treat childhood obesity.

Eating has been described by Albert Bandura as, “a judgement and an action, which is partly self-determined, therefore individuals can effect change in themselves and their situations through their own efforts” (Bandura, 1989). Eating is a modifiable behavior that can positively or negatively affect weight and health, thus making the choices involved in eating key targets for nutrition education. Bandura introduced the key concept of self-efficacy in the Social Cognitive Theory (SCT). Self-efficacy is defined as an individual’s belief in his or her capability to exercise control over specific actions. The stronger an individual’s perceived self-efficacy, the higher the goals set by the

individual, and stronger commitment to achieving the goals (Bandura, 1989). Individuals are more open to change behaviors if they feel confident in their ability to make those changes (AbuSabha & Achtrberg, 1997; Hilderbrand & Betts, 2009; Ma, Betts, Horacek, Georgiou, White & Nitzke, 2002). Research has demonstrated that self-efficacy plays a significant role in explaining eating behaviors. Health educators can support self-efficacy with their clients who are trying to modify less healthy behaviors.

The Social Ecological model, another behavioral model, includes the intrapersonal, interpersonal, and environmental factors. Qualitative research was conducted on identifying the intrapersonal (parents becoming frustrated dealing with a picky eater or parents feeling unable to promote a new vegetable); interpersonal (different caregivers having different feeding views); and environmental barriers that supported healthy eating and activity in families (Dwyer et al., 2008). Thirty-nine parents of children ages 2–5 from three different preschools in Hamilton, Ontario, were recruited for the study. Five different focus groups were held. Parents were asked questions such as, “Have you experienced challenges in supporting healthy eating and physical activity with your children, and if so, what are those challenges?” (Dwyer et al., 2008). The Social Ecological model was used for establishing themes in the qualitative data analysis. Common intrapersonal themes were identified such as, parents becoming frustrated with their picky eaters; children avoiding fruits and vegetables; children eating more on some days, but less on others; children unwilling to try new foods; and parents’ anxiety surrounding feeding their children. Common interpersonal factors identified were: Parents of the same household were not following the same rules in feeding their children; grandparents providing high sugar and fat snack foods to their children; parents’

concern over childcare staff either encouraging or not encouraging children to eat at preschool; children eating fruits and vegetables at the childcare center but not at home; and parents not having enough time to make healthy meals daily for their children. Common physical environmental factors identified were: the high cost of purchasing healthy foods; some parents indicated that they felt comfortable knowing that their children were at least eating healthy food at the childcare center, even if they were not eating those foods at home. Many parents also mentioned the media's influence on what their children are requesting them to purchase at the grocery store (Dwyer et al., 2008). Results demonstrated that most parents thought different physical environments (school vs. home) affected their children's eating and physical activity patterns because the various locations had different food rules and feeding approaches. Accessibility to healthy foods, safe environments for physical activity, and media influence were also concerns of many of the participants (Dwyer, Needham, Simpson, & Heeney, 2008). The research identified specific intrapersonal, interpersonal, and environmental barriers that commonly influence parents' feeding practices. These perceived barriers need to be considered when planning an effective parent nutrition intervention that promotes weight loss and healthy lifestyles. In this study the results were based on parents' perceptions of healthy eating and exercise but healthy nutrition and activity were not defined for the participants of the study which may limit the generalizability of these results.

The Transtheoretical Model of Behavior Change (TTM) has been used to model nutrition and health interventions. People can be placed in one of five categories based on their readiness to change their behavior (precontemplation, contemplation, preparation, action, and maintenance) in the TTM. Movement through the different stages is

dependent on the individual's motivation (decisional balance) and the belief that they have in their ability to succeed (self-efficacy). Motivation to change, or decisional balance, refers to the process of weighing the pros versus cons of taking an action. According to this model, readiness to change, motivation to change, and belief in one's ability are all key in changing behaviors. Hildebrand & Betts (2009) conducted research with low-income parents to increase the servings of fruits and vegetables to their preschool-aged children. The researchers assessed the low-income parents ($n = 238$) of 1–5 year olds. During a nutrition education class, primary care providers (PCP) completed surveys, which consisted of a stage of change algorithm, construct scales, and a fruit and vegetable frequency questionnaire. After the data were analyzed, the results demonstrated 43 percent of care providers were staged as precontemplation/contemplation; 29 percent were in preparation; and 28 percent were staged as action/maintenance. The PCP in the preparation and action/maintenance stages served the same amounts of fruits and vegetables to their children (mean = 4.1 and 4.2 servings per day respectively) and significantly more than PCP in the precontemplation/contemplation group (mean = 2.9 servings per day) ($p < 0.001$). Specific behaviors used by PCP's in the preparation and action/maintenance stages were serving fruits and vegetables instead of less healthful snacks; planning to serve vegetable with meals; and feeling positive when praised for serving fruits and vegetables. Hildebrand and Betts (2009) determined social support, such as discussing serving fruits and vegetables with others, was used more often ($p < 0.002$) by PCPs in the action/maintenance stage of change. PCPs in the precontemplation/contemplation stage scored lowest in self-efficacy. Self-efficacy scores increased significantly with each stage of change, and were highest

for action/maintenance. Consideration of the PCP's level of self-efficacy, as well as their readiness to change are both important when planning a nutrition intervention whose goal is to elicit long-term behavior change. PCPs in the precontemplation/contemplation stage may progress to the action phase of behavior change more quickly when the nutrition intervention includes strategies specific to those who are not yet sure if they are prepared to make changes in their diet. Also, learning environments that provide social support can help educate and sustain the desired behavior change.

To be effective, nutrition education needs to bridge the gap between the “what” parents feed their children and the “how” they feed their children. A caregiver's style of parenting can affect the child's openness to trying new foods. The eating habits of children have been linked to a variety of factors. In a review article by Patrick & Nicklas (2005), the authors discussed factors that contribute to childhood overweight. Family and social factors, and the child's physical environment were identified as factors that influence a child's eating habits. Family and social factors investigated were food availability, preference, accessibility, and portion size; modeling eating; mealtime routine; parents' attitudes surrounding food and mealtime; and parental feeding styles. The authors discussed topics such as food preferences being established early on in life; the importance of exposing a child to a variety of foods to increase the likelihood of overcoming food dislikes; and that children choose foods that are most often offered and available. In addition, accessibility of foods increases consumption; parents and their children have similar food preferences; parents modeling healthy eating had a greater likelihood of having children who ate healthy food; families who ate together were found to eat healthier; and that parental feeding styles influence child-feeding patterns

(Patrick & Nicklas, 2005). Feeding styles are defined as the caregiver's approach to maintain or modify children's behaviors with respect to eating (Patrick & Nicklas, 2005). This review article demonstrated the important role the PCP had in getting their children to consume healthy foods, thus potentially influencing the child's health and weight status.

Research addressing parenting styles and childhood obesity would be useful for further understanding whether there is a link between the two. Childhood obesity may continue to be a growing problem until there is a better understanding of who would benefit from which interventions (Lederman, Akabas, Moore, Bently, Devaney, Gillman, Kramer, Mennella, Ness & Wardle, 2003).

Parenting Styles and Feeding Practices

Parents and PCPs are the logical target population of nutrition education and interventions because they are typically making the food-related decisions and enforcing nutrition-related boundaries in the home. Parents are typically the nutrition and behavior gatekeepers of the family and are responsible for providing food for their children, which makes them key players in getting their children to eat healthfully. Educating parents and caregivers in a supportive environment on topics such as offering a variety of fruits and vegetables often to their children and discussing the benefits of eating together may help reduce the incidence of childhood overweight. In a review by Patrick & Nicklas (2005) children were more likely to eat healthy food if they experienced frequent exposure to healthy new foods, and if their parents model and enjoy healthful eating. The authors stated that the family plays a strong role in influencing food choices, eating practices, and

attitudes toward certain foods, as well as the child's ability to determine when they are full.

Baumrind's (1973) has defined three styles of parenting and each of the styles has been associated with different child eating habits. Parenting styles can positively or negatively influence their children's eating (Francis et al., 2001).

Most parents rely on one of three parenting styles to raise their children: authoritarian, permissive, and authoritative (Baumrind, 1971; Boucier et al., 2003; Fisher & Birch, 1999; Francis et al., 2001; Golan & Crow, 2004; Hood et al., 2000; Rhee, 2008). The parenting styles are defined by the types of strategies parents use in feeding their children. The strategies most often used are pressure to eat, food restriction, making healthy foods available, modeling, free access to foods, and using rewards to encourage the child to eat (Rhee, 2008). Authoritarian parenting behavior relies on controlling the child's eating by restricting intake of some foods and demanding intake of other foods. Permissive parenting is associated with feeding behaviors that give the child free reign on the type and amount of food eaten with little or no control exerted by the parent on the food choice. Authoritative parents provide food options to the child and allow them to decide which, and how much, of the offered foods the child would like to eat. In addition the child is encouraged, rather than forced, to eat the food provided. Authoritative parenting is viewed as the most effective parenting style because it provides structure and boundaries, but still allows the child to exert some independence (Arredondo, Elder, Ayala, Campbell, Baquero, & Duerksen, 2006). In a review by Patrick & Nicklas (2005), the authoritative style of parenting was associated with greater availability and intake of fruits and vegetables and with lower intake of less healthy snack foods. Also, children of

authoritarian parenting who were told to “clean their plate” were more likely to ignore internal satiety cues, a practice which may contribute to overweight and obesity (Patrick & Nicklas, 2005).

Each parenting and feeding style has been shown to exert different influences on children’s eating and feelings of satiety (Birch, Fisher, Grimm-Thomas, Marker, Sawyer, Johnson, 2001; Blissett & Haycraft, 2008; Patrick & Nicklas, 2005). Arredondo and colleagues (2006) conducted a study to determine whether parenting style strategies—such as monitoring, use of reinforcement, appropriate limit-setting and discipline—would be positively associated with children’s healthy eating and physical activity. The authors hypothesized that a controlling parenting style would negatively affect children’s healthy eating and physical activity. The authors also examined the moderating role the child’s gender and BMI have on the relationship between parenting styles and children’s health behaviors. The results of the study showed that parental monitoring and reinforcement for healthy eating and physical activity were positively related to both healthy eating and physical activity, and that parental control was positively related to children’s unhealthy eating. Foods were categorized by three independent reviewers as healthy or unhealthy by their contribution to risk for obesity. Girls were found to eat significantly less healthfully than boys when parental control was exerted on their eating ($p<0.01$). Boys ate less unhealthy food when parents set food-related limits ($p<0.01$). Parental use of appropriate discipline was positively related to children’s healthy eating, but not related to children’s unhealthy eating or physical activity. Parental control was positively related to children’s unhealthy eating (Arredondo et al., 2006). The researchers proposed that possibly girls perceive parental restriction differently than boys or that parents may

unconsciously treat their female children differently than their male children (Arredondo et al., 2006).

Parenting Styles and Child Eating Behavior

Klesges, Stein, Eck, Isbell & Klesges (1991) also investigated the influence parents had on their children's food choices. Fifty-three children (4.0–7.3 years of age) of various weights were involved in a well-designed, laboratory-based study. A variety of food types were presented to the children: foods low in nutrient value; foods of neutral to moderate nutritional value; and foods of high nutritional value. The children were instructed to choose foods from the table for lunch. The food items chosen were recorded. The children were then told that their mothers were going to view their food choices, and the children were then told they could alter their choices. Mothers viewed their children's food choices and now the mothers were told they could alter the food choices in order to make the meal healthier, and these changes were recorded. The authors hypothesized that if given free choice for food selection, children would choose foods higher in saturated fat, sugar, and sodium. Researchers anticipated that when the child was informed that parents would monitor his or her food selection, the child would modify the selection to include healthier foods. It was also hypothesized that mothers would make changes to the child's chosen meal by increasing the nutritional choices, and that mothers of obese children would make fewer of those changes. The results indicated that when children were given free access to food, they chose higher sugar-containing foods from the low nutritional value food group, and when told that their parents were monitoring the content of the meal, the children switched some of the food items to healthier, lower sugar food

choices. Also, parents typically altered their children's meal by decreasing the number of low nutrition food choices, which resulted in fewer calories, and fewer calories from saturated fat, but did not increase the number of high nutrition food choices.

A two- (obese vs. normal weight child) by-two (obese vs. normal weight mother) repeated measure analysis of variance was performed with nutritional value calculation and food-choice conditions as the within-subjects factors. Results demonstrated no significant effects for relative weight of mother or child, nor any significant interactions (Klesges et al., 1991). The research indicated that parents do have a significant influence over their children's food choices and demonstrated the need for educating parents on healthy food choices for the family.

Parent Eating Style Influences Child

Parents' eating styles have been shown to affect their children's adiposity. Hood et al., (2000) gave parents a baseline behavior questionnaire to evaluate the parents' eating behaviors. Based on these results, families were classified into one of four groups: low restraint/low disinhibition; low restraint/high disinhibition; high restraint/low disinhibition; and high restraint/high disinhibition. Restrained eating was described as behavioral restraint and conscious control with food choices. Disinhibited eating was defined as unreserved in eating behaviors and weight. Perceived hunger was defined as an individual's feeling of hunger and the consequences that accompany that hunger. Anthropometric data were prospectively collected over a six-year period on both parents and children. Parents' dietary restraint, disinhibition, and hunger scores as measured at baseline were calculated and compared to their children's anthropometric data at six

years. Fathers demonstrated less dietary restraint and disinhibition with their eating than did mothers. Mothers and fathers who practiced more dietary restraint were found to be older with higher BMIs. Parents who demonstrated higher levels of restrained and disinhibited eating had children with the greatest increase in adiposity. Parents with higher restraint scores also had higher disinhibition scores and lower hunger scores. The smallest increases in body fat were found in the children of parents who demonstrated a high level of dietary restraint and low disinhibition with their eating, and parents who scored high on both restraint and disinhibition had children with the greatest increase in body fat over the six-year period. This research demonstrated the significance of the parental influence on children's eating and weight and support the benefits that might be seen with parent education on positive eating behaviors in an effort to positively influence their children's eating behaviors. (Hood et al., 2000). Effective methods of intervention can build on the influence of parental behaviors on eliciting changes in the eating behaviors of the whole family.

Parent Controlling Child's Food Intake

Francis et al., (2001) reviewed research conducted by Birch in which parents who exerted excessive control over their child's food intake negatively affected the child's development of self-control for eating. The authors then conducted their own research to investigate the influence mothers had over their children's eating. Overweight mothers had higher concern for their overweight children's food choices and weight. Heavier mothers had heavier daughters. Mothers who reported having more controlling parenting styles, such as authoritarian, also had heavier daughters. Mothers were found to use more

restrictive feeding practices when they felt their daughters had weight and eating issues. This research demonstrated the negative effects of controlling feeding practices and supported the importance of allowing children to have a choice in determining if and how much they are capable of eating. This self-regulation by the child may help to maintain internal satiety and hunger cues and maintain a healthy weight.

The family food preparer plays a significant role in getting his or her child to eat healthful foods. One study demonstrated that the most common strategies used by the family food preparer to get his or her children to eat healthy foods were bringing home healthy foods; monitoring food intake; preparing foods for the family; and modeling healthy eating (Boucier et al., 2003). Another study examining how parents impact the child's eating attitudes and eating behavior was performed by Brown & Ogden (2004). Children (aged 9–13), and their parents (aged 23–53) were recruited for the study from two junior high schools and one secondary school. Matched questionnaires were provided to the children and parents and were completed either in school or at home. The questionnaires contained the following measurable items: reported snack food intake; motivations to eat (internal and external); body dissatisfaction; body difference (the discrepancy between own size and body silhouettes); control over child's diet; and control over child's behavior using food. Children and their parents were both found to choose significantly similar healthy and unhealthy snack-type foods, supporting the importance of parental modeling. Modeling was found to play a role with eating-related attitudes and behaviors, and significant associations were found between parents' and children's internal eating motivations and body dissatisfaction. Parents who attempted to control their children's food intake had children who consumed more unhealthy and

healthy snacks, and parents who used food to control their child's behavior had children with higher rates of body dissatisfaction. This study reinforced the powerful role parents play in their ability to influence their children's eating, both positively or negatively, through modeling and control of the child's intake. The authors concluded that modeling healthy eating, rather than attempting dietary control over children, was a more positive and effective method of optimizing healthy eating in children (Brown & Ogden, 2004).

Parents who model healthy eating with their children have also been shown to have children who are more likely to enjoy eating healthy foods. Researchers were interested in examining at what point the maternal dietary eating habits begin to influence toddler food choices and dietary intake, and if mothers with unhealthy dietary habits have toddlers with both lower dietary variety and higher rates of obesity. This study built on prior research that indicated low-income adolescent mothers with poor dietary habits are more likely to have toddlers with less varied diets and higher rates of obesity (Papas, Hurley, Quigg, Oberlander, & Black, 2009). The results demonstrated that of 109 new mothers who participated in the study, one year post delivery, 53 percent of these mothers were overweight and 35 percent were obese; at 13 months post delivery, 5 percent of the toddlers were overweight and 9 percent were obese. By two years post delivery, 12 percent of toddlers were overweight and 16 percent were obese. The researchers did not find an association between maternal weight gain and toddlers rate of obesity. At one year of age, maternal intake and maternal dietary variety was associated with toddler diet, and maternal intake of fruit, vegetables, snacks, desserts, meats and main dishes were significantly correlated with toddler intake of these same foods ($r^2=0.26, 0.40, 0.50, 0.29$ respectively, $p<0.05$). Thirty-four percent of these mothers ate five servings of fruits and

vegetables a day. Mothers who ate more fruits and vegetables typically consumed a more varied diet consisting of all other food groups. Adolescent mothers who ate at least five servings of fruits and vegetables a day were statistically significantly more likely to offer their toddlers a greater variety of fruits ($r^2=64$; 95% CI: 0.03, 1.24, $p<0.05$) and vegetables ($r^2=1.9$; 95% CI: 0.91, 3.0, $p<0.001$) than the mothers who did not eat five servings of fruits and vegetables a day. The researchers did not find an association between maternal weight gain and toddler rate of obesity. Adolescent mothers who purchased their own groceries were more likely to eat more daily servings of fruit (mean = 2.36 servings) and vegetables (mean = 2.60 servings) than adolescent mothers who did not purchase their own groceries (mean fruit intake = 1.06 servings, mean vegetable intake = 1.36 servings) and had toddlers who were more likely to receive a greater variety of fruit (mean = 4.57 servings, $p<0.001$). Adolescent mothers and their toddlers demonstrated similar dietary variety and patterns (Papatas et al., 2009).

Fisher & Birch (1999) investigated whether children increased their consumption of previously restricted foods when those foods were freely available to them. Seventy children (30 girls and 40 boys, ages 3–6) who attended The Pennsylvania State University day care center, and their parents (47 mothers and 35 fathers), were the subjects of the study. Children were asked questions about their parents' denying access to certain foods and the children's anthropometric data were gathered. After children indicated that they were full from lunch, the children were granted free access to toys and palatable snack foods. Over a 10-minute period of time, children were allowed unrestricted food choice. The experimenter measured the mother's restriction of palatable foods by asking the child how much his/her parents restricted the snack foods that were

presented to them during the experiment. In the unrestricted setting, children consumed an average of 215 calories, regardless of gender. Regression modeling was performed to assess how child consumption was influenced by both maternal restriction and by the child's perception of restriction. Increased restriction by mothers was associated with greater calorie intake in girls ($p < 0.05$, $\beta 25.6$, SE 11.0). The child's perception of restriction was also positively statistically associated with increased calorie consumption ($p < 0.05$, $\beta 37.7$, SE 17.9). These relationships were not seen with boys, just with girls. Girls who demonstrated the greatest perceived restriction of the snack foods consumed more of those snack foods in the unrestricted setting. Multiple regression analysis was performed with child's adiposity and parental composite of restrained eating to determine if child's weight-for-height, and the interaction between parental restraint and the child's weight and gender explained some of the variance with the mothers' restriction of the child. The results demonstrated that the child's gender, adiposity, and parental dietary restraint explained 20 percent of the variance in the mothers' restriction. Restriction of palatable snack foods from a child's diet may do more harm than good and restrictive feeding practices may actually increase a child's desire for the forbidden food. Parents may not identify this as an issue until the child starts spending more time in diverse environments, such as at school and with friends where there is more access to these savory snack foods. Parental restriction on a child's common food-related decisions may result in a decrease of self-regulation with food in an unrestricted setting as the child grows to independent decision-making (Fisher & Birch, 1999).

Parents have great influence on their children's eating, whether they are aware of it or not, and need to be aware of the significance that influence (Francis et al., 2001).

Effectively educating parents on the “how-to” of getting their children to eat healthy foods may greatly reduce the incidence of childhood obesity.

Facilitated Group Discussion

Effective, supportive, interactive methods of nutrition education targeting the nutrition gatekeepers of the family need to be identified in order to decrease the incidence of childhood overweight and obesity. Facilitated group discussion (FGD) shows promise as a method of educating parents on healthy feeding practices and currently, there is a limited amount of research available that combines the FGD method with nutrition education. FGD has been described as an active learning process that can help individuals connect different ideas and create solutions to problems using either their own personal knowledge and experience or other group members’ experiences (AbuSabha et al., 1997). These group discussions are helpful in creating behavior change because the participants receive information as well as social support for the new behavior. The social support in turn increases the likelihood that participants will act on this information. Researchers found FGD to be a cost-effective alternate teaching method for health educators interested in eliciting positive nutrition behavior change (AbuSabha et al., 1997; AbuSabha, Kiel, Peacock, & Achterberg, 1999; Sullivan, 2003; Whitaker, Sherman, Chamberlain & Powers 2004; Wilcoxson-Ueckert & Gess-Newsome, 2008). The FGD differs from the traditional lecture in that it creates an immediate processing of information by engaging participants in conversation and providing immediate feedback to the participants. AbuSabha et al., (2009) found that using FGD for educating parents about healthy eating and feeding practices was an effective alternative to traditional

nutrition education sessions, such as lecture or one-on-one instruction. The social support that FGD provides is a key underlying element of why it is considered to be an effective method of education.

A feeling of social support is important for long-term behavior change. The FGD provides this unique learning environment: parents talking to and supporting other parents. The word “facilitate” in Latin means to enable or to make easy. FGD is defined as an interactive method of education where participants derive topics for discussion, share experiences and challenges, and discuss possible solutions among the group; all methods actively engage the participant in the learning process. Standard FGD methods would have a trained facilitator who is responsible for: building the group from within; establishing ground rules for the group; beginning the discussion with an icebreaker exercise; asking open-ended questions; guiding the discussions; encouraging participation; keeping the discussion solution focused; correcting misinformation; summarizing the discussion; and being patient (AbuSabha et al., 1999). Participants gain information from the facilitator as well as from other group members who may have dealt with similar issues and share their own creative solutions. It is also the facilitator’s role to help create a safe and comfortable environment for the participants so that they feel at ease sharing their personal information, and to treat all participants with kindness and respect. Karner, Lind, Toldi, Fish & Berger (1996) stated, “It’s the facilitator’s role to support all learners of the group to do their best thinking.”

The FGD method of education has been shown to be helpful in allowing the learner build their sense of control in making food-related decisions rather than lecturing them to follow the educator’s nutrition advice (AbuSabha et al., 1998; AbuSabha

et al., 1999; Sullivan, 2003). Benefits of FGD described by Kaner et al., (1996) are improved leadership, communication, and thinking skills; increased motivation and confidence; and assuming more responsibility for choices made. Other benefits of FGD are that it is a cost-effective method of providing social support and nutrition information in a meaningful way empowering clients to make healthy life choices. Therefore, enhancing traditional workshop methods with FGD may speed the adoption of the desired behavior.

When new and different feeding approaches come from other parents, the solution may resonate because parents can relate, and change may seem like a reasonable option. The more similar a person is to a role model, the more likely a person is to take a new action or behavior. In an article by Martin & Smith (1995), the researchers acknowledged the benefits of FGD for education to increase participants understanding and acceptance of certain disease states. The researchers stated the sharing of information in a group setting helped individuals adapt to his/her short-term and long-term medical issues in a supportive environment, where fears, frustrations, and misunderstandings were addressed. The facilitator identified common issues and led the group in problem-solving discussions. The authors emphasized the important role of the group facilitator in keeping the group discussions focused and the information factual (Martin & Smith, 1995).

AbuSabha et al., (1999) conducted research on FGD's impact on practice in community nutrition settings. Five hundred and eighty professionals and paraprofessionals from Women, Infants, and Children (WIC) agencies were the subject of the study. The participants participated in a two-day mixed model training—teleconference combined with small group hands-on activities—that was designed to train

community nutrition educators on conducting FGD. Three areas were included in the sessions: background on client-centered nutrition education; FGD skills-building; and small-group hands-on exercises. The small-group skills building sessions allowed adequate time for the participants to role play using the newly acquired information. Participants completed a pre-workshop questionnaire; post-workshop questionnaire that was completed immediately after completing the training; and an eight-month follow-up questionnaire. Results demonstrated that significant gains were seen in participants' knowledge in conducting an FGD after attending the training session compared to knowledge prior to the training ($p < 0.0001$), thus demonstrating the effectiveness of the training session. Eighty-four percent of participants post-training reported knowing how to conduct an FGD, and eight months after participating in the training session 79 percent of participants stated that they could still conduct an FGD. After the two-day training session, 70 percent of participants stated that they intended on using FGD in their clinics; at eight-month follow-up, 73 percent of participants had actually implemented FGD in their clinics. Of the 73 percent that implemented FGD, 37 percent of those participants stated that they were able to reach a greater number of clients using FGD; and 44 percent stated that they were able to increase time spent with clients. Seventy percent stated FGD was a more effective method of education; and 61 percent of those using FGD in their clinics received positive feedback from clients on the FGD method (AbuSabah et al., 1998). This study demonstrated that FGD was found to be an acceptable method of education for educators, as well as for clients, and can be an alternative, cost-effective method of nutrition education. This study did not compare data such as pre-discussion

knowledge vs. post-discussion knowledge of actual WIC clients who participated in an FGD. Further research needs to be conducted in this area.

Swindle et al.,(2007) were interested in determining whether or not long-term behaviors changed after participating in the Operation Frontline Community Nutrition Education Program (OFCNEP). The Eating Right curriculum from the OFCNEP was used in the study, which incorporates the “theory of experimental learning” where individuals actively participate in the learning process, interact with members of the group, and use past experiences as topics for discussion. The nutrition education sessions were lead by a facilitator. Fifty-three subjects participated in the six-week Operation Frontline Eating Right education series. Subjects completed two of four surveys (traditional pre-test; retrospective pre-/post-test given after the last class; three months post-series; and six months post-series). All participants completed the retrospective pre-/post-test. Questions concerning eating behavior, general behavior, shopping behavior, and food safety behaviors were included in the questionnaire. Participant scores from the post-test improved when compared to the retrospective pre-test in the areas of general behavior ($\bar{x}$ 2.0 vs. 3.3, $p < .001$); shopping behavior ($\bar{x}$ 1.7 vs. 3.0, $p < .001$); and eating behavior ($\bar{x}$ 1.8 vs. 3.0, $p < .001$) after attending the group discussions. No significant differences were seen between the post-test and the three- and six-month follow-up in the constructs of general behavior (3-month $\bar{x}$ 3.2 vs. 3.1, 6-month $\bar{x}$ 3.5 vs. 3.0); shopping behavior (3-month $\bar{x}$ 3.0 vs. 3.0, 6-month $\bar{x}$ 3.1 vs. 2.9); or the individual items such as washing fruits and vegetables, eating breakfast, not leaving leftovers out for more than three hours (Swindle, Baker & Auld, 2007). These data demonstrated that behavior change was stable over time, which may be attributed to the group discussion method of

education in combination with the Operation Frontline Eating Right curriculum. To clarify the impact specifically due to the use of FGD as separate from the impact of the new curriculum, future research might test the Eating Right curriculum in both the traditional lecture method and compare results to subjects who participated in an FGD using the same curriculum.

In a randomized controlled trial by Day head, Michelson, Thomson, Penney, & Draper (2012), researchers were interested in evaluating the efficacy of peer led parenting interventions for disruptive behavior problems in children. The researchers had previously found that families most in need of intervention did not receive it due to either an inability to access care, dropping out treatment prematurely, or not engaging with the types of services provided. Peer-led education had been found to be a successful method of education in other medical conditions, therefore these researchers were interested in determining if this cost-effective model could be used in parenting interventions for the parents of young children with behavioral issues.

Fifty-nine families were randomized into the intervention group and 57 into a wait-list control group. Subjects in the intervention group attended eight, two-hour group sessions over an eight-week period of time. Discussion groups were comprised of seven to 14 parents. Parents who were lost to follow up were assumed not to have changed from baseline. Topics that were covered during the eight weeks of discussion were: Being a Parent; Feelings; Communication and Culture; Play and Listening; Labels and Praise; Understanding Children's Behavior; Setting Boundaries; Listening and Review; and Coping with Stress. Trained facilitators led the small groups and encouraged discussion of the topic, role play, reflection, and demonstration. Outcomes were measured with

questionnaires. The primary outcome measured used the Eyberg Child Behavior Inventory (ECBI), a 36-item scale that assesses the number and frequency of child disruptive behaviors. The secondary outcome measure was “The concerns about my child,” a visual analog scale where parents nominate, prioritize, and rate up to three key concerns about their child. Significant results were established in the peer-led intervention group in all outcome measures ($p < 0.01$ or $p < 0.001$) derived from the ECBI; Intensity subscale; Problems subscale; Strengths and difficulties questionnaire; Hyperactivity/inattention; Parenting scale; and the Parenting Stress Index. No outcome measure changed significantly with the control group. One-hundred percent of participants stated they were satisfied with the peer-led discussions (Day head et al., 2012). The results of this study supported the use of peer-led education using discussion and interactive engagement because information and support was provided in a cost-effective manner.

Pettman and colleagues (2008) also investigated alternative education formats and were interested in developing a lifestyle modification program for adults based upon national diet and physical activity recommendations designed to manage obesity and the associated risk factors. Because increased time requirements and resources are associated with individualized weight management programs, the researchers investigated alternate methods of cardiac risk reduction education. The researchers conducted a study with overweight and obese adults diagnosed with metabolic syndrome, and randomly assigned them to one of two groups ($n=103$). The control group ($n=50$) received only a booklet on Australian guidelines for healthy eating, and the intervention group ($n=53$) received both a booklet on Australian guidelines for healthy eating and group education. The

intervention group participated for 16 weeks in a two-hour per week nutrition education and exercise program. The curriculum included dietary and physical activity information based on national guidelines, behavioral management tools, reading material, supermarket tours, food-label reading, exercise, and peer-group support. The researchers evaluated the effectiveness of group education on behavior change. Participants' motivation, perceived benefits, and goals were assessed through facilitated discussion. The leaders in the peer-group sessions assumed a "peer" role in conducting the sessions. Leaders encouraged all participants to modify their own dietary and physical activity behaviors. Participants were encouraged to share their experiences, to be respectful of others during the discussions, and to interact with members of the group. The data demonstrated that greater attendance at information and exercise sessions were correlated with greater reductions in body fat ($p < 0.001$); blood pressure ($p < 0.001$); total cholesterol ($p < 0.001$); and plasma glucose level ($p < 0.01$) compared to the control group. The authors concluded that the group-based program was cost-effective and successful in educating individuals on healthy lifestyle choices and behaviors, evidenced by improved clinical outcomes, increased physical activity, and improved diet, as compared to the control group (Pettman et al., 2008).

Whitaker and colleagues (2004) researched whether presenting a 20-minute, documentary-style video to WIC public health nutritionists, followed by a 40-minute facilitated discussion, could alter perceptions of public health nutritionists about barriers to addressing the problems associated with obesity when working with parents of preschool-aged children. The study concluded that a documentary-style video, used with facilitated group discussion, could produce changes in the perceptions of those providing

public health nutrition services about addressing the problem of obesity in low-income preschool children (Whitaker et al., 2004).

Facilitated Group Discussion Used in Chronic Disease Self-Management

Adolfsson, Starrin, Smide, & Wikblad (2007) performed research with Type 2 diabetic patients from seven different primary care offices, to determine if facilitated group discussion was a more effective method of educating patients on self-care of their disease than was individual counseling. Five to eight diabetic patients participated in four to five, two-and-a-half-hour group education sessions. The researchers investigated the effect that six weeks of facilitated group discussion had on diabetes-related psychological and physiological parameters. Improvements were seen in participant's glycemic control, as well as their feelings of self-efficacy in managing their diabetes (Adolfsson et al., 2007).

Building on this initial research demonstrating the facilitated group discussions improved feelings of self-efficacy and the importance of an individuals' involvement in the care of their disease, Adolfsson, Walker-Engstrom, Smide & Wikblad (2008) one year later performed a follow-up study to determine if the "empowerment group" those who participated in facilitated group discussions, maintained their initial changes. Specifically did they continue to have a higher confidence in diabetes self-care, greater self-efficacy and satisfaction with daily life, and better glycemic control than the participants who participated in traditional diabetes care/education. The results demonstrated that one year after the intervention, the empowerment group maintained improved diabetes knowledge compared to the control group.

Sarkadi & Rosenqvist (2004) were interested in determining how diabetes management would be affected long-term by experienced-based, group education. The study consisted of randomly assigning participants (n=77) to either a control or intervention group. The intervention group attended monthly group education sessions that took place over a 12-month period and were facilitated by a pharmacist and diabetes nurse specialist. The pharmacist received a three-day training session on how to conduct the group meetings and acted as the facilitator during the interventional group sessions, which focused on discussing diabetes related issues and negotiating answers. Videos, games, and metaphor-type situations were used for topics of discussion. The goal of the educational process was for participants to discuss their experiences and to use those experiences to develop practical self-management skills that are helpful in diabetes management (Sarkadi & Rosenqvist, 2004). The results demonstrated the experienced-based educational intervention produced significant decreases in HgbA1c levels at both 6-months ($p<0.05$) and 24-months ($p<0.05$) after baseline (Sarkadi & Rosenqvist, 2004).

Focus group discussions are similar to facilitated group discussions in that they both target individuals with similar issues, are typically small-group and facilitator-led, have pre-determined topics for the group discussion and all members are encouraged to participate. Sullivan (2003) conducted focus groups to determine how well low-income shoppers understood and used food labels. They also wanted to identify barriers to using the food label in making food-shopping decisions and gathered information through discussions, in order to establish common trends among the similar groups. The group met once a week for three weeks and discussed packaging, ingredients, and their understanding and difficulties with reading nutrition information labels. The discussions

were led by a facilitator who asked open-ended questions and encouraged dialogue among the participants regarding the nutrition fact label. The discussions identified common barriers to effective use of the food label. The results of the study determined that the group discussions led by a trained facilitator was an effective method of eliciting group dialogue and gathering information among similar groups of people (Sullivan, 2003).

In a study conducted by Ickovics and colleagues (2007), prenatal care was given to subjects either individually or in a group setting, in order to identify which method of education was more likely to improve pregnancy outcomes, psychosocial function, and to evaluate cost differences between the two methods of education. Participants were assessed during the group meetings and the majority of the time with the group was spent on prenatal and postpartum education, skills building, and establishing social support for participants. The group-care sessions were provided by trained providers in ten 120-minute sessions that focused on health outcomes and personal empowerment discussions in a supportive environment. The results of the study demonstrated the women participating in the group education were less likely to have preterm births, had better psychosocial outcomes, and felt more prepared for giving birth than those receiving individual counseling. There were significant differences in raw costs between group and individual prenatal education. However, this cost may be offset since preterm births increase health care dollars spent, neonatal and infant deaths, neurologic disabilities, and prolongs hospitalizations. This study demonstrates the effectiveness of using group education to improve prenatal outcomes (Ickovics, Kershaw, Westdahl, Magriples, Massey, Reynolds, & Rising, 2007).

Self-Efficacy Construct in Nutrition Education

Self-efficacy is an individual's degree of confidence in his or her ability to carry out a particular behavior (Bandura, 1989). Increased levels of self-efficacy enhance the individual's ability to make decisions and acquire new behaviors that are viewed as being more beneficial to them than their current behaviors (AbuSabha et al., 1997; Hildebrand & Betts, 2009). Brophy-Herb and colleagues (2009) state that self-efficacy is essential in eliciting and maintaining healthy behavior changes and to prevent relapsing into unhealthy food behaviors (Brophy-Herb et al., 2009). As recently as 1997, AbuSabha & Achterberg wrote that few studies have been conducted in the field of nutrition that examine the relationship between self-efficacy and food-related behaviors. Eating habits and feeding strategies are food-related behaviors that influence health and weight status. Modifying less healthful behaviors can significantly impact the health of our youth, and potentially slow the rate of childhood obesity (AbuSabha et al., 1997). Since 1997 there have been a variety of studies researching nutrition education interventions that are based on the Social Cognitive Theory. The Social Cognitive Theory explains the internal processes of how decisions are made and how behaviors are formed.

In a study by Mead, Gittelsohn, De Roose, & Sharma (2010), the researchers were interested in developing effective nutrition interventions for nutritional behavior change within the Inuvialuit population of Canada. The Inuvialuit demonstrated high rates of obesity and chronic disease. The intervention was based on Social Cognitive Theory construct of behavioral intentions ability to predict the actual behavior. The researchers were interested in identifying individuals' psychosocial factors and how their connection

to their environment influenced the intended behavior. Two-hundred-thirty-two participants completed the Adult Impact Questionnaire (AIQ). Surveys were completed by individuals responsible for shopping for and preparing foods for the family. Participants were predominantly female and were from one semi-remote and two remote Arctic communities in the north west territories. The AIQ collected data on food knowledge, common food preparation methods, frequency of healthy and unhealthy food purchases and food related self-efficacy. Significant results were demonstrated in increased food knowledge and increased self-efficacy. Increased food knowledge was associated with increased levels of self-efficacy ($\beta=0.39$, $p<0.001$) and both were associated with increased intentions to buy and consume healthy foods ($\beta=0.37$, $p<0.001$, $\beta=0.65$, $p<0.001$ respectively). Participants with stronger intentions to consume healthy foods were more likely to prepare healthier foods ($\beta=0.22$, $p=0.001$), acquire healthy foods ($\beta=0.17$, $p=0.012$), and acquire unhealthy foods less often ($\beta=0.18$, $p=0.008$). Healthy food self-efficacy was associated with decreased frequency of buying unhealthy food ($\beta=0.22$, $p=0.001$), but not strongly associated with frequency of buying healthy foods (Mead et al., 2010).

Brophy-Herb and colleagues (2009) conducted research to evaluate the effectiveness of educating parents on the proper timing of the introduction of solid foods into their babies' diets. The curriculum was created based on the Transtheoretical Model of Behavior Change (TTM) and the Theory of Planned Behavior (TPB) for the Infant Feeding Series (IFS). The TPB focuses on three predictive constructs which contribute to the behavioral intentions that predict behavior: individual attitudes, subjective norms, and perceptions of behavioral control. The focus of the IFS was to expand parents' nutrition

knowledge and to instill feelings of self-efficacy with regard to healthy food choices. The goal was to have parents confident in their ability to change their feeding behaviors. The authors recognized that by increasing mothers' feelings of self-efficacy, they would have a higher perceived level of behavioral control in making healthier decisions for their babies. The results of this pilot study showed that after mothers participated in the IFS program they had more knowledge about proper feeding techniques and they could identify physical feeding cues, which can be helpful in identifying an infant's readiness for solid foods. They also reported greater feelings of self-efficacy in beginning and maintaining healthy food practices (Brophy-Herb et al., 2009).

Conclusion

Childhood obesity is a growing problem, which has devastating health and economic consequences. Parenting styles and feeding strategies have a significant impact on how children self-regulate caloric intake and choose their foods. Parents influence the type and amount of food their children eat. Parental disinhibited and restrictive eating and feeding practices may lead to childhood obesity by upsetting the child's self-regulation of energy intake and increased desire for high calorie, fat-restricted foods. Effective feeding styles have been identified and the research has demonstrated that parents can positively influence their child's intake with modeling healthy eating and offering their children healthy food options. Self-efficacy has been identified as an important factor in determining long-term behavior change. The Social Cognitive Theory states that if an individual has a sense of self-efficacy, or confidence in their ability to perform a task, the more likely that person is to continue performing the task. Increasing feelings of self-

efficacy in food-related behaviors and decisions can improve health (AbuSabha et al., 1999). Healthy food-related behaviors in parents help to create healthy food habits with their children.

The research has demonstrated a need for effective, self-efficacy-building nutrition education programs that target the nutrition gatekeepers of our youth. FGD has shown promise as an alternative method of effective education. Knowledge alone does not elicit behavior change, therefore effective intervention methods should build on self-efficacy in parents confidence to choose and offer healthy food to their children. Education interventions should focus on parents allowing children to develop self-regulatory mechanisms by offering healthy food options and by not forcing them to eat more if the child indicates being full. Potential benefits of a well designed program would include: increased nutritional knowledge; increased social support; increased confidence in setting boundaries; increased confidence in making nutrition-based decisions; and increased confidence in making healthy lifestyle choices.

The cited research in combination with behavioral theories make it clear that simply providing an individual with information on the importance of healthy eating and exercise is not enough to elicit healthy long-term behavior change. Nutrition interventions that focus on providing information and increase individuals' feelings of self-efficacy in a supportive environment, while considering their motivation and readiness to change, show promise in eliciting healthy behavior changes.

Hypothesis and Sub-Hypotheses

H1. Directly after participation in a structured parenting nutrition skills facilitated group discussion, parents self-efficacy scores for preparing and offering nutritious foods; in making nutrition-related decisions; and in setting and enforcing nutrition-related boundaries for their children will be significantly greater compared to before their participation.

H2. Two weeks after participation in a structured parenting skills facilitated group discussion parents self-efficacy scores for purchasing and offering nutritious foods; for making nutrition-related decisions; and in setting and enforcing nutrition-related boundaries for their children will be significantly greater compared to before participation and directly after participation.

H3. Behaviors associated with an authoritative parenting style will be significantly higher after participation in the FGD. Parenting behaviors associated with authoritative parenting style include:

- Frequency of offering nutrient-dense foods
- Model healthy eating
- Encourage nutrient-rich food consumption
- Parent regulates of the type of food consumed
- Tracking frequency of child's nutrient-dense food intake to regulate overall diet

CHAPTER II

Materials and Methods

The current research evaluated whether using a facilitated group discussion (FGD) format for parenting nutrition skills workshops was an effective method of increasing nutrition knowledge. In addition, this discussion format was hypothesized to be well suited to help increase feelings of self-efficacy to make nutrition-related decisions, and to set and enforce nutrition-related boundaries with preschool and school-aged children during meals and snack time. This formative study utilized past research on parenting styles, feeding practices, FGD, and the impact self-efficacy has on behavior change as key design principles. A portion of this mixed-method study provided qualitative data on common feeding practices with validated subjective questionnaires in the pre- and post-workshops.

Program Objectives

The primary objective of the FGD workshops was designed to provide parents with the necessary knowledge and skills needed to succeed and build confidence in their ability to feed their children healthful meals and snacks, and to assess the effectiveness of using the FGD in educating the nutrition and behavior gatekeepers of preschool and school-aged children about making nutrition-related decisions, and setting and enforcing nutrition-related boundaries. Other program objectives included creating flexibility with eating expectations and minimizing food-related battles.

Intervention Design

The curriculum for the Parenting Nutrition Skills workshops was based on *Feeding the Kids: The Flexible, No-Battles Healthy Eating System for the Whole Family* by Pamela Gould and Eleanor P. Taylor, RN, CDE, who worked as curriculum development consultants (Appendix A). The book was written to assist parents in making healthy food choices for their children and minimize mealtime battles. The authors introduce the concepts of “food rules,” a checklist of food-related behaviors; and “smart,” “in-between,” and “empty” food choices, a simplified method of identifying healthy nutrient-dense foods. The concepts are designed for parents and children to follow in an effort to optimize nutritious food intake and minimize food-related battles. The checklist and identification method provided the basic outline of topics for the workshops titled “Feeding the Kids” (FtK).

The 60-minute workshops were intended to provide behavior-oriented, solution-focused parenting nutrition education using an enhanced method of discussion, FGD, coupled with an instructional “Chat Mat” (Appendix B), a visual tool for improving nutrition-related decision making and boundary setting. The low-cost Chat Mat was included in the workshops to focus participants on pre-determined topics for the group discussions and to illustrate common mealtime and food-related issues. In addition, the Chat Mat reinforced information for visual learners.

Funding for the workshops was obtained from a Healthy Eating Active Living, San Luis Obispo (HEAL SLO) grant through the San Luis Obispo Community Foundation.

The Institutional Review Board at California Polytechnic State University, San Luis Obispo, granted human subjects protocol approval (Appendix C). In the informed consent document the possible risks associated with participation in the study were minor, but may have included psychological stress from completing survey questions, participation in the workshops, and telephone follow-up. Risks were minimized by notifying participants that they did not have to answer any questions that they were uncomfortable with. Participants were also informed that their participation was voluntary, and that they could discontinue the study at anytime. Participants were provided with a copy of the informed consent, which included contact information for the study director and the faculty advisor should the participant experience any discomfort with the questions.

The method of information delivery, FGD, was organized so that the FtK key points were addressed and presented in a structured, yet flexible style that allowed the facilitator to be certain that all pre-determined topics were covered, while being responsive to issues participants felt were the most immediate and pressing. A standard script (Appendix D) was designed for the facilitator to follow, which included the FtK key points, and was used at each of the four workshops as a discussion guide to establish consistency with the information covered. The design method for the discussions also focused on flexibility of topic conversation, and therefore differences in the information discussed at each workshop were expected.

Materials

- Room free of distractions accommodating approximately 10 people
- Ten folding chairs
- *Feeding the Kids* books
- Name tags
- Chat Mats
- “Feeding the Kids” place mats
- Audiotape recorder
- Informed consent feedback questionnaires

The targeted recruitment population for the workshops were English-speaking parents of preschool and school-aged children. Recruitment was limited to two weeks prior to piloting the workshops. Potential participants were recruited from three different locations in San Luis Obispo county using posters and sign-up sheets (Appendix E): A Children’s Garden Preschool, Peace Christian Preschool and Kennedy Club Fitness childcare center. The sign-up sheets were designed to inform potential participants of the topics for discussion, such as minimizing mealtime battles and teaching children to eat healthy foods. It was noted that attendance was free of charge. The lead researcher and discussion facilitator, Lisa Dawes, contacted participants from the sign-up sheets to confirm their interest and reserve a place in the workshops.

Participation in one of the four workshops was voluntary and the workshops took place in July 2010, at Peace Christian Preschool (n=6); at a private residence with parents from A Children’s Garden Preschool (n=5); and two workshops took place at Kennedy Club Fitness (group one n=7, group two n=6). Parents began the workshops by

completing an informed consent (Appendix F) and then answered validated subjective questionnaires which included items addressing their knowledge of nutrition, attitudes and behaviors, and commonalities between their style of parenting and feeding practices (Appendix G). All items on the questionnaire were taken from previously validated studies (Hubbs-Tait, Kennedy, Page, Topham, & Harrist, 2008; Powers, 2005) and questions addressed parents' level of self-efficacy in their perceived ability to make nutrition-related decisions and to set and enforce nutrition-related boundaries for their children. Parents were seated around the tabletop Chat Mat created by graphic designer Sean Hauser. Parents also received a copy of *Feeding the Kids* book and an instructional place mat (Appendix H) created by Lisa Dawes. The place mats emphasized the food rules and food choices. They also were encouraged to use these materials at home to reinforce and personalize the concepts discussed in the workshops.

The discussions were facilitated by the lead researcher Lisa Dawes, registered dietitian, who is trained in creating a supportive, non-threatening environment (Healthy Interactions, Inc. 2007). The role of the facilitator was to elicit solution-focused discussions among participants, and to keep the dialogue on track and factual. During the discussions, participants were encouraged to share ideas with one another and troubleshoot their parenting and nutrition hurdles.

Upon conclusion of the workshops, all participants completed a post-discussion questionnaire (Appendix I). The questionnaire was designed to measure three areas: parents' level of self-efficacy in their perceived ability to make nutrition-related decisions and to set and enforce nutrition-related boundaries for their children; information they

found most useful; and applying rules at home that they thought would be used and those that would be too difficult to use.

Participants were provided a copy of the informed consent and necessary contact information, and if interested, were invited to contact Lisa Dawes for results of the study.

All of the participants (n=24) were contacted via telephone two weeks after participation in the workshops. No participant drop offs occurred in the study. Multiple choice question and answer options were read to participants by the lead researcher and answered by participants, and answers were hand recorded. The researcher proceeded to ask participants subjective, open-ended questions (Appendix J), and recorded the answers with handwritten notes. Subjective questions were designed to measure feelings of *self-confidence* in making nutrition-related decisions; *setting and enforcing* nutrition-related boundaries; *food rules* that were used and found to be helpful; and relay any changes they made with feeding their children.

Ethics

Upon completion of the follow-up telephone interview, participants were mailed twenty-dollar grocery store gift cards from a store of their choice. Confidentiality of participants was protected by keeping all identifying information in a locked cabinet. Participants were identified by code number on data sheets and other paperwork. Only project coordinators had access to the information. After data entry with the identifying number, the participants' personal information was destroyed using a paper shredder. Participants' responses remained private and were presented as anonymous or group data. Deception of subjects was not involved in the research procedure.

Statistical Methods

Questionnaires were coded (Appendix K) based on a four-level categorical variable scale. Items for the regulating construct were reverse coded so that the high score represented the more desirable parenting behavior. The data were entered into Excel and the Minitab program was used for statistical analysis. A 0.05 probability was used to determine statistical significance. The quantitative data were analyzed using paired t-tests, comparing self-efficacy levels pre- (T1), post- (T2), and two weeks post- (T3) intervention.

T2 minus T1 = change in mean behavior between conditions.

T3 minus T2 = change in mean behavior between conditions.

T3 minus T1 = change in mean behavior between conditions.

Parents answered the same subjective, open-ended questions immediately following the workshops (T2) and again via the two-week follow-up (T3) phone interviews. Subjective open-ended questions were analyzed for common feeding trends. This qualitative data was analyzed as descriptive percentages (i.e., out of the 24 respondents, how many (what percent) mentioned a specific construct or food rule).

Variables Measured

Variables were grouped into the following constructs: parents' self-efficacy in ability to make nutrition-related decisions and to set and enforce nutrition-related boundaries; parents behaviors in regulating child foods and meals; parents frequency in tracking, offering, and encouraging specific foods; and parents modeling healthy eating.

The same constructs were measured by the same items on all three occasions (T1, T2, and T3). All self-efficacy parenting nutrition items used the same four-level, categorical variable range: 1=Never, 2=Seldom, 3=Half the time, and 4=Most the time. Five of the questions used to measure food regulation were reverse coded so that the desired behavior (relating to authoritative parenting) resulted in higher scores.

Regulation, tracking, offering, encouraging, and modeling items included:

- Allowing the child to choose what to eat at mealtime.
- Assuming the child would consume too many junk foods if not regulated.
- Offering the child food for good behavior.
- How often they are responsible for deciding the child's portion size.
- How often the child is allowed to choose what will be prepared at mealtime.
- How often the consumption of nutritious foods are tracked.
- How often the consumption of sweets are tracked.
- How often the consumption of dairy is tracked.
- How often the consumption of snack foods are tracked.
- Encouraging consumption of fruits and vegetables at mealtime.
- Encouraging consumption of fruits and vegetables at snack time.
- Modeling consumption of fruits, vegetables, and dairy.
- Modeling consumption of vegetables in restaurants.
- Allowing children to consume sweets.
- Offering fruits, vegetables, and dairy at mealtime.
- Offering fruits, vegetables, and dairy at snack time.

Self efficacy items included:

- Confidence in allowing the child to just look at, play with, or touch certain foods without demanding them to eat it.
- Confidence in ability, if the child states they are full, not to urge them to keep eating.
- Confidence in ability to allow the child to decide if he/she wants to eat or not.
- Confident that if your child bad-mouths the food you make, you can put an end to those comments.
- Confident that if your child refuses to eat certain foods, you will stay calm and feel in control.
- Confidence in ability not to make separate meals for your child if he/she does not want to eat what you have prepared for the family.
- Confidence in ability to stick to a schedule for mealtime and snack time.
- Confidence in ability to prepare or serve healthy meals daily.
- Confidence in ability to eat meals with your child.

CHAPTER III

Results

Analysis of the responses from the pre-intervention (T1), directly post-intervention (T2), and two weeks post-intervention (T3) surveys demonstrated that caregivers who attended the “Feeding the Kids” (FtK) parenting nutrition skills facilitated group discussions (FGD) had increased feelings of self-efficacy in their ability to choose nutritious foods for their children, and to enforce at least one of the food rules from the FGD. In addition, participants reported experiencing fewer mealtime battles after attending the workshops. Specifically, parents’ feelings of self-efficacy in making nutrition-related decisions, and setting and enforcing nutrition-related boundaries were significantly greater both directly after (T2) and two weeks after (T3) participating in the workshops than before participation (T1). Non-FtK discussion topics (topics that were not included in the FtK script, but were discussed in the FGD) were also determined to be helpful by the caregivers at T2 and T3.

Both the quantitative and qualitative data analyses demonstrated that the majority of the participants found the FGD to be helpful in increasing their confidence in making nutrition-related decisions, and in setting and enforcing nutrition-related boundaries, and minimizing mealtime battles.

Characteristics of the Sample

The convenience sample of the study consisted of 21 parents and three grandparents of preschool and school-aged children who voluntarily participated in the parenting nutrition skills workshops (Table 3.1).

Table 3.1. Demographic Data of Participants (n=24)

	Age	Age Range	Hrs/wk work	Days/wk worked	Hr/wk sig other works	Days/wk sig other works	Adults in the home	Children in the home (3-5yr)
A Children's Garden Preschool (n=5)	36 (80% female)	31-40	15	2.4	40	5.6	1.6	1.2
Peace Christian Preschool (n=6)	29 (66% female)	21-41	25	4	33	4.8	1.8	1
Kennedy Club Fitness (grp 1) (n=7)	43* (85% female)	26-64	16.4	5.1	27	4.5	1.8	1.5
Kennedy Club Fitness (grp 2) (n=6)	39** (100% female)	29-54	21.7	3.6	36	4.75	2	1
Total average	37	21-64	20	3.8	34	5	1.83	1.25

* Two grandparents in the group** One grandparent

The FGD format and the Chat Mat were used for all workshops. The workshop questionnaires were given to participants prior to the intervention (T1), immediately following the intervention (T2), and again two weeks after the intervention (T3) via telephone interview.

Four workshops were held with five to seven participants per group. Workshop data was combined and averaged for a total sample of 24 adults.

Caregivers who participated in the workshops ranged from 21–64 years of age, with a mean age of 37 years. The mean age was 34 years when grandparents (n=3) ages were excluded. The majority of caretakers worked an average of 15 to 22 hours per week outside the home (Table 3.1). Significant others (n=18) worked an average of 4.5 to 5.6 days per week and 27 to 40 hours per week. Seventy-five percent of the families had two adults living in the home, with a mean of 1.83 adults per home. The mean number of children living in the home were 2.04 under age 18, and 1.25 between ages 3 and 5 (Appendix L).

The questionnaire given was created from questions previously validated in other studies. The current format of the FtK questionnaire was unique to this study and was designed to measure the following constructs: parents *regulating* the type and quantity of foods consumed by their children (Reg/food); frequency of parents *tracking* consumption of nutritious foods (Frequ/trac); frequency of parents *encouraging* healthy food intake (Enc/hf); parents *modeling* consumption of healthy foods (Mod/hf); and parents *confidence* in ability to make *nutrition-related decisions* and set nutrition-related boundaries (ConNBND). Answers were based on a four-point scale: 1=Never, 2=Seldom, 3=Half the time, 4=Most the time. Regulating responses were coded so that higher scores reflected preferred, authoritative parenting style (Table 3.2).

Table 3.2. Mean Scores ($\pm$ SD) of Measurable Constructs Used in the Validated Questionnaire Pre-intervention (T1) (n=24)

Variable name used in analysis; questions as asked; response levels. ^a			
Variable	Questionnaire Questions	Mean	$\pm$ SD
Reg/food	I allow my child to choose which foods to have for meals. ^b	2.75	0.794
Reg/food	How often do you allow your child to eat sweets, such as ice cream and candy? ^b	2.58	0.584
Reg/food	I offer my child his/her favorite foods in exchange for good behavior.	2.46	1.021
Reg/food	If I did not guide or regulate my child's eating, he/she would eat too much of his/her favorite foods. ^b	1.42	0.654
Reg/food	How often are you responsible for deciding what your child's portion sizes are?	3.75	0.608
Reg/food	How often does your child pick out what you will prepare for him/her at mealtime? ^b	2.42	0.974
Reg/food	If I did not guide or regulate my child's eating, he/she would eat too many junk foods. ^b	3.42	0.584
Freq/trac	How often do you keep track of the nutritious foods your child eats?	3.71	0.751
Freq/trac	How often do you keep track of the sweets (candy, ice cream) your child eats?	3.88	0.612
Freq/trac	How often do you keep track of milk or foods with calcium, like cheese and yogurt your child eats/drinks.	3.75 ^b	0.676
Freq/trac	How often do you keep track of the snack foods your child eats?	3.63	0.770
Enc/hf	How often do you encourage your child to eat fruits at mealtime?	3.83	0.482
Enc/hf	How often do you encourage your child to eat vegetables at mealtime?	3.46	0.884
Enc/hf	How often do you encourage your child to eat fruit at snack time?	3.54	0.509
Enc/hf	How often do you encourage your child to eat vegetables at snack time?	2.50	0.978
Enc/hf	How often do you encourage your child to eat/drink foods that contain calcium, like cheese, yogurt and milk?	3.78 ^b	0.422
Mod/hf	I eat vegetables when I am with my child.	3.67	0.869
Mod/hf	I eat fruit when I am with my child.	3.96	0.204
Mod/hf	I eat/drink foods that contain calcium, such as cheese, yogurt, and milk when I am with my child.	3.70 ^c	0.559
Mod/hf	I eat vegetables at restaurants when I am with my child.	3.67	0.868
Mod/hf	I eat salads at dinner when I am with my child.	3.54	0.779
Offer/hf	I offer my child vegetables with meals.	3.63	0.495
Offer/hf	I offer my child fruit with meals.	3.71	0.550
Offer/hf	I offer my child food/drinks that contain calcium, like cheese, yogurt and milk.	3.83 ^c	0.388
Offer/hf	I offer my child fruit for snacks.	3.54	0.658
ConNBND	I offer my child vegetables for snacks.	2.42	0.929
ConNBND	How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his/her plate without demanding your child to eat the food?	2.42	1.018
ConNBND	How confident are you in your ability, if your child says he or she is full, to not urge your child to keep eating?	2.88	0.947
ConNBND	How confident are you in your ability to allow your child to decide if he or she wants to eat or not?	2.54	1.021
ConNBND	How confident are you that if your child "bad mouths" the food you make, you can put a stop to those comments?	2.96	0.908
ConNBND	How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control?	3.04	0.908
ConNBND	How confident are you in your ability to not make a separate meal for your preschool child if he or she does not want to eat the meal prepared for the family?	2.67	1.167
ConNBND	How confident are you in your ability to stick to a schedule for meals and snacks for your child?	3.04	0.908
ConNBND	How confident are you in your ability to prepare or serve healthy meals daily?	3.17	0.868
ConNBND	How confident are you in your ability to eat meals with your child?	3.50	0.659

^a 1=Never, 2=Seldom, 3=Half the time, 4=Most the time

^b reverse coded: 1=less desired parenting, 4 = more desired parenting

^c two parents responded '1 never' for children with food allergy to milk

Regulating. Parents were found to have variability in mean scores that measured the regulating construct. Items measured at T1 were: parents responsible for their child's portions sizes ($M = 3.75, \pm SD 0.608$); allowing their children to consume sweets ($M = 2.58, \pm SD 0.584$); allowing child to choose which foods to have for meals; ($M = 2.75, \pm SD 0.794$); feeling the need to regulate favorite foods to avoid over consumption ($M = 1.42, \pm SD 0.654$); offering child his/her favorite foods in exchange for good behavior ($M = 2.46, \pm SD 1.021$); and frequency of allowing child to pick foods for meal ($M = 2.42, \pm SD 0.974$). Many of the regulating construct items represent a less desired parenting style (i.e., the negative authoritarian or permissive parenting styles versus positive authoritative parenting) and therefore were reverse coded so that higher scores represented the more desirable parenting behavior. Results demonstrated that most parents regulated their child's food intake and increased the likelihood of significant mean change would occur after the intervention.

Tracking. Parents had high mean scores for the tracking construct at T1: tracking nutritious foods ($M = 3.71, \pm SD 0.751$); sweets ($M = 3.88, \pm SD 0.612$); snack foods ($M = 3.63, \pm SD 0.770$); and calcium-rich foods and beverages ($M = 3.75, \pm SD 0.676$). At T1 most parents were already tracking their children's intake and, therefore significant increases in tracking scores at T3 were not as likely.

Encouraging. Caregivers had high means scores for the encouraging construct at T1. Questions designed to measure the construct were, how often did caregivers: encourage their children to eat; fruits at mealtimes and snacks ($M = 3.83, \pm SD 0.482$ and $M = 3.54, \pm SD 0.509$); vegetables at mealtime ($M = 3.46, \pm SD 0.884$); and calcium-rich beverages and foods ($M = 3.78, \pm SD 0.422$). Two parents attending the workshop had a

son who was allergic to dairy and, therefore responded ‘never’ for encouraging consumption of dairy. Prior to the intervention (T1), parents scored high on the “encouraging” construct and, therefore significant increases in scores at T3 were not expected for this construct. Parents encouraging their children to eat vegetables as a snack resulted with a mean of 2.50 ($\pm$ SD 0.978), which indicates there was room for score increases with this particular “encouraging” construct at T3.

Modeling. Parents had high mean scores for the modeling construct at T1. Questions designed to measure this construct were, how often caregivers: ate vegetables when they were with their child ($\bar{x}$ = 3.67, $\pm$ SD 0.869); how often they ate fruit when they were with their child ($\bar{x}$ = 3.96, $\pm$ SD 0.204); how often they ate/drank calcium-rich food and drinks when they were with their child ($\bar{x}$ = 3.70, $\pm$ SD 0.559); how often they ate vegetables at restaurants when they were with their child ($\bar{x}$ = 3.67, $\pm$ SD 0.868); and how often they ate salads when they were with their child ($\bar{x}$ = 3.54, $\pm$ SD 0.779). High mean scores resulted at T1 in the “modeling” construct and, therefore significant increases in these scores were not anticipated at T3.

Offering. Caregivers scored high in the offering construct at T1. Questions were designed to measure how often they offered: vegetables with meals ($\bar{x}$ = 3.63, $\pm$ SD 0.495); fruit with meals ($\bar{x}$ = 3.71, $\pm$ SD 0.550); calcium-rich beverages and food ($\bar{x}$ = 3.83, $\pm$ SD 0.388); and fruit for snacks ($\bar{x}$ = 3.54, $\pm$ SD 0.658). Significant increases at T3 with these questions were not expected because of the high mean scores at T1. Parents had low mean scores at T1 for offering vegetables as snacks ($\bar{x}$ = 2.42, $\pm$ SD 0.929) therefore a mean score increase for this question was more likely at T3.

Confidence. Nine items were used to measure parents confidence in their ability to make nutrition-related decisions, set and enforce nutrition-related boundaries for their children, and to stay calm and in control if their children refuse to eat certain foods. Four confidence construct items had high mean scores at T1: ability to stick to a schedule for meals and snacks ($M = 3.04, \pm SD 0.908$); to prepare and serve healthy foods for the family ($M = 3.17, \pm SD 0.868$), and to eat meals with their children ($M = 3.50, \pm SD 0.659$). Parents were less confident in their ability to let food sit on their child's plate without demanding he/she 'eat it' ($M = 2.42, \pm SD 1.1018$); not to urge their child to eat more after indicating that he/she was full ($M = 2.88, \pm SD 0.947$); to put a stop to their child's "bad-mouthing the food" comments ($M = 2.96, \pm SD 0.908$); and in their ability not to make separate meals for their child if he/she did not like what was prepared ($M = 2.67, \pm SD 1.167$). Following the nutrition intervention, higher mean scores with the "confidence" construct were anticipated immediately following the post- (T2) and two weeks post-intervention (T3), because the pre-intervention (T1) mean scores for confidence were low and, therefore had room for improvement.

Hypothesis 1 Results

Directly after participation in a structured parenting nutrition skills (T2) facilitated group discussion, parents' self-efficacy scores for preparing and offering nutritious foods; in making nutrition-related decisions; and in setting and enforcing nutrition-related boundaries for their children were statistically significantly greater compared to before (T1) their participation. Results were calculated from T2 mean score minus T1 mean score.

T1 and T2 mean scores were statistically analyzed using paired t-tests to measure the change in confidence levels in parents and caregivers' ability to make nutrition-related decisions and set nutrition-related boundaries (Table 3.3). Using a four-level confidence scale (1=Not confident, 2=Somewhat confident, 3=Confident, 4=Very confident), T1 and T2 results were compared and evaluated.

Table 3.3. Comparison of Mean Scores Pre- (T1) and Post- (T2) Intervention and Paired T-tests for parents' and caregivers' confidence in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries.* (n=24)

Questionnaire Questions	Mean Difference	±SD	95% CI Range	P-Value
Parents confidence in ability to allow the child to look at, play with or touch certain foods on his or her plate without demanding them to eat it.	1.065	0.871	0.714, 1.417	0.000
Parents confidence in ability not to urge the child to continue eating when they state they are full.	0.627	1.027	0.213, 1.042	0.005
Confidence in ability to allow their child to decide if he or she wants to eat or not.	0.744	0.969	0.352, 1.135	0.001
Confidence in ability to put a stop to their children "bad-mouthing" the food that was prepared for them.	0.397	1.167	-0.074, 0.869	0.095
Confidence in ability to stay calm and in control if your child refuses to eat.	0.353	1.057	-0.074, 0.780	0.101
Confidence in ability not to make separate meals for your child.	0.668	1.233	0.170, 1.166	0.668
Confidence in ability to schedule meals and snacks.	0.317	0.616	0.068, 0.566	0.015
Confidence in ability to prepare healthy meals daily.	0.310	0.888	-0.049, 0.668	0.087
Confidence in ability to eat meals with your child.	0.196	0.568	-0.033, 0.425	0.090

*Levels: 1=Not confident, 2=Somewhat confident, 3=Confident, 4=Very confident

Four of the nine confidence construct items demonstrated statistical significance when T1 and T2 mean scores were compared. Items resulting in significance were: ability

not to urge their child to keep eating if he/she states they are already full; to allow the child to decide if he/she wants to eat or not; and ability to stick to a schedule with meals and snacks for the child. Significance was not established for five of the items, specifically for parents confidence in their abilities to: allow the child to just look at, play with, or touch certain foods on their plate without demanding the child to eat; if the child “bad-mouths” the food, can put a stop to those comments; if the child refuses to eat, you will stay calm and feel in control; not to make separate meals for your child if he/she does not want to eat the meal that was prepared for the family; prepare healthy foods daily; and to eat meals with your child. These items had very high scores at T1, therefore little room was available for increases in scores from T1 to T2, which may explain why significance was not established for these questions.

Directly after participating in the workshops (T2) open ended responses revealed caregivers’ feelings of self-efficacy varied regarding setting and enforcing nutrition-related boundaries. For example 2 out of 24 (8%) caregivers stated that they were much more confident in enforcing rules in their home and 13 out of 24 (54%) stated that they were confident in their ability to use the food rules with their children. When asked if they gained adequate information from the workshops, 24 parents out of 24 (100%) stated they did receive adequate information. One parent stated, although she gained adequate information, she felt somewhat uneasy about offering her child a meal and not making a separate meal for her if she refused the prepared meal, but was certainly willing to try the food rules. When asked if their questions were answered and their concerns were addressed, 24 out of 24 (100%) parents answered yes. One parent stated she loved the group discussion, another mentioned that they heard some great new ideas and are going

to try them with their children, and two parents stated the information was excellent and valuable.

Intended behavior change. Parents were asked about their expectations for using the food rules within their own homes and completed open-ended questions on the T2 questionnaire immediately following the workshops. Participants were asked what information they intended on using with their families and why. Parents could list as many FtK rules and peer-generated behaviors/parenting strategies that had been discussed during the workshop, and therefore the total number of expectations listed was greater than 24.

At T2, six out of 24 (25%) participants planned on scheduling meals and snacks. Five out of 24 (21%) planned on using the “just look at it” rule. Three out of 24 (13%) stated they were planning on using the “no bad-mouthing the food” rule. Four out of 24 (17%) stated they planned on “ignoring food rejection” and not getting frustrated if their child did refuse the meal. Six out of 24 (25%) stated they were using the “no separate meals” rule. Two out of 24 (8%) parents stated they were going to use the “eat together when you can” rule. Two out of 24 (8%) parents stated they were planning on using all of the food rules. Of the rules and information they intended on using at home four out of 24 participants (17%) stated they were planning on offering new foods more than once, even if their child refused the food the first time it was offered. Two out of 24 (8%) participants stated they were going to use the “modeling healthy eating” food rule with their children. Two out of 24 participants (8%) were interested in minimizing mealtime battles. Three out of 24 participants (13%) stated they planned on offering fruits and vegetables at snack and mealtime. Three out of 24 participants (13%) stated they planned on involving their children in the preparation of the meal in order to increase the

likelihood of their child eating the meal that they helped to prepare. Three out of 24 participants (13%) planned on using a sticker chart to track successes discussed during the workshops. Two out of 24 participants (8%) stated they were planning on turning the television off during mealtime. These results demonstrated that most of the caregivers who participated in the workshops intended on changing a variety of their child feeding behaviors, and to implement the new information.

Further open ended responses demonstrated the concerns and interests of the participants directly after the workshops. Responses were as follows: Eight out of 24 (33%) participants stated that the formation of healthy habits was important for their family because they love their children and want them to grow up healthy and form healthy habits of their own and that bad habits are hard to break. Three out of 24 (13%) parents stated they chose “not to make separate meals” because their children are picky eaters and they always make separate meals. They saw the benefit of the rule, but thought it would be difficult for them to follow through. Two out of 24 (8%) participants stated that it was important for their children to eat or at least try the meal they have prepared. Two out of 24 (8%) participants stated they needed to let go of some of the control they have exerted over their child’s eating and one parent (4%) stated she needed to increase her patience regarding her child’s eating. Three out of 24 (13%) participants stated they wanted mealtime to become a happy time, and did not want to deal with their children throwing fits over food anymore. Two out of 24 (8%) participants stated that they wanted to start dining out with their son without the bad behavior. Three out of 24 (13%) participants thought “timing meals and snacks” would be difficult, but recognized the benefit of following the rule. One parent stated that her family is always on the go and she has always had snacks available for her kids because she feels guilty if her kids are

hungry. One out of 24 (4%) parents stated they wanted to set a good example for their children so that they will grow up to be healthy.

Behaviors anticipated to be difficult to use (T2). Participants were asked directly after participation which FtK rules seemed most difficult to follow. The results are as follows: Eight out of 24 (33%) participants stated the “no making separate meals.” Four out of 24 (17%) participants stated “ignoring food rejection.” One out of 24 (4%) mentioned, “notice when your own stomach is full.” Two out of 24 (8%) mentioned, “Just look at it” and had concerns that their children would not end up eating anything. Four out of 24 (17%) stated “timing meals and snacks” because they were worried about their children becoming hungry. Five out of 24 (21%) participants stated “offering healthy foods for snack and meals” and “not getting frustrated if their children did not eat them” because their children are picky and know they will probably end up not eating the healthy food option. One out of 24 (4%) participants stated that “modeling healthy eating” would be difficult because they are picky eaters too. Four out of 24 (17%) mentioned turning off the television during mealtime. Two out of 24 (8%) participants stated dining out with their son was still going to be difficult. They said that they have done it in the past and “it wasn’t pretty.” Two out of 24 (8%) participants mentioned it was going to be difficult to give up some of the control with respect to their kids eating. They stated that their kids are with their dad half the time and he gives in to the kids all the time.

Hypothesis 3 Support

Behaviors associated with an authoritative parenting style will be higher after participating in the FGD. Parenting behaviors associated with authoritative parenting style include: Parents decreased **regulation** of food consumed; **tracking frequency** of

child's nutrient-dense food intake to regulate overall diet; **encouraging** nutrient-rich food consumption; **modeling** healthy eating; and **frequency of offering** nutrient-dense foods.

Pre- (T1) and two weeks post- (T3) intervention mean scores and paired t-tests, measuring the caregivers frequency of regulating food consumed by their children, and their ability to allow their children to make their own food based decisions were compared (Table 3.4).

Table 3.4. Comparison of Mean Scores Pre-intervention (T1); Two Weeks Post-intervention (T3); and Paired T-tests for parents and caregivers regulating type and quantity of food consumed and ability to allow the child to make their own food-based decisions* (n=24)

Questionnaire Questions	Mean Difference	±SD	95% CI Range	P-Value
Parent allows child to choose foods to have with meals	3.54	0.936	-.025, .732	0.066
Child would consume too many junk foods if parent didn't guide or regulate their eating.	-0.263	0.883	-.0.620, 0.094	0.141
Parent offers child food for good behavior.	0.597	0.851	0.254, 0.941	0.001
Child would consume too much of their favorite food if parents didn't guide or regulate their eating.	0.001	0.707	-0.291, 0.293	0.994
How often the parent is responsible for deciding their child's portion size.	0.152	0.467	-0.0362,0.0362	0.109
How often the child chooses the foods to be prepared at mealtime.	0.123	0.1.268	-0.646, 0.401	0.633

*1=Never, 2=Seldom, 3=Half the time, 4=Most the time

This analysis was performed in addition to T3 minus T2 to determine if responses (prior to any workshop discussion) at T1 were a stable measure of family feeding issues and strategies. Results were based on a four-point scale (1=Never, 2=Seldom, 3=Half the time, 4=Most the time). Significant results were established in the “regulating” construct

when data from T3 and T1 were compared, specifically with the following question: How often do you offer your children food for their good behavior? Significance was not established for: How often do they allowed children to choose the foods that they will have with their meals; my child would consume too many junk foods if I did not guide or regulate their eating; my child would consume too much of their favorite food if I did not guide or regulate their eating; I am responsible for deciding what my child's portions are; and I allow my child to choose which foods will be prepared at mealtime. These results demonstrated that most parents were not comfortable giving up the control they exerted over their child's intake two weeks post-intervention (T3).

Pre-intervention (T1) and two weeks post-intervention (T3) mean scores and paired t-tests measuring food-tracking trends of parents and caregivers were compared (Table 3.5). A four-point scale was used (1=Never, 2=Seldom, 3=Half the time, 4=Most the time) to measure the "tracking" construct.

Table 3.5. Comparison of Mean Scores Pre-intervention (T1) and Two Weeks Post-intervention (T3) and Paired T-tests for parents and caregivers frequency of tracking consumption of nutritious foods, calcium-rich foods and drinks, snack foods, and sweets* (n=24)

	Mean Difference	$\pm$ SD	95% CI Range	P-Value
Tracking nutritious food intake of the child.	0.040	0.774	-0.273, 0.352	0.796
Tracking sweets intake of the child.	0.097	0.605	-0.148, 0.341	0.423
Tracking the calcium-rich food/drink of the child.	0.182	0.704	-0.102, 0.467	0.199
Tracking the snack food consumption of the child.	0.299	0.751	-0.005, 0.602	0.053

*1=Never, 2=Seldom, 3= Half the time, 4=Most the time

Two weeks post- (T3) and pre- (T1) construct data were compared and significant results were not found in the tracking construct. T1 mean scores were high and, therefore significant increases were not expected when T2 and T3 data were compared.

Pre- (T1) and two weeks post- (T3) mean scores and paired t-tests were compared for parents and caregivers frequency of encouraging children to eat certain types of foods (Table 3.6). A four-point scale was used (1=Never, 2=Seldom, 3=Half the time, 4=Most the time) to measure the “encouraging” construct.

Table 3.6. Comparison of Mean Scores Pre- (T1) and Two Weeks Post- (T3) Intervention and Paired T-tests for how often parents encourage their children to eat fruit, vegetables, and calcium-rich food/beverages at snack and mealtime, and how often parents allow their children to eat less nutritious foods* (n=24)

Question	Mean Difference	±SD	95%CI Range	P-Value
Encourage child to eat fruit at mealtime.	0.110	0.086	-0.0671, 0.2862	0.213
Encourage child to eat vegetables at mealtime.	0.455	0.879	0.099, 0.810	0.014
Encourage child to eat fruit at snack time.	0.352	0.489	0.1544, 0.5493	0.001
Encourage child to eat vegetables at snack time.	0.679	0.788	0.361, 0.997	0.000
Encourage child to eat/drink calcium-rich foods/drinks.	0.158	0.477	-0.0382, 0.3551	0.109
Allow child to eat sweets.	0.279	0.532	0.064, 0.493	0.013

*1=Never, 2=Seldom, 3= Half the time, 4=Most the time

Significance was demonstrated for 4 out of the 6 frequency of encouraging items: How often do you encourage your children to eat vegetables at mealtime, fruit at snack time, vegetables at snack time, and how often do you allow your children to eat sweets such as ice cream and candy? Significance was not established for the following two items: How often do you encourage your children to eat fruit at mealtimes and consume calcium-rich foods and beverages?

Pre- (T1) and two weeks post- (T3) intervention mean scores and paired t-tests were compared for the modeling items (Table 3.7). A four-point scale was used (1=Never, 2=Seldom, 3=Half the time, 4=Most the time) to measure the five “modeling” constructs.

Table 3.7. Comparison of Mean Scores Pre- (T1) and Two Weeks Post- (T3) Intervention and Paired T-tests for parents and caregivers modeling the consumption of healthy foods at snack and mealtime such as fruit, vegetables, and calcium-rich food and beverages* (n=24)

	Mean Difference	±SD	95% CI Range	P Value
I eat vegetables when I’m with my child.	0.255	0.891	-0.105, 0.615	0.157
I eat fruit when I’m with my child.	0.075	0.394	-0.2341, .0841	0.341
I eat/drink calcium-rich foods/drinks when I’m with my child.	0.198	0.415	0.0264, 0.3693	0.026
I eat vegetables at restaurants when I’m with my child.	0.075	0.394	0.0840, 0.2342	0.340
I eat salads at dinner when I’m with my child.	0.044	0.599	-0.198, 0.286	0.711
*1=Never, 2=Seldom, 3= Half the time, 4=Most the time				

One out of the four items demonstrated significance: How often do you eat and drink calcium-rich food and beverages such as cheese, yogurt, and milk when you are with your child? Significance was not established for the modeling construct when data from T3 and T1 were compared for the following questions: How often do you eat vegetables when you are with your child, fruit when you are with your child, vegetables at restaurants when you are with your child, and salad at dinner when you are with your child? Significant results were unlikely for the modeling construct at T3 because mean

scores for this construct at T1 were high, which left little room for upward movement in scores.

Pre- (T1) and two weeks post- (T3) intervention mean scores and paired t-tests were compared for how often caregivers offered certain food to their children (table 3.8) A four-point scale was used (1=Never, 2=Seldom, 3=Half the time, 4=Most the time) to measure the “offering” constructs.

Table 3.8. Comparison of Mean Scores Pre- (T1) and Two Weeks Post- (T3) Intervention and Paired T-tests for the **frequency** in which parents and caregivers **offer** their children fruit, vegetables, and calcium-rich food and beverages with meals and snacks* (n=24)

	Mean Difference	±SD	95% CI Range	P-Value
Offer vegetables to child with meals.	0.309	0.478	0.1164, 0.5023	0.003
Offer fruit to child with meals.	0.120	0.613	-0.091, 0.404	0.205
Offer calcium-rich foods/drinks to child.	0.152	0.388	-0.0086, 0.3115	a0.063
Offer child fruit for snacks.	0.383	0.585	0.147, 0.620	0.003
Offer vegetables for snacks.	0.802	0.799	0.479, 1.125	0.000

*1=Never, 2=Seldom, 3=Half the time, 4=Most the time

Statistically significant increases were seen with 3 out the 5 items designed to measure how often parents offer healthy foods to their children when T1 and T3 mean scores and paired t-tests were compared. Significance was established for the following: I offer my child vegetables with meals; offer fruit for snacks; and offer vegetables for snacks.

Significance was not established for the following: I offer my child fruit with meals, and foods and drinks that contain calcium like cheese, yogurt, and milk.

T1 and T3 mean scores and paired t-tests measuring the change in confidence levels in parents' and caregivers' ability to make nutrition-related decisions and set nutrition-related boundaries were compared (Table 3.9). A four-point scale was used (1=Never, 2=Seldom, 3=Half the time, 4=Most the time) to measure the “confidence” constructs

Table 3.9. Comparison of Mean Scores Pre- (T1) and Two Weeks Post- (T3) Intervention and Paired T-tests for parents' and caregivers' confidence in their ability to make nutrition-related decisions, and to set and enforce nutrition- related boundaries* (n=24)

Questionnaire Questions	Mean Difference	±SD	95%CI Range	P Value
Parents confidence in their ability to allow their child to just look at, play with, or touch certain foods on his or her plate without demanding their child to eat the food.	1.273	1.007	0.857, 1.689	0.000
Parents confidence in ability not to urge child to continue eating when they state they are full.	0.778	0.930	0.394, 1.162	0.000
Confidence in ability to allow their child to decide if he or she wants to eat or not.	0.286	0.974	0.636, 1.423	0.000
Confidence in the parents ability to put a stop to their child “bad mouthing” the food that was prepared for them.	0.713	0.925	0.339, 1.086	0.001
Confidence in ability to stay calm and in control if the child refuses to eat.	0.741	0.886	0.383, 1.099	0.000
Confidence in ability not to make separate meals for the child.	1.014	1.149	0.550, 1.478	0.000
Confidence in ability to schedule meals and snacks.	0.707	0.692	0.423, 0.982	0.000
Confidence in ability to prepare healthy meals daily.	0.622	0.710	0.335, 0.909	0.000
Confidence in ability to eat meals with their child.	0.407	0.581	0.167, 0.647	0.002

*1=Not confident, 2=Somewhat confident, 3=Confident, 4=Very confident

Nine items were designed to measure parents confidence and the all nine items resulted in significance when T1 and T3 mean scores were compared: parents ability allow their child to just look at, play with, or touch certain foods on their plate without demanding the child to eat; not to urge the child to keep eating if the child states that they are full; to allow the child to decide if he/she wants to eat or not; if the child “bad-mouths” the food, you can put a stop to those comments; if the child refuses to eat certain foods, you will stay calm and feel in control; not to make separate meals for the child if he/she does not want to eat the meal prepared for the family; stick to a schedule with meals and snacks for their child; to prepare healthy meals daily and in ability to eat meals with their child.

Post- T2 and two weeks post- T3 intervention mean scores and paired t-tests measuring the change in levels of self-efficacy in caregivers’ ability to make nutrition-related decisions and set nutrition-related boundaries were compared (Table 3.10). Results were based on a four-point confidence scale (1=Not confident, 2=Somewhat confident, 3=Confident, 4=Very confident).

Table 3.10. Comparison of Mean Scores Post-intervention (T2) and Two Weeks Post-intervention (T3) and Paired T-tests for parents' and caregivers' confidence in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries* (n=24)

Questionnaire Questions	Mean Difference	±SD	95% CI Range	P-Value
Parents confidence in ability to allow their child to just look at, play with, or touch certain foods on his or her plate without demanding their child to eat the food.	0.165	0.472	-0.030, 0.360	0.093
Parents confidence in ability not to urge child to continue eating when they state they are full.	0.206	0.577	-0.032, 0.444	0.087
Confidence in ability to allow the child to decide if they want to eat or not.	0.286	0.599	0.044, 0.528	0.022
Confidence in the parents ability to put a stop to their child "bad mouthing" the food that was prepared for them.	0.315	0.618	0.066, 0.565	0.015
Confidence in ability to stay calm and in control if child refuses to eat.	0.388	0.704	0.103, 0.672	0.009
Confidence in ability not to make separate meals for the child.	0.346	0.346	0.064, 0.628	0.018
Confidence in ability to schedule meals and snacks.	0.385	0.583	0.150, 0.620	0.002
Confidence in ability to prepare healthy meals daily.	0.313	0.474	0.1210, 0.5039	0.002
Confidence in ability to eat meals with their child.	0.203	0.420	0.0337, 0.3720	0.021

*1=Not confident, 2=Somewhat confident, 3=Confident, 4=Very confident

Seven of the ten items designed to measure parent's confidence, demonstrated significant findings when T2 and T3 data were compared. Items resulting in significance were:

ability to allow their child to decide if he or she wants to eat or not ; If their child bad-mouths the food they have prepared for the family, the parent can put a stop to those comments; to stay calm and feel in control if their child refuses to eat certain foods; not to make separate meals for their child if he/she does not want to eat the meal prepared for the family; to stick to a schedule with meals and snacks for their child; prepare or serve healthy meals daily; and to eat meals with their child. Significance was not established

for: Parents' confidence in their ability to allow their child to just look at, play with, or touch certain foods on their plate without demanding the child to eat; and not to urge the child to keep eating when they say they are full.

Two weeks post-intervention (T3). On the telephone follow up participants were asked if they were confident in using the rules they learned. Twenty-four out of 24 (100%) parents stated they were confident that they could use the FtK rules, the workshops provided adequate information, and the workshops addressed their concerns and answered their questions.

Parents were asked which tools they had used over the last two weeks. Five out of 24 (21%) stated they were scheduling meals and snacks, and stated their children were eating more at mealtime because they were consuming fewer snacks. Two out of 24 (8%) parents were modeling healthy eating and are ignoring food rejection. One parent stated, "My child refused dinner and he went to bed without eating. He ended up eating a huge breakfast the next morning." Another parent stated, "I wrap their meal up now and if they don't eat it they can have it later." Two out of 24 (8%) stated they are using the "no bad-mouthing the food" rule, and it is working well. Four out of 24 (17%) stated they are using the "just look at it" rule. One parent stated it was hard to use because their daughter is so skinny. Another parent stated that mealtime has become much easier because of this rule. Another parent stated, "I am much more comfortable allowing my son to just look at the food I've prepared for him, and not get stressed out if he doesn't eat it." The hypothesis which predicted that behaviors associated with an authoritative parenting style will be significantly higher two weeks after participating in the workshops was confirmed with these data.

Participants were asked during the follow-up telephone interview (T3) if the tools discussed during parenting workshop were difficult to use. Responses included: Fifteen out of 24 (63%) participants stated the rules were not too difficult to use. “The entire family has made healthy changes, the rules are working well, my kids have rejected foods, but I’m not stressing out about it anymore.” “This hasn’t been as difficult as I thought.” “It was difficult for me to schedule snacks between lunch and dinner.” “I realized I can’t control everything so I feel less stressed out.” “It was a little hard because my son gets whatever he wants at his dad’s house and then I become the bad guy.”

Participants generated discussion topics and solutions to feeding issues during the FGD, which were not a part of the pre-determined script. During the follow-up telephone interview, participants were asked which information they found most helpful and most difficult to use. The responses were as follows for the non-FtK topics: Three out of 24 (13%) stated they turned off the television during mealtime. One parent stated she thought it would be an impossible task, but when she introduced the new rule to her children, they were okay with it. Three out of 24 (13%) participants included their children in the preparation of the meal, and in shopping for groceries, which is helpful in getting children to try new foods. Two out of 24 (8%) participants stated they were providing their children with much healthier snacks. One parent (4%) stated that they eliminated fruit chewies and cookies as snacks. She also stated that she no longer assumes that her son will not like certain foods. “He’s snacking on carrot sticks now. He actually loves carrot sticks, especially if they are sliced like they slice them at school”. One parent used the nutrition knowledge from the FGD and changed the snack menu at her daughter’s preschool, which now includes fruit, vegetables, milk, and 100% fruit juice. Parents not making assumptions about their child’s “food likes” and “food dislikes”

seemed to be effective in caregivers offering a variety of foods to their children, especially if they used the “ignoring food rejection” rule. One out of 24 (4%) participants stated, “It’s comforting knowing that I’m not alone with all of these food issues.”

Participants provided unsolicited information about the workshops during the telephone interview and the results were as follows: Eleven out of 24 (46%) participants stated that mealtime was much less stressful and more enjoyable and realized their children are hungrier on some days than others. One caregiver stated they felt less stressed at mealtime because they knew they could rely on the rules and other information they received. Four out of 24 (17%) participants stated that they no longer made assumptions about their children disliking certain foods, and they learned about nutrition. Five out of 24 (21%) parents stated that mealtime is now a happy time. One parent (4%) stated that her son no longer has free access to food, which has increased the amount of food he is eating at mealtime.

CHAPTER IV

Discussion

After participating in the FGD, parents' and grandparents' feelings of self-efficacy significantly increased regarding their ability to set and enforce nutrition-related boundaries for their preschool and school-aged children. This result persisted after two weeks as measured by phone interview. Confidence increased specifically in caregivers' ability to allow their children to just look at the food provided to them without demanding them to eat it; to not urge their children to continue eating after they stated they were full; allowing their children to decide whether or not they wanted to eat; and in their ability to schedule meals and snacks. These findings were unexpected because caregivers demonstrated high levels of confidence in these areas prior to participating in the workshops. The results demonstrated the efficacy of the FGD model of nutrition education with caregivers of preschool and school-aged children.

Self-efficacy was generally seen to persist in the two weeks post-intervention. Parent behaviors such as purchasing and offering nutritious foods, in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries for their children were all important changes in parenting behaviors at home. Past research has demonstrated that greater feelings of self-efficacy in a specific area leads to behavior change in that specific area because the individual feels confident in their ability to make changes (AbuSabha et al., 1997). In the FtK FGD study, increased levels of self-confidence were demonstrated in caregivers' ability to set boundaries, a hallmark of authoritative parenting. After the workshops parents reported being able to allow the child to decide if he or she wants to eat or not; to put a stop to their children bad-mouthing the

food prepared for the family; to stay calm and in control if their children refused to eat; not to make separate meals for their children; to schedule meals and snacks; to prepare healthy meals daily; and in their ability to eat meals with their children.

The flexibility of the FGD is an important benefit to the method. One mother had a difficult time understanding why the “no bad-mouthing the food” rule was important. She was not convinced by the facilitator’s explanation. Other participants chimed in with their own ideas of why this particular rule was important to follow, and the mother then expressed an understanding of the rule’s importance. Both social support and observational learning are demonstrated by this interchange.

Parents’ increased level of confidence in their ability to allow their children to decide if they want to eat or not was a surprising finding because prior to the intervention, parents indicated at T1 that they thought this would be a difficult rule to follow. During the discussion, parents had many questions for the facilitator on how they could implement this rule in their home. The facilitator as part of the FGD could then role-play with the parents allowing them to practice using the authoritative parenting strategies, giving parents a better understanding of how the strategies worked. The FGD provided an arena for the participants to discuss the possible barriers to implementing the strategies.

Without prompting, caregivers stated that they felt less stressed at mealtime, and found mealtime to be more enjoyable. Feeling less stress around the family meal is a significant improvement for most families. Most parents found the FtK food rules and/or participant-generated strategies helpful in getting their children to eat a variety of healthy food, with fewer food-related battles. Thirty-eight percent of caregivers reported using two or more of the food rules during the two-week period of time following the workshops. The most popular food rules used by the participants were “scheduling meals

and snacks,” “modeling healthy eating,” “ignoring food rejection,” “no bad-mouthing the food,” and “just look at it.”

Parents experienced the benefits of scheduling meals and snacks and many noticed that their children were hungry at mealtime and were more open to trying new foods and eating the foods that were prepared. Common comments among parents at T3 were that food-related battles were no longer an issue and, therefore their children were more open to trying new foods. Self efficacy was enhanced by these small successes which in turn motivated the parents to continue the authoritative parenting behaviors. It is the parent’s responsibility to break the cycle of feeding distortion, which explains the back and forth behavior of parent and child (the child reacts to food in an undesirable way, which results in the parent attempting to control the child, which in turn causes the child to respond to the parent with undesirable behaviors) (Satter, 2000).

Research has demonstrated the benefits of modeling healthy eating and its positive impact on getting children to eat healthfully (Rhee, 2008). Caregivers modeling healthy eating benefits the child, as well as the caregiver, and may have a positive effect, rippling outward with family and friends. It is likely that parents who are picky eaters may create children with similar food issues (Satter, 2007). Children model what their parents eat and, therefore, parents who are picky eaters provide their children with less exposure to a variety of foods, which limits their intake (Rhee, 2008; Satter, 2007).

“Ignoring food rejection” and the “just look at it” food rules were found to be helpful for increasing the child’s exposure to a variety of foods and reducing mealtime stress. Mealtime stress was reduced because parents no longer expected their children to eat the food that was presented to them, and were satisfied with their children just looking at the food on their plate. Pressuring a cautious eater to consume foods they are reluctant

to eat can make the food struggle between parent and child worse and increase mealtime stress (Satter, 2000). In a review of Wardel et al.'s research, 2003, it was described that children may require 10 or more exposures to a new food before they decide to try it and, therefore it is important to continue offering foods even if the child initially refuses the them (Rhee, 2007). Using the “just look at it” rule can increase the likelihood that the child will try the new food.

Hubbs-Tait, Kennedy, Page, Topham, and Harrist (2008) found that “parental perceptions of responsibility and parental modeling, monitoring, encouraging of healthy eating, and restriction significantly predicted positive authoritative parenting.” Many of the FtK food rules were based on authoritative parenting strategies such as encouraging and modeling desired eating behaviors and providing the child with choices rather than having the parent make all of the decisions. Research has demonstrated the effectiveness of the authoritative parenting style, which is characterized by high parental affection and responsiveness to the child, as well as high expectations and respectful limit setting (Arredondo et al., 2006; Blissett and Haycraft, 2007; Hubbs-Tait et al., 2008; Golan and Crow, 2004). This parenting style has been associated with children who demonstrate increased independence and self-control (Hubbs-Tait et al., 2008).

It is important to consider parenting styles and family dynamics when nutrition practitioners are providing obesity treatment with their clients if behavior change is to occur (Hubbs-Tait et al., 2008), and eating behaviors of children cannot easily be separated from the eating behavior of the family (Powers, 2005). Hubbs-Tait et al. (2008) found modeling and encouraging healthy eating were parenting characteristics that were associated with the authoritative style of parenting, and permissive and authoritarian parents were found to eat fewer healthy foods than authoritative parents. Satter (2000)

described authoritative feeding as a method that takes more knowledge, energy, patience and understanding than authoritarian and permissive parenting, but results in children who are self-reliant, self-controlled, inquisitive, curious, and content. Researchers stated a need for educating parents on authoritative parenting/feeding behaviors because of the benefits associated with it (Hubbs-Tait et al., 2008), and recommended that nutrition educators target the authoritarian/permissive parents.

In the current study, parents demonstrated high levels of authoritative parenting behaviors when authoritative constructs were measured at baseline. Because of the initially high scores significant changes were not expected at the followup measures. These significant changes may be attributed to the method of information delivery (FGD) and or authoritative parents being more receptive to listening and accepting of new information. Authoritative parents may also have less of a need to control their child's food intake as stated by Satter (2000).

Participation in the current study was voluntary, and therefore the method of recruitment may have influenced the population of the study. Parents were recruited from three different child care facilities. A Child's Garden and Peace Christian preschool, which are both private preschools. Attendance was either part day (8:00 AM to 12:30 PM) or full day (7:00AM to 5:30PM), 2 to 5 days a week. Kennedy Club fitness childcare was designed as a drop off child care facility and the number of days and hours per week that children attend vary.

As previously stated, authoritative parents are more open to learning and changing their feeding behaviors than authoritarian or permissive parents. In a follow-up study, it would be helpful to include parents from all parenting styles in the intervention.

Most caregivers demonstrated greater feelings of self-efficacy in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries for their family. Two weeks following the FGD workshops, caregivers were more likely to have implemented the nutritional parenting skills. Parents reported offering more nutritious foods to their children such as fruits and vegetables and also stated they were modeling healthy eating with their children because they were educated on healthier food choices and the benefit of having their children see them eating healthfully. Prior to the workshops, one set of parents stated they always thought fruit chewies were a healthy replacement for fruit because the label had the word “fruit” on it. After attending the workshops the couple replaced fruit chewies with fresh fruit and stated their child was fine with the change. Another parent implemented a snack/lunch menu makeover at her child’s preschool, which included fruit, vegetables, whole grain crackers, and low fat milk and stated the children and staff were happy with the change.

Many of the parents and grandparents indicated that after attending the workshops, they were less likely to assume that their children would dislike certain foods. Hildebrand and Betts (2009) found that parents play a key role in the child’s life as the nutrition gatekeepers in purchasing, preparation, and offering food to their children, and are role models for their children with regard to their future food habits. Availability of healthy foods and parents’ food preferences were seen as strong predictors of the child’s fruit and vegetable intake (Hildebrand and Betts, 2009), which was also found in the current research. Klesges et al. (1991) found that when school-aged children were allowed to freely choose a meal, the children chose foods higher in sugar and saturated fat. Children changed their original selection to foods that were lower in sugar when they were informed that a parent would monitor their food choice, which demonstrated the

influence parents have on their children's food selection. Neither children nor parents replaced the less nutritious food with more nutritious foods. These parents might not have had education on healthy food options, or these parents may have made assumptions about children rejecting healthier food options. The results demonstrated the importance of guiding children's food choices in order to establish healthy eating habits.

Satter (2000) stated that a division of feeding responsibility needs to be established between parent and child and that the responsibility of deciding what, where, and when to feed lies with the parent, and how much and if to eat lies with the child. In the current study, children were open to trying new foods that were offered to them. All strategies resulted in children consuming fewer of the less nutritious foods, which is similar to the results found by Klesges et al. (1991) but children also consumed healthier food options in the current study, which was not seen in the research by Klesges et al. (1991). The current research project presented a question to participants at T1 and T3, which asked how often parents allowed their children to choose what to eat at meals. Authoritative feeding practices could have been better identified and measured by rewording this question and instead asking parents if they offered their children different food options and how often they let their children decide what to eat from those food options. The reworded question would identify that the parent is guiding the food choice, but is also allowing for the child's input.

Two weeks post-intervention (T3) results demonstrated that the majority of caregivers who participated in the workshops tried at least two of the food rules. Behavior change was achieved using the FGD method for delivering nutrition education although there are no measures of behaviors after two weeks. FGD provided social support and immediate feedback to participants, which may have contributed to the significant longer-

term impact on behavior change. Parents indicated to the facilitator that they found it comforting knowing that they were not alone in their food-related battles with their children, which highlights the FGD's ability to increase feelings of social support. One parent was hesitant to share with the group her child feeding hurdle: Having a four-year-old daughter who refused to give up the baby bottle. This mother stated that she was embarrassed and ashamed, and was initially apprehensive about sharing her issue with the group, but during the discussion she felt she was not alone and decided to share. Parents discussed the issue among each other and came up with creative solutions for the mother and child. The mother stated that she felt relieved because she was not judged and she received helpful information.

Studies with different populations have also found FGD to be an effective method of education. Pettman et al.(2008) found FGD to be an effective in healthy lifestyle education and obesity/cardio-metabolic risk factor management. Similar to the current study, participants of the Pettman study were encouraged to share their experiences and ideas with other participants during the discussions, which resulted in a reduction of body fat, cholesterol, and blood pressure. Statistically significant correlations were also found between attendance of the group education sessions and changes from baseline values. The participants found the information helpful with problem-solving and short-term goal setting, and found the education to be a supportive experience (Pettman et al., 2008). Another study found group education to be effective in educating diabetic patients on self-management skills. The group education intervention resulted in a significant decrease in blood sugar levels and an increase in participants' satisfaction with diabetes-related knowledge. A need was established for follow-up interventions based on participants' relapse into old behaviors at 12 months post-intervention (Sarkadi and

Rosenqvist, 2003). The current study gathered data pre-intervention, immediately following the intervention, two weeks post-intervention and, therefore the researchers of the current study could not make conclusions on relapse occurring beyond two weeks post-intervention. Future research could determine if additional FGDs would continue to build more positive nutritional parenting behaviors.

Social support has been found helpful in eliciting positive behavior change. Group education provides social support because individuals with similar issues come together in an effort to overcome their personal hurdles. The current study revealed many parents were experiencing increased levels of stress and frustration by attempting to get their children to eat healthfully. In Hildebrand and Betts (2009) review of Baranowski and colleagues' research, social support was found to be a major predictor of parents making healthier lifestyle choices such as buying produce for the home. After participating in the FGD, subjects of the current study felt less frustrated and alone about their children's feeding struggles because they were able to share and discuss their struggles openly with the group, and as a result found it easier to persist in making healthier food choices for the family. The group support that was established during the FGD provided participants with knowledge, hope, and confidence in their ability to successfully deal with their children's feeding issues. Hildebrand and Betts (2009) identified a need for effective interventions that also remove common parental barriers to healthy eating in the homes of young children such as education, accessibility and self-efficacy in abilities to making healthy food choices. The FGD method of education was effective in providing participants with helpful skills for overcoming child feeding issues and food-related barriers.

The Social Cognitive Theory explains that self-efficacy is the individual's degree of confidence in carrying out the desired behavior such as choosing healthy foods for the family in a variety of different situations (Bandura, 1989), and has been shown to be a powerful predictor of undertaking new health behaviors (AbuSabha and Achterberg, 1997). Hidebrand and Betts (2009) state that the focus of parent nutrition education should be placed on increasing feelings of self-efficacy in parents' abilities to provide healthy food options to their children, and it was the focus of the current study. An individual who demonstrates low levels of self-efficacy for completing a specific task is expected to demonstrate low task attainment, while an individual with high levels of self-efficacy for completing a specific task is expected to demonstrate high task attainment (AbuSabha and Achterberg, 1997). The current study demonstrated similar results. Parents who stated they were more confident in following the food rules were more likely to have tried the rules at two weeks post-intervention (T3), and those who stated they were confident in their ability to serve healthy foods to their families served fruits and vegetables at T3.

The workshops successfully provided participants with information and tools for minimizing mealtime stress and increasing nutritious food intake. Mealtime stress reductions allowed participants to use the knowledge gained from the workshops, which provided them with a sense of control. Immediately following the intervention (T2) parents stated the intention to offer new foods and two weeks post-intervention (T3), parents had been offering a variety of healthy foods to their children. Without the dread of possible food rejection parents in turn exposed their children to a variety of new, healthy foods. AbuSabha and Achterberg (1997) found an individual's level of self-efficacy helps to explain some of their health-related behaviors, and may be important in

planning nutrition interventions. There is a need for research that links self-efficacy to food-related outcomes and positive dietary behaviors.

The cited and current research demonstrated needs for effective methods of delivering information in a supportive environment to increase parents' feelings of self-efficacy in their abilities to provide healthy foods for their family and enhance their children's health. The results of the current study demonstrated that FGD provided social support and increased caregivers' feelings of self-efficacy in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries with their children.

Caregivers who used at least two food rules at T3 discussed during the FGD, reported experiencing a decreased level of stress during mealtimes and fewer mealtime battles than before participating in the workshops. Stress was decreased when parents eliminated food-related arguing with their children by following the food rules discussed during the workshops. Parents were more aware of their children's food choices and eating patterns after attending the workshops. The "scheduling meals and snacks" was a helpful rule for parents because they experienced their children becoming hungry for meals when the rule was followed.

The "nobody has to eat anything they don't want to eat" rule was initially met with some resistance with most of the participants, but after discussing the possible uses of the rule, parents were more open to using it. Most parents who used this rule found mealtimes more enjoyable. One parent stated that she experienced less stress when her child refused eating because she noticed that her child ate more on certain days than on others, and that her child's intake evened out throughout the week, a concept that was discussed during the workshops. During the two weeks post-intervention (T3) follow-up

telephone interview, a different parent stated that her child refused to eat dinner, and rather than allowing herself to get worked up and force her child to eat, she chose to allow her child to go to bed without eating, and the following morning her child ate a large healthy breakfast. She was confident in her ability to continue following the food rules after successfully using them and knowing her child will eventually eat when hungry. Discussing this success story in a follow-up parenting nutrition skills workshop could benefit other parents who are struggling in similar situations.

Parents who participated in the workshops found the “no separate meals” rule helpful in reducing stress and increasing a variety of foods consumed by their children. Some parents explained that they always assumed that their children would not eat what was prepared for the rest of the family, and always prepared a separate meal that they knew their children would eat. The combination of “scheduling meals and snacks,” “nobody has to eat anything they don’t want to eat,” and “no separate meals” rules were proven to be effective with children trying new foods because new foods were offered to children, and children were hungrier at mealtime because snacking was not occurring throughout the day. Arguments between parents and children were minimized by following “nobody has to eat anything they don’t want to eat” when the parent could depend on knowing the child would eat when hungry.

Future research opportunities with FGD would be to conduct longer term follow-up workshops such as 1 month, 3 month and 6 month, and evaluate the effect of parents sharing feeding success stories. The impact the discussions have on other participants’ willingness to use the discussed information should be assessed. It is possible that parents who are skeptical about utilizing the information discussed in the workshops may take steps toward changing their feeding practices if they see other parents benefiting from

using the information. Day head and colleagues (2012) found peer-led parenting interventions to be helpful in significantly improving positive parenting practice, but unlike the current study, parenting stress did not decrease after attending peer-led parenting group discussions.

Non-FtK curriculum topics were generated during the workshops by participants and by the facilitator as part of the natural flow of the solution-oriented discussion. The FGD format allowed for flexibility with the content and participants received immediate feedback to their immediate concerns, and is why FGD shows such promise in the field of nutrition education. Topics such as getting the children involved in the preparation of the meal, no television while eating, and not assuming their children will dislike the food the rest of the family is eating were a few of the topics generated by the participants of the discussion. Hildebrand and Betts (2009) explain that nutrition education should be cost effective and learner-centered, a method of education that encourages educators to identify the learners needs and tailor the discussion to meet the participants needs. The immediate feedback that FGD provided to participants resulted in a greater likelihood that the individual would change their unwanted behaviors.

All participants who attended the parenting nutrition skills workshops reported them to be helpful and informative. Positive behavior changes that resulted after participation may reach beyond healthy food choices and confidence in setting and enforcing nutrition-related boundaries, and these positive effects may spread to other members of the family.

There were several limitation to the current study. One limitation of the current study was the small sample size (n=24). Also the sample was not representative of all parenting styles, ethnicities or socio economic statuses, which may limit the impact of

this approach with other parents. Parents of preschool and school-aged children living on the California Central Coast who were interested in learning about getting their children to eat healthier foods and minimizing mealtime battles, voluntarily signed up for the workshops and most likely were willing to make changes in the way they fed their children. The assumptions made for the subjects who participated in the FtK FGD parenting nutrition skills workshops were that participants attended the workshops because they wanted what is best for their children; were interested in learning how to make healthier food choices for their children and to optimize their children's health; and were interested in minimizing mealtime food-related battles.

A larger sample size would have provided more diversity among the participants. Results of this study therefore may not necessarily be generalized to all caregivers of preschool and school-aged children. This study did not compare participants' and non-participants' levels of mealtime stress. Parents who did not participate in the workshops may experience less mealtime stress because they do not view their children's eating behavior as an issue, and therefore the results may have been different for these parents. Two couples who attended the Peace Christian workshop were married to each other, and therefore may have influenced one another, and this positive or negative effect cannot be separated out.

Also the format of the FGD made it difficult to attribute whether the positive change in behavior was a result of the content of curriculum, the effectiveness of the facilitator, or the effectiveness of the FGD. Some topics discussed during the workshops were not a part of the curriculum, but were generated by the group or facilitator, which helped demonstrate the effectiveness of FGD as a method for nutrition education. Lisa Dawes, the facilitator and lead researcher, had extensive nutrition counseling experience,

having worked as a registered dietitian and diabetes educator for 11 years. The experience that the facilitator brought to the workshops in troubleshooting nutrition-related roadblocks and in addressing nutrition-related issues may have influenced the participants behavior change, beyond the effect of using FGD as a format for education or even the construct of the curriculum. The relative impact of these elements cannot be separated due to the study design. The impact of the curriculum itself could be tested in FGD formats using different educators or facilitators. Future research should be conducted to test the impact of the FGD method of education using the “Feeding the Kids” curriculum with a control group (traditional lecture style method of information delivery) and experimental group (FGD method of information delivery), and compare levels of self-efficacy in parents’ ability to make nutrition-related decisions and to set and enforce nutrition-related boundaries. In addition the use of a control group and some type of randomization to condition could help to identify which factors had the greatest impact in supporting parents positive parenting behaviors.

Potential biases included that the telephone interviews were conducted by lead researcher and discussion facilitator, Lisa Dawes, and therefore participants may have had a desire to please her in answering the follow-up questions.

This enhanced method of nutrition education, FGD, demonstrated itself to be effective and cost efficient. At least in the short term, the group setting fostered feelings of support among participants and allowed them to see that they are not alone in their frustration and confusion with food choices and mealtime battles. Each participant gained a set of skills that helped them select, prepare, and offer nutritious foods for their families, and also troubleshoot difficult food-related situations. The group discussions provided the participants with an arena to voice their concerns and frustrations regarding

their children's eating behaviors in a non-threatening supportive environment, and were able to see that they were not alone in having those feelings. The importance of social support may be an undervalued variable to date in parenting nutrition.

In the current study, FGD was shown to be effective in increasing parents' feelings of self-efficacy in their ability to make nutrition-related decisions, and to set and enforce nutrition-related boundaries. The FGD method elicited positive behavior changes, which resulted in healthier food choices. Caregivers who were able to rely on nutrition knowledge and a nutrition behavior skill set, experienced reduced feelings of stress surrounding mealtime and snack time.

CHAPTER V

Conclusion

Facilitated group discussion (FGD) is an effective, cost-efficient method of nutrition education for the parents and grandparents. In the current study, parents who participated in the FGD parenting workshops demonstrated increased feelings of self-efficacy in their ability to set and enforce nutrition-related boundaries for their preschool and school aged children, directly after and two weeks following the nutrition intervention. Parents confidence increased in their abilities to use authoritative parenting practices such as not arguing over whether the child decides to eat or not; allowing their children to determine how much they wanted to eat and the child deciding when they were full; offering healthy foods to their children without assuming the child will dislike them; scheduling meals and snacks so the child has time to develop a sense of hunger; and not making separate meals for the picky eater so the child has exposure to a variety of foods. Parents feelings of self-efficacy were greater two weeks post intervention in their ability to purchase and offer healthy foods to the family.

The flexible nature of the FGD allowed participants to have their most pressing concerns addressed. Mealtime stress wasn't statistically evaluated in the current study, but was reported to have decreased in several of the participants. Two weeks after the intervention, 38% of caregivers who participated in the workshops tried at least two of the FtK food rules. Most of those parents who reported using at least two of the "food rules" reported experiencing less mealtime stress and fewer mealtime battles than before participating in the workshops.

Further research should be conducted using FGD with parents of young children. Future research designs could distinguish the effectiveness of the FGD from the effectiveness of the “Feeding the Kids” curriculum and lecturer/facilitator. Comparing traditional, lecture-style education to FGD using the same curriculum and lecturer/facilitator is another research opportunity.

A follow-up study after one year could be helpful in evaluating the long-term effectiveness that FGD has on behavior change. Multiple exposures to FGD parenting nutrition skills workshops over a one-year period of time is another possible future research opportunity. The workshops may result in long-term behavior change because the participants are able to have their immediate needs addressed, and questions answered from the previous group discussions. In addition, FGD working on nutritional parenting skills could be tried with both parents in a family allowing parents to support one another at mealtimes.

The decreased stress at mealtimes and the increased use of authoritative parenting behaviors resulting in more nutritious food choices in families support future research in this area.

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APPENDICES

APPENDIX A

Feeding the Kids Book Cover and Title Page

A Fork and Spoon Field Guide™

Feeding the Kids

The Flexible, No-Battles, Healthy Eating System
for the Whole Family

Pamela Gould and Eleanor P. Taylor, RN, CDE
With Dr. Katherine Cason, RD

Feeding the Kids:
The Flexible, No-Battles Healthy Eating System for the Whole Family
Book One of A Fork and Spoon Field Guide Series

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AUTHORS Pamela Gould, Eleanor P. Taylor, RN, CDE
CONSULTING DIETITIAN & FOREWORD Dr. Katherine Cason, RD

EDITOR Mary Anne Maier

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APPENDIX B

“Feeding the Kids” Chat Mat

“Feeding the Kids” Chat Mat

APPENDIX C

Human Subjects Protocol Approval Form

Human Subjects Protocol Approval Form
Cal Poly, San Luis Obispo

1. Date: 1/27/10
2. Title of research project: Parenting nutrition skills workshops facilitated through group discussions enhances positive parenting self-efficacy in making nutrition related decisions.
3. Type of research: Master's Thesis
4. Name of researcher: Lisa A. Dawes, Food Science and Nutrition Department, (805) 720-0880, lisa.agca@yahoo.com, graduate student. Dr. Lisa Nicholson, Food Science and Nutrition department, (805) 756-7383, faculty advisor and committee chair.
5. Faculty advisor: Dr. Lisa Nicholson, Food Science and Nutrition Department, lmnichol@calpoly.edu. Dr. Patrice Engle, Psychology and Child Development Department (805) 756-2914. Dr. Peggy Papathakus, Food Science and Nutrition Department (805) 756-7205.
6. External funding source: Healthy Eating Active Living, San Luis Obispo (HEAL SLO) grant, San Luis Obispo Community Foundation
7. This is not a modification of a project previously reviewed by Cal Poly's Human Subjects Committee.
8. Estimated duration of the project: February, 2010 to February, 2010
9. Risks that may be involved: The possible risks associated with participation in the study are minor, but may include psychological stress from completing survey questions, participation in the parenting workshop, and telephone follow-up.
10. Risks will be minimized by notifying the participants that they do not have to answer any questions that they don't feel comfortable answering. Participants will also be informed that their participation is voluntary, and that they may discontinue the study at anytime. Participants will be provided with contact information for the study director, and faculty advisor should they experience any discomfort with the questions.
11. Confidentiality will be protected by keeping all identifying information in a locked cabinet. Participants will be identified by code number on data sheets and other paperwork. Only project coordinators will have access to the information. After data entry with the identifying number, the participant's personal information will be destroyed using a paper shredder. Participant's responses will remain private and only presented as anonymous or group data.

12. Participants will be provided with grocery store gift cards as an incentive for participating in the study.

13. Deception of subjects will not be involved in the research procedure.

14. Type of review requested: Expedited review

15. Signatures:

Primary Researcher

Faculty Advisor

APPENDIX D

“Feeding the Kids” Workshop Guide

“Feeding the Kids” Workshop Guide

F=Facilitator

P=Parents

- F: Welcome to the “Feeding the Kids” parenting workshop.
- F: Thank you for joining me today.
- F: My name is Lisa Dawes and I am a graduate student at Cal Poly San Luis Obispo, a registered dietitian, and mother of two.
- F: As a dietitian, I know what healthy foods are, but as a parent I have experienced the difficulty in getting my children to eat those healthy foods. Temper tantrums, food battles, and power struggles oftentimes get the best of us, leaving mealtime stressful and oftentimes miserable. Many times we end up giving in to our children in an effort to save the mealtime mood.
- F: Mealtime spent in negotiations and battle can be overwhelming because ultimately, we only want what is best for our children, but many times run into roadblocks.
- F: You are in the right place if this is sounding familiar. I want you to know that you are not alone.
- F: Would you mind raising your hand if these frustrations sounds familiar?
- F: See, we are still in the same boat, and today we will discuss some skills that will hopefully make mealtime a happier time.
- F: I decided to take on this project because I feel that we as parents are the nutrition gatekeepers of the family and can learn a lot from one another. After this workshop I hope you all feel comfortable continuing to share parenting and feeding solutions with one another.
- F: Let’s start by introducing ourselves and share why you chose to participate in the workshop and what you hope to get out of it, so that I am sure to address each of your concerns.
- P: *Write on white board.*
- F: By the end of our session here today, I am hoping you will all feel more confident and comfortable in your ability to set nutrition-related boundaries for your children. Remember, you are the boss.
- F: How many parents here today have experienced mealtime battles with your children, whether it’s because of picky eaters, throwing fits, or feeling like you have to make separate meals for different members of the family?
- F: How many of you are interested in getting your entire family on a healthy eating plan?
- F: We are going to review some skills that will help you to select and provide healthy foods for your family, and also make mealtime a happy time.
- F: Let’s all take a look at the Chat Mat in front of us.
- F: Does anyone see any situations on the mat that look familiar or that you can relate to?
- P: *Discussion.*
- F: I see many of us have experienced some frustration when it comes to feeding your children.

- F: I want to review some basic guidelines that are listed on your placemat, that you can start implementing right away, even before you start changing some of your food choices.
- F: The book that has been provided to you, *Feeding the Kids*, provides easy-to-use guidelines, which will help you to identify healthy, smart food options.
- F: The book breaks foods into three categories: smart, in-between, and empty.
- F: Let's focus on the Chat Mat and take a look at the food pantry, and notice that all three categories—smart, in-between, and empty—fit into the pantry or our healthy eating plan. This is showing that all three categories of food can fit into a balanced diet. In order to maintain optimal health, most of our choices should come from the smart category.
- F: The book gives you great information and guidance with food choice.
- F: The focus of today's workshop is on food/eating behaviors.
- F: Does anyone here think that eating with and feeding your children is an enjoyable experience?
- P: *Discussion. Why/why not?*
Address the comments and encourage input from other parents.
- F: How many of you would like to make mealtime more peaceful? Even enjoyable?
- F: Let's take a look at the Chat Mat again and focus on the food rules.
- F: The rules are also printed on your placemat that you will take home.
- F: Let's read through each of the rules, and then you can tell me what you think of each one.
- P: *Parents read the rules individually.*

Kid's Rules (discussion with each rule)

“Just look at it.”

- F: Are you comfortable placing food on your child's plate even if you think they will not eat it?
- P: *Discussion. Why/why not?*
Tip: Multiple exposures before a child might decide to try the food.
It may take 10 exposures before the child tries the new food.
- F: If you do not force your child to try the food, they are more likely to try the food, and enjoy it.
- F: Why is this?
- P: *Discussion.*
Exerting control; becomes less of a game.

“Notice when your own stomach is full.”

- F: How many of you let your children decide when they have had enough to eat?
- F: How many of you encourage your children to eat just three more bites?
- P: *Discussion. Why/why not?*
- F: What message does this send to your child?

- F: Recognize that the feeling of fullness is important for maintaining a healthy weight. Children are no different than we are. There are some days when they are extremely hungry and other days when they are not. It all evens out.
- F: Can anybody think of why a child may be hungrier on some days and less on others?
- P: *Discussion.*
- Encourage input from parents so these concepts resonate with them and they begin to connect the dots when this occurs in their own home. Ask for examples.
(Greater intake—growth spurts, increased activity.)
(Less intake—sick, slow growth, tired, vaccinations, new molars.)

“Nobody has to eat anything they don’t want to eat.”

- F: How do you all feel about this rule?
- P: *Discussion.*
- F: This rule generally makes parents feel uncomfortable. Remember rule number one, and think about it for a moment. Remember it may take 10 exposures to a food before your child decides to try the food.
- F: Can you see how taking the battle away may allow your child to be more open to trying what is on their plate?
- P: *Discussion.*
- Ask for explanations or successes in the past.
- F: Would anybody like to share an experience where you tried to force your child to eat a certain food, and your child was not willing?
- P: *Discussion.*
- F: How did that battle end?
- P: *Discussion.*
- F: Did they eat a bite?
- P: *Discussion.*
- F: How much nutrition do you suppose they received from that bite?
- P: *Discussion.*
- F: How did you and your family feel after the food battle?
- P: *Discussion.*
- F: Are you willing to try this rule the next time you are tempted to try to force your child to eat a certain food?
- P: *Discussion.*
- Ask parents for scenarios and troubleshoot possible situations and solutions with the group. Remember to keep the discussion on track!

“No bad-mouthing the food.”

- F: What do you all think about this rule?
- P: *Discussion.*
- F: How do you think this rule can help in your home?
- P: *Discussion.*
- Bad manners to bad-mouth the food; can influence others at the table from trying new foods.

F: Now let's discuss the parent's rules. Yes parents, you have rules to follow too!

Parent's Rules

“React as little as possible to food rejection.”

F: What do you think about this rule?

P: Discussion.

F: This rule takes practice! Realize that short-term hunger is not dangerous. Your child will eat if he/she is hungry.

F: How many of you have experienced coming home from a long hard day, preparing a beautiful meal, and having your child refuse to eat it?

P: Discussion.

F: Would anybody like to share how you handled the situation?

P: Discussion.

Tip: We do not want to reward our children with negative attention.

F: What attention could we provide our children instead?

P: Discussion.

F: It is important to take the focus and battle off of the food.

Tip: Talk about your family's day. Play “roses and thorns” (best and worst part of their day); anything to take the attention off of the meal they are refusing to eat.

“Don't make separate meals for kids.”

F: How many of you make separate meals for your children because if you do not, they will surely starve?

P: Discussion.

F: Do you feel like a short-order cook? Does it take more time out of your day?

F: Consider this: If you are cooking separate meals for your child, you are probably preparing the same foods that you know he/she will eat. How will your child ever have exposure to new foods, and try new foods if they are not provided to them?

P: Discussion.

“Limit munching by scheduling meals and snacks.”

F: Let's focus our attention at the clock in the center of the mat. It says timing is everything.

F: How do you think that scheduling meals and snacks can help make mealtime more enjoyable?

P: Discussion.

F: How many of you have your children on a schedule for meals and snacks?

F: Would anyone like to share his or her schedule?

P: Discussion.

F: Do you think your children should come to the table hungry?

P: Discussion.

F: Do you think that free access to food throughout the day allows the child to become hungry for the meal that you have prepared for them?

P: Discussion.

F: Do you think that scheduling meals and snacks is possible in your home?

P: Discussion.

F: What can you do if your child says that they are hungry between their scheduled meals and snacks?

P: Discussion.

Fruit and vegetables.

“Model loving healthy foods.”

F: This is the best thing that you can do for your family!

F: Do you eat healthy foods with your family?

P: Discussion.

Tip: If you do not, try to make a point to do so. Remember the rule:
“No bad-mouthing the food.”

“Eat together when you can.”

F: This is the perfect opportunity to model healthy eating.

F: I realize that we are all busy and oftentimes cannot sit at the table together every day for breakfast and dinner.

F: Where else besides the table can you eat together and model healthy eating?

P: Discussion.

F: Let’s take a look at the Chat Mat. Every location on the mat is where you can influence your child’s eating (car, restaurant, other people’s homes, park

F: Let’s focus our attention on the car on the road.

F: What do you notice?

P: Discussion.

Children eating in the car.

F: Are your children allowed to eat in the car?

P: Discussion.

F: What do they usually eat?

P: Discussion.

F: Do any of you pack meals or snacks to take along in the car?

P: Discussion.

F: Is this something you think you could start doing?

P: Discussion.

F: Does anyone have any suggestions for healthy meals or snacks that can be eaten on the go?

P: Discussion.

F: Planning these meals and snacks ahead of time can help you avoid the fast food drive-through, which will help to optimize your child’s nutrition and save you money. If you don’t have time to plan ahead and bring the food along, what are some quick and healthy alternatives to a drive-through?

P: Discussion.

- Grocery store, sandwich shop, fruit stand.
- F: Snacking on fruit and vegetables in the car is less messy than other snack foods, and is a great way to get nutritious foods into your child's diet. You and your child can come up with a name for the very special snack that you make especially for them and their car ride. Example: Rainbow veggie bag.
- F: Let's move on and take a look at the images on the Chat Mat of the family at home.
- F: Would anyone like to share who prepares the family meals?
- P: *Discussion.*
- F: Are the children included in the preparation of the meal?
- P: *Discussion.*
- F: Have you considered including them?
- P: *Discussion.*
- F: Do the children set the table in your home?
- P: *Discussion.*
- F: Do you think that if your children were to help in the preparation of the meal that it would give them a feeling of pride in the meal they helped create?
- P: *Discussion.*
- F: Where does your family eat their meals?
- P: *Discussion.*
- F: Do your children eat with you?
- P: *Discussion.*
- F: Do you or your significant other get home from work late?
- P: *Discussion.*
- F: How do you handle dinner time with your child if you or your significant other comes home late from work?
- Tip: Encourage parents to discuss and share options.
- F: Do you have the family wait?
- P: *Discussion.*
- F: Are the children fed at an earlier time?
- P: *Discussion.*
- F: Have you figured out a system that works for your family that you would like to share with the group?
- P: *Discussion.*
- F: Do you eat in front of the television?
- P: *Discussion.*
- F: Would you consider turning off the television during mealtime?
- P: *Discussion.*
- F: What do you think your children would be more aware of with the television turned off? Hunger, satiety, family conversation.
- F: Mealtime is a wonderful time to reconnect with your children. Remember the rules: Offer healthy food, and enjoy the company of your family.
- Tip: Play "roses and thorns" (best and worst part of their day).
- F: How do you decide how much to feed your child?
- P: *Discussion.*
- F: How do you decide what to feed your child? Who decides what's for dinner?
- P: *Discussion.*

F: Do you find yourself making assumptions about what your child will and will not eat?

P: *Discussion.*

F: Remember the rules the next time you find yourself making an assumption about what you should put on their plate. It may take 10 exposures to a food before your children decide they want to try to eat the food.

F: Let's talk about how you typically handle:

Food refusal.

Bad-mouthing the food that has been prepared.

Food-related tantrums.

P: *Discussion.*

F: Do you think that the rules we discussed today can help?

P: *Discussion.*

F: Let's focus our attention on the "eating at other people's homes" section on the Chat Mat.

F: Do any of you have issues that you would like to discuss about what and how your children eat outside the home?

(Example: school, ex-spouse, grandparents and friends homes.)

P: *Discussion.*

Ask parents to share what works for their family.

F: Have you considered packing a lunch or snack for your children to take? Also, know that you can't control everything in your children's life. Do the best you can when they are with you.

P: *Discussion.*

F: How many of you have children who consistently leave their fruit and vegetables in their lunch bags?

P: *Discussion.*

F: What do you think you can do to change this?

Try new fruit and vegetables.

Have your children pick out fruits and vegetables at the grocery store.

Have them help you pack their lunch.

Try giving your children their leftover fruits and vegetables on the way home from school when you know they are hungry.

Ask your children what fruits and vegetables they would like to have in their lunch.

F: Let's take a look at the restaurant on the Chat Mat.

F: Is going out to eat with your children a pleasant experience?

P: *Discussion.*

Experiences.

F: Do you order for your children or do you give them options?

P: *Discussion.*

F: Do you let your children order from the entire menu?

P: *Discussion.*

F: Do you offer low fat milk, fruit, and vegetables to go with the meal?

P: *Discussion.*

F: Do you assume they won't drink or eat them?

P: *Discussion.*

F: Do you have expectations of how your children should behave when eating out in a restaurant?

P: Discussion.

F: What do you think might help you to get the desired behavior you want out of your children? Discuss with your children the desired behavior.

Go to a kid-friendly establishment; make sure your children are hungry. Bring coloring books or reading books to keep your children entertained.

F: How many of you parents use food as a reward for good behavior?

P: Discussion.

F: Let's focus on the grocery store image on the Chat Mat.

F: Do any of you take your children with you grocery shopping?

P: Discussion. Why/why not?

Possible reasons for why not: Children throwing fits; shopping takes longer.

F: How many of you allow your children to help pick out foods to purchase from the grocery store?

P: Discussion.

F: How can you ensure that the foods your children pick out are healthy food options?

Tip: Limit the children's choice to three healthy options.

F: Why do you think it may be a good idea?

P: Discussion.

More open to trying new foods; more excited to try the foods they picked out.

F: How many of you would be willing to include your children in the shopping process if it helped them try new foods?

P: Discussion.

F: How many of you shop from a list?

F: Have you considered giving your children the list, and making it their job to cross off the items on the list as they are placed into the grocery cart? This may help to minimize the battle at the grocery store, and increase their exposure to different foods.

Tip: A well-rested, well-fed child will perform better at the grocery store. Also, remember to include them in the food selection process, and give them food choices.

F: Parents, this takes planning on your part.

F: Are you willing to take the extra time to plan ahead if it will help to cut down on mealtime battles and temper tantrums?

P: Discussion.

F: What do you think will work best for your family when it comes to planning the grocery store expedition?

Tip: Get specific with the plan (example: Monday–Wednesday, Friday at 10:00 A.M.)

F: A family schedule can help minimize stress and mealtime battles. Scheduling naps, meals and snacks are helpful to your children and the entire family.

F: How many of you try to follow a schedule or routine with your family?

P: Discussion.

Encourage parents to share ideas with other parents.

F: The schedule falls in line with "timing is everything," which is located in the center of the Chat Mat.

F: If you don't currently follow a schedule in your home, are you willing to establish one if it helps to minimize tantrums and mealtime battles?

P: Discussion. Benefits of following a schedule.

F: There is no doubt that the personalities of your children will influence how they will react when they are introduced to new foods, and in their eagerness to adhere to a new schedule.

F: In closing, I would like to go around the room and have each of you share what skills you think you will be able to use in your home, and answer any questions you may have about the information we have discussed here today.

P: Discussion.

Tip: If you would like to implement some of the rules that we discussed today, I would suggest calling a family meeting, and explain and introduce the new rules to the family, and explain the new expectations you have for your children and yourself. Remember, you need to follow your new set of rules too!

APPENDIX E

“Feeding the Kids” Parenting Workshop Sign-up Sheet

Feeding the Kids Parenting Workshop

Learn to minimize mealtime battles & teach your children to love a variety of healthy foods by participating in the “Feeding the Kids” parenting workshop.

Fee for the workshop: **Free**

Please take advantage of this amazing opportunity and sign up for the one-hour parenting workshop below.

Name	Contact Information
------	---------------------

1.

2.

3.

4.

5.

6.

7.

8.

APPENDIX F

Informed Consent Form for Cal Poly Research

ID # _____

Informed Consent Form for Cal Poly Research

Informed Consent To Participate In: Nutrition Boundary Setting Using Facilitated Group Discussion

You have been selected to participate in a research project. Our project is designed to find out if participation in this parenting skills workshop helps you feel more confident in making nutrition-based decisions with your family. Lisa Dawes, a graduate student in Nutrition at Cal Poly, San Luis Obispo, California, will conduct the workshops.

If you choose to participate in the study you will attend a group discussion on nutrition and parenting skills. The discussion leader is also a registered dietitian. You will complete a questionnaire about your parenting and nutrition knowledge, attitudes, and behaviors prior to participating in the workshop. The 60-minute workshop follows the established Feeding the Kids program, by Ellie Taylor. The discussion will be audio-taped. Afterwards the taped sessions will be reviewed for common parenting and nutrition issues discussed. You will be contacted by telephone two weeks after your participation in the workshop with follow-up questions about the discussion.

Your participation in the Feeding the Kids parenting workshop is voluntary, and if you decide to participate, you will be offered a twenty-dollar grocery store gift card as incentive that will be mailed to you after you have completed the follow-up telephone interview. No penalty or loss of benefits will result from refusal to participate in the discussion. If you choose to participate, your involvement will require approximately ten minutes to complete a questionnaire prior to the workshop, one hour participating in the workshop, and ten minutes for a follow-up telephone interview.

Please be aware that you are not required to participate in this research and you may discontinue your participation at any time. You may also choose not to answer any questions you choose not to answer.

The possible risks associated with participation in this study are minor but may include psychological stress from completing survey questions that relate to your participation in the parenting workshop. If you should experience any discomfort with the questions, please be aware that you may contact Lisa Dawes, Study Director at (805) 720-0880 or Dr. Lisa Nicholson, faculty advisor and Cal Poly Nutrition Associate Professor, at (805) 756-7383.

Your confidentiality will be protected by keeping all identifying information in a locked cabinet. Participants will only be identified by code number on data sheets or other paperwork. Only project coordinators will have access to the information. After data entry with the identifying number, your personal information will be destroyed. Your responses will remain private and only presented as anonymous or group

ID # _____

Potential benefits of the program include: increased nutritional knowledge, increased communication with other participants, increased confidence in boundary setting with your children, increased confidence in making nutrition based decisions, and increased confidence in making healthy lifestyle choices.

If you have any questions regarding this study or would like to be informed of the results when the study is completed, please feel free to contact Lisa Dawes at (805) 720-0880. If you have any questions or concerns regarding the manner in which the study is being conducted, you may contact Dr. Steve Davis, Chair of the Cal Poly Human Subjects Committee, at (805) 756-2754, sdavis@calpoly.edu, or Dr. Susan Opava, Dean of Research and Graduate Programs, at (805) 756-1508, sopava@calpoly.edu.

If you agree to voluntarily participate in this research project as described, please indicate your agreement by signing below. Please keep one copy of this form for your reference, and thank you for your participation in the study.

Participant Name

Participant Signature

Date

Signature of Researcher

Date

APPENDIX G

“Feeding the Kids” Discussion Group Questionnaire (T1)

“Feeding the Kids” Discussion Group Questionnaire (T1)

Hi and thank you for taking the time to help us!

Your answers to these questions will help us help parents like you.

Our goal is to create helpful nutrition education programs for parents that make feeding the kids a little easier.

These questions should take about 10 minutes to complete.

These first questions are about you, your home, and your partner (if applicable).
Circle the best answer for you.

1. Your age:
2. 2. How many hours a week do you work in your paid job:
0-10 hours
11-20 hours
20-30 hours
30-40 hours
40+ hours
3. How many days a week do you work?
1 2 3 4 5 6 7
4. How many hours a week does your significant other work:
Not living with significant other
0-10 hours
11-20 hours
20-30 hours
30-40 hours
40+ hours
5. How many days a week does your significant other work:
1 2 3 4 5 6 7 not living with significant other
6. How many adults live in your home:
7. How many children under the age of 18 are living with you in the home:
8. The number of children between 3 and 5 years old living with you in your home:

This section asks HOW OFTEN these things happen while feeding your child who is between 3 and 5 years old.

Circle either: Never, Seldom, Half the time, or Most of the time for the following questions.

9. I allow my child to choose which foods to have for meals.
10. If I did not guide or regulate my child’s eating, he/she would eat too many junk foods.
11. I offer my child his or her favorite foods in exchange for good behavior.
12. If I did not guide or regulate my child’s eating, he/she would eat too much of his/her favorite foods.
13. How often are you responsible for deciding what your child’s portion sizes are?
14. How often does your child pick out what you will prepare for him/her at mealtime?

15. How often do you keep track of the nutritious foods your child eats?
16. How often do you keep track of the sweets (candy, ice cream) your child eats?
17. How often do you keep track of milk or foods with calcium, like cheese and yogurt your child eats/drinks?
18. How often do you keep track of the snack foods your child eats?
19. How often do you encourage your child to eat fruits at mealtime?
20. How often do you encourage your child to eat vegetables at mealtime?
21. How often do you encourage your child to eat fruit at snack time?
22. How often do you encourage your child to eat vegetables at snack time?
23. How often do you encourage your child to eat/drink foods that contain calcium, like cheese, yogurt, and milk?
24. How often do you allow your child to eat sweets, such as ice cream and candy?
25. I eat vegetables when I am with my child.
26. I eat fruit when I am with my child.
27. I eat/drink foods that contain calcium, such as cheese, yogurt, and milk when I am with my child.
28. I eat vegetables at restaurants when I am with my child.
29. I eat salads when I am with my child.
30. I offer my child vegetables with meals.
31. I offer my child fruit with meals.
32. I offer my child food/drinks that contain calcium, like cheese, yogurt, and milk.
33. I offer my child fruit for snacks.
34. I offer my child vegetables for snacks.

The following questions are about your CONFIDENCE in keeping some “food rules” at your house.

***Circle one of the following responses that MOSTT OFTEN matches how you feel:
Not confident, Somewhat confident, Confident, Very confident***

35. How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his or her plate without demanding your child to eat the food?
36. How confident are you in your ability, if your child says he or she is full, to not urge your child to keep eating?
37. How confident are you in your ability to allow your child to decide if he or she wants to eat or not?
38. How confident are you that if your child “bad mouths” the food you make, you can put a stop to those comments?
39. How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control?
40. How confident are you in your ability to not make a separate meal for your preschool child if he or she does not want to eat the meal provided for the family?
41. How confident are you in your ability to stick to a schedule for meals and snacks for your child?
42. How confident are you in your ability to prepare or serve healthy meals daily?
43. How confident are you in your ability to eat meals with your child?

APPENDIX H

“Feeding the Kids” Place Mat

“Feeding the Kids” Place Mat

Kid's Rules

- ü Just look at it.
- ü Notice when your own stomach is full.
- ü Nobody has to eat anything they don't want to eat. ü
- No bad mouthing the food.

Parent's Rules

- ü React as little as possible to food rejection.
- ü Don't make separate meals for kids.
- ü Limit munching by scheduling meals and snacks. ü
- Model loving healthy foods. ü Eat together when you can.

House Rules

- ü _____
- ü _____
- ü _____

Making Smart Food Choices!

	Smart	In-between	Empty
Protein	Skinless white meat poultry Extra lean ground meats Beans and egg whites	Dark chicken or turkey meat Whole eggs Nuts, seeds, nut butters	Chicken nuggets, fish sticks, fried chicken Bacon, hot dogs and sausage Pepperoni, salami
Fruit	Fresh, frozen packaged without sweeteners Canned fruit in 100% juice or light syrup Fruit leather with 100% juice	100% fruit juice, Fruit canned or frozen with added sugar or heavy syrup, Dried fruit with added sweetener	Fruit drinks and fruit punch, Smoothies Fruit roll ups, fruit chews or bars
Vegetables	Fresh vegetables, Frozen packaged without salt, Canned and bottled vegetables, Raw vegetable plates, salads and vegetable soups without cream	Veggies made with small amounts of fat, Restaurant veggies made with added oil but not deep fried	Deep fried veggies (French fries, later tots, chips) High fat veggies including with cream or cheese sauces Cream of (vegetable) soup
Grains	Whole grain bread products Whole grain crackers or cereals, Brown rice, or other whole grains	Whole grain breakfast cereal including instant, flavored oatmeal, Some granola bars, White rice and pasta, Bread products without added grains as first ingredient on label	Most cold breakfast cereals and granola (most kids cereals) Bars (cereals, energy, nut butters) Most cookies, cakes, pastries
Dairy	Non-fat or 1% milk Non-fat plain yogurt Non-fat cottage cheese	2% fat milk Non-fat flavored yogurt or cottage cheese Cottage cheese (insular)	Cream, Squeezable kids yogurt

APPENDIX I

“Feeding the Kids” Discussion Group Questionnaire (T2)

“Feeding the Kids” Discussion Group Questionnaire (T2)

The following questions are about your CONFIDENCE in keeping some “food rules” at your house.

***Circle one of the following responses that MOSTT OFTEN matches how you feel:
Not confident, Somewhat confident, Confident, Very confident***

1. How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his or her plate without demanding your child to eat the food?
2. How confident are you in your ability, if your child says he or she is full, to not urge your child to keep eating?
3. How confident are you in your ability to allow your child to decide if he or she wants to eat or not?
4. How confident are you that if your child “bad mouths” the food you make, you can put a stop to those comments?
5. How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control?
6. How confident are you in your ability to not make a separate meal for your preschool child if he or she does not want to eat the meal provided for the family?
7. How confident are you in your ability to stick to a schedule for meals and snacks for your child?
8. How confident are you in your ability to prepare or serve healthy meals daily?
9. How confident are you in your ability to eat meals with your child?
10. How confident do you feel in your ability to use some of the ideas or tools discussed today in the parenting workshop with young children?
11. Do you feel that the parenting workshop provided you with enough information so that you feel confident in enforcing the “kids rules” with your young children.
12. Do you feel the group discussion answered most of your questions regarding your concerns with your child’s eating?
13. What ideas or tools discussed today do you plan to use with your young children and family during the next two weeks?
14. What tools do you think will be most difficult to use with your family BUT hope to try in the next two weeks?
15. Why those tools?

APPENDIX J

“Feeding the Kids” Discussion Group Questionnaire (T3)

“Feeding the Kids” Discussion Group Questionnaire (T3)

This section asks HOW OFTEN these things happen while feeding your child who is between 3 and 5 years old.

Circle either: Never, Seldom, Half the time, or Most of the time for the following questions.

1. I allow my child to choose which foods to have for meals.
2. If I did not guide or regulate my child’s eating, he/she would eat too many junk foods.
3. I offer my child his or her favorite foods in exchange for good behavior.
4. If I did not guide or regulate my child’s eating, he/she would eat too much of his/her favorite foods.
5. How often are you responsible for deciding what your child’s portion sizes are?
6. How often does your child pick out what you will prepare for him/her at mealtime?
7. How often do you keep track of the nutritious foods your child eats?
8. How often do you keep track of the sweets (candy, ice cream) your child eats?
9. How often do you keep track of milk or foods with calcium, like cheese and yogurt your child eats/drinks?
10. How often do you keep track of the snack foods your child eats?
11. How often do you encourage your child to eat fruits at mealtime?
12. How often do you encourage your child to eat vegetables at mealtime?
13. How often do you encourage your child to eat fruit at snack time?
14. How often do you encourage your child to eat vegetables at snack time?
15. How often do you encourage your child to eat/drink foods that contain calcium, like cheese, yogurt, and milk?
16. How often do you allow your child to eat sweets, such as ice cream and candy?
17. I eat vegetables when I am with my child.
18. I eat fruit when I am with my child.
19. I eat/drink foods that contain calcium, such as cheese, yogurt, and milk when I am with my child.
20. I eat vegetables at restaurants when I am with my child.
21. I eat salads when I am with my child.
22. I offer my child vegetables with meals.
23. I offer my child fruit with meals.
24. I offer my child food/drinks that contain calcium, like cheese, yogurt, and milk.
25. I offer my child fruit for snacks.
26. I offer my child vegetables for snacks.

The following questions are about your CONFIDENCE in keeping some “food rules” at your house.

Circle one of the following responses that MOSTT OFTEN matches how you feel: Not confident, Somewhat confident, Confident, Very confident

27. How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his or her plate without demanding your child to eat the food?
28. How confident are you in your ability, if your child says he or she is full, to not urge your child to keep eating?
29. How confident are you in your ability to allow your child to decide if he or she wants to eat or not?
30. How confident are you that if your child “bad mouths” the food you make, you can put a stop to those comments?
31. How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control?
32. How confident are you in your ability to not make a separate meal for your preschool child if he or she does not want to eat the meal provided for the family?
33. How confident are you in your ability to stick to a schedule for meals and snacks for your child?
34. How confident are you in your ability to prepare or serve healthy meals daily?
35. How confident are you in your ability to eat meals with your child?
36. Do you feel confident in your ability to use some of the tools discussed in the parenting workshop with your young children?
37. Do you feel the parenting workshop provided you with enough information so that you feel confident in enforcing the “kids’ rules” with your young children?
38. Do you feel the group discussion answered most of your questions regarding your concerns with your child’s’ eating?
39. What tools discussed in the parenting workshop did you use with your young children and family ion the next two weeks? Why those tools?
40. Did using the tools work for you? How did they work for you?

APPENDIX K

“Feeding the Kids” Code Book

“Feeding the Kids” Code Book

Q1. Age	Age	Age (number)
Q2. How many hours a week do you work in a paid job?	Hrs. work/week Hr wk/wk	1. 40+ hours 2. 30-40 hours 3. 20-30 hours 4. 11-20 hours 5. 0-10 hours
Q3. How many days a week do you work?	Days of work/week D wk/wk	1. 7 2. 6 3. 5 4. 4 5. 3 6. 2 7. 1
Q4. How many hours a week does your significant other work?	Hours sig other works/week Hr s.o. wk/wk	1. Not living with significant other 2. 40+ hours 3. 30-40 hours 4. 20-30 hours 5. 11-20 hours 6. 0-10 hours
Q5. How many days a week does your significant other work?	Days/wk sig other works d-s.o. wk	1. Not living with significant other 2. 7 3. 6 4. 5 5. 4 6. 3 7. 2 8. 1
Q6. How many adults are living in your home?	Living in home Adult/hm	# of adults (open ended, number)
Q7. How many children under the age of 18 are living in your home?	Children under 18 <18	# of children (open ended, number)
Q8. The number of children between 3 and 5 years old living with you in your home?	Children between 3 and 5 3-5 hm	# of children (open ended, number)
Q9. (T1) I allow my child to choose which foods to have for meals.	Choose foods Ch-food	1. Never 2. Seldom 3. Half the time 4. Most the time
Q10. (T1) If I did not guide or regulate my child's	Reg junk food intake Reg/junk	1. Never 2. Seldom

eating, he/she would eat too many junk foods.		3. Half the time 4. Most the time
Q11. (T1) I offer my child his/her favorite foods in exchange for good behavior.	Food for behavior Fd 4gd/beh	1. Most the time 2. Half the time 3. Seldom 4. Never
Q12. (T1) If I did not guide or regulate my child's eating, he/she would eat too much of his/her favorite foods.	Regulate favorite foods Reg/fav/fd	1. Most the time 2. Half the time 3. Seldom 4. Never
Q13. (T1) How often are you responsible for deciding what your child's portion sizes are?	Deciding on portions Portions	1. Never 2. Seldom 3. Half the time 4. Most the time
Q14. (T1) How often does your child pick out what you will prepare for him at mealtime?	Deciding on meals Ch-pic	1. Most the time 2. Half the time 3. Seldom 4. Never
Q15. (T1) How often do you keep track of the nutritious foods your child eats?	Tracking nutritious foods Track-nut	1. Never 2. Seldom 3. Half the time 4. Most the time
Q16. (T1) How often do you keep track of the sweets (candy, ice cream) your child eats?	Tracking sweets Track-sw	1. Never 2. Seldom 3. Half the time 4. Most the time
Q17. (T1) How often do you keep track of milk or foods with calcium, like cheese and yogurt your child eats/drinks?	Tracking calcium-rich foods Track-ca	1. Never 2. Seldom 3. Half the time 4. Most the time
Q18. (T1) How often do you keep track of the snack foods your child eats?	Tracking snack foods Track-sn	1. Never 2. Seldom 3. Half the time 4. Most the time
Q19. (T1) How often do you encourage your child to eat fruit at mealtime?	Encourage fruit at mealtime Enc-fr-m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q20. (T1) How often do you encourage your child to eat vegetables at mealtime?	Encourage vegetable at mealtime Enc-v-m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q21. (T1) How often do you encourage your child to	Encourage fruit for snack Enc fr-sn	1. Never 2. Seldom

eat fruit at snack time?		3. Half the time 4. Most the time
Q22. (T1) How often do you encourage your child to eat vegetables at snack time?	Encourage vegetable at snack Enc-v-sn	1. Never 2. Seldom 3. Half the time 4. Most the time
Q23. (T1) How often do you encourage your child to eat/drink foods that contain calcium, like cheese, yogurt, and milk?	Encourage calcium-rich foods Enc-ca-s	1. Never 2. Seldom 3. Half the time 4. Most the time
Q24. (T1) How often do you allow your child to eat sweets, such as ice cream and candy?	Allow consumption of sweets Allow-sw	1. Most the time 2. Half the time 3. Seldom 4. Never
Q25. (T1) I eat vegetables when I am with my child.	Modeling vegetables Mod-v	1. Never 2. Seldom 3. Half the time 4. Most the time
Q26. (T1) I eat fruit when I am with my child.	Modeling fruit Mod-fr	1. Never 2. Seldom 3. Half the time 4. Most the time
Q27. (T1) I eat/drink foods that contain calcium when I am with my child.	Modeling calcium containing Mod-ca	1. Never 2. Seldom 3. Half the time 4. Most the time
Q28. (T1) I eat vegetables at restaurants when I am with my child.	Veg at restaurants Mod-v-res	1. Never 2. Seldom 3. Half the time 4. Most the time
Q29. (T1) I eat salads at dinner when I am with my child.	Salads with child Sld w/ch	1. Never 2. Seldom 3. Half the time 4. Most the time
Q30. (T1) I offer my child vegetables with meals.	Offer vegetables Veg w/m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q31. (T1) I offer my child fruit with meals.	Offer fruit Fr w/ m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q32. (T1) I offer my child food/drinks that contain calcium, like cheese,	Offer calcium-rich Offer ca	1. Never 2. Seldom 3. Half the time

yogurt, and milk.		4. Most the time
Q33. (T1) I offer my child fruit for snacks.	Offer fruit snacks Fr/sn	1. Never 2. Seldom 3. Half the time 4. Most the time
Q34. (T1) I offer my child vegetables for snacks.	Offer veg snacks v/snack	1. Never 2. Seldom 3. Half the time 4. Most the time
Q37. (T1) How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his/her plate without demanding your child to eat the food?	Confidence to not allow Look	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q38. (T1) How confident are you in your ability, if your child says he/she is full, to not urge your child to keep eating?	Confidence not to urge to eat Urge	1. Not confident 2. Somewhat confident 3. Confident 4. Very Confident
Q39. (T1) How confident are you in your ability to allow your child to decide if he or she wants to eat or not?	Confidence in allowing not to eat Not eat	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q40. (T1) How confident are you that if your child “bad-mouths” the food you make, you can put a stop to those comments?	No “bad-mouthing” No bd mth	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q41. (T1) How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control.	Confidence in staying in control In control	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q42. (T1) How confident are you in your ability not to make separate meals for your preschool child if he/she does not want to eat the meal prepared for the family?	Confidence not making separate meals No sep m	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q43. (T1) How confident are you in your ability to stick to a schedule for meals	Confidence in maintaining schedule Sched	1. Not confident 2. Somewhat confident 3. Confident

and snacks for your child?		4. Very confident
Q44. (T1) How confident are you in your ability to prepare healthy meals daily?	Confidence in preparing healthy food Healthy fd	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q45. (T1) How confident are you in your ability to eat meals with your child?	Confidence eating with child Eat w/ch	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q46. (T2) How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his/her plate without demanding your child to eat the food?		5. Not confident 6. Somewhat confident 7. Confident 4. Very confident
Q47. (T2) How confident are you in your ability, if your child says he/she is full, to not urge your child to keep eating?	Confidence not to urge to eat Urge	1. Not confident 2. Somewhat confident 3. Confident 4. Very Confident
Q48. (T2) How confident are you in your ability to allow your child to decide if he or she wants to eat or not?	Confidence in allowing not to eat Not eat	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q49. (T2) How confident are you that if your child “bad-mouths” the food you make, you can put a stop to those comments?	No bad-mouthing No bd mth	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q50. (T2) How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control.	Confidence in staying in control In control	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q51. (T2) How confident are you in your ability not to make separate meals for your child if he/she does not want to eat the meal prepared for the family?	Confidence in one meal No sep m	5.
Q52. (T2) How confident	Confidence in maintaining	1. Not confident

are you in your ability to stick to a schedule for meals and snacks for your child?	sched Sched	2. Somewhat confident 3. Confident 4. Very confident
Q53. (T2) How confident are you in your ability to prepare or serve healthy meals daily?	Confidence choosing foods Ch-food	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q 54. (T2) How confident are you in your ability to eat meals with your child?	Confidence eating with child Eat w/ ch	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q55. (T3) I allow my child to choose which foods to have for meals	Choose foods Ch-food (T3)	1. Half the time 2. Most the time 3. Seldom 4. Never
Q56. (T3) If I did not guide or regulate my child's eating, he/she would eat too many junk foods.	Regular junk food intake Reg/junk	1. Half the time 2. Most the time 3. Seldom 4. Never
Q57. (T3) I offer my child his/her favorite foods in exchange for good behavior.	Food for behavior Fd/4/gd/beh	1. Most the time???? 2. Half the time 3. Seldom 4. Never
Q58. (T3) If I didn't guide or regulate my child's eating, he/she would eat too much of his/her favorite foods.	Regulate favorite foods Reg/fav/fd	1. Never 2. Seldom 3. Half the time 4. Most the time
Q59. (T3) How often are you responsible for deciding what your child's portion sizes are?	Deciding on portions Portions	1. Most the time ????? 2. Half the time 3. Seldom 4. Never
Q60. (T3) How often does your child pick out what you will prepare for him/her at mealtime?	Deciding on meals Ch-pic	1. Never 2. Seldom 3. Half the time 4. Most the time
Q61. (T3) How often do you keep track of the nutritious foods your child eats?	Tracking nutritious foods Track-nut	1. Never 2. Seldom 3. Half the time 4. Most the time
Q62. (T3) How often do you keep track of the sweets (candy, ice cream) your child eats?	Tracking sweets Track-sw	1. Never 2. Seldom 3. Half the time 4. Most the time
Q63. (T3) How often do you keep track of the milk	Tracking calcium-rich foods Track-ca	1. Never 2. Seldom

or foods with calcium, like cheese and yogurt your child eats/drinks?		3. Half the time 4. Most the time
Q64. (T3) How often do you keep track of the snack foods your child eats?	Tracking snack foods Track-sn (T3)	1. Never 2. Seldom 3. Half the time 4. Most the time
Q65. (T3) How often do you encourage your child to eat fruit at mealtime?	Encourage fruit at mealtime Enc-fr-m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q66. (T3) How often do you encourage your child to eat vegetables at mealtime?	Encourage vegetable at mealtime Enc-v-m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q67. (T3) How often do you encourage your child to eat fruit at snack time?	Encourage fruit for snack Enc fr-sn	1. Never 2. Seldom 3. Half the time 4. Most the time
Q68. (T3) How often do you encourage your child to eat vegetables at snack time?	Encourage vegetable at snack time Enc-v-sn	1. Never 2. Seldom 3. Half the time 4. Most the time
Q69. (T3) How often do you encourage your child to eat/drink foods that contain calcium, like cheese, yogurt, and milk?	Encourage calcium-rich foods Enc-ca-s	1. Never 2. Seldom 3. Half the time 4. Most the time
Q70. (T3) How often do you allow your child to eat sweets, such as ice cream and candy?	Allow consumption of sweets Allow-sw	1. Most the time 2. Half the time 3. Seldom 4. Never
Q71. (T3) I eat vegetables when I am with my child.	Modeling vegetables Mod-v	1. Never 2. Seldom 3. Half the time 4. Most the time
Q72. (T3) I eat fruit when I am with my child.	Modeling fruit Mod-fr	1. Never 2. Seldom 3. Half the time 4. Most the time
Q73. (T3) I eat/drink foods that contain calcium when I am with my child.	Modeling calcium Mod-ca	1. Never 2. Seldom 3. Half the time 4. Most the time
Q74. (T3) I eat vegetables at restaurants when I am	Vegetables at restaurants Mod-v-res	1. Never 2. Seldom

with my child.		3. Half the time 4. Most the time
Q75. (T3) I eat salads at dinner when I am with my child.	Salads with child Sld w/ch	1. Never 2. Seldom 3. Half the time 4. Most the time
Q76. (T3) I offer my child vegetables with meals.	Offer vegetables Veg w/m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q77. (T3) I offer my child fruit with meals.	Offer fruit Fr w/ m	1. Never 2. Seldom 3. Half the time 4. Most the time
Q78. (T3) I offer my child food/drinks that contain calcium, like cheese, yogurt, and milk.	Offer calcium rich Offer ca	1. Never 2. Seldom 3. Half the time 4. Most the time
Q79. (T3) I offer my child fruit for snacks.	Offer fruit snacks Fr/sn	1. Never 2. Seldom 3. Half the time 4. Most the time
Q80. (T3) I offer my child vegetables for snacks.	Offer veg snacks v/snack	1. Never 2. Seldom 3. Half the time 4. Most the time
Q81. (T3) How confident are you in your ability to allow your child to just look at, play with or touch certain foods on his/her plate without demanding your child to eat the food?	Confidence to allow not to eat Look	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q82. (T3) How confident are you in your ability, if your child says he/she is full, to not urge your child to keep eating?	Confidence not to urge to eat Urge	1. Not confident 2. Somewhat confident 3. Confident 4. Very Confident
Q83. (T3) How confident are you in your ability to allow your child to decide if he or she wants to eat or not?	Confidence in allowing not to eat Not eat	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q84. (T3) How confident are you that if your child "bad mouths" the food you	No badmouthing No bd mth	1. Not confident 2. Somewhat confident 3. Confident

make, you can put a stop to those comments?		4. Very confident
Q85. (T3) How confident are you that if your child refuses to eat certain foods, you will stay calm and feel in control.	Confidence in staying in control In control	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q86. (T3) How confident are you in your ability not to make separate meals for your preschool child if he/she does not want to eat the meal prepared for the family?	Confidence not making sep meals No sep m	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q87. (T3) How confident are you in your ability to stick to a schedule for meals and snacks for your child?	Confidence in maintaining sched Sched	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q88. (T3) How confident are you in your ability to prepare healthy meals daily?	Confidence in preparing healthy food Healthy fd	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident
Q89. (T3) How confident are you in your ability to eat meals with your child?	Confidence eating with child	1. Not confident 2. Somewhat confident 3. Confident 4. Very confident

APPENDIX L

Participant Demographics

Age	# hrs work/wee	day/wk worked	wk sig other wo ay/wk sig other wor	Adults in the home	# children <18 in the home ldren btwn 3-5 in the home
37	20 to 30	4	999	999	1
30	40+	5	40+	5	1
41	11 to 20	4	999	999	1
26	20-30	5	30-40	5	1
40	0-10	1	30-40	5	1
29	30-40	5	30-40	5	1
38	11 to 20	7	999	999	0
31	11 to 20	2	40+	5	1
40	0-10	1 to 3	40+	6	1
27	11 to 20	5	40+	5.5	1
23	40+	5	0-10	1	1
21	0-10	1	40+	6	1
30	30-40	4	40+	7	1
35	30-40	4	30-40	4	1
39	20-30	3	0-10	1	1
37	0-10	1	40+	5	1
35	30-40	5	30-40	4	1
38	0-10	5	40+	5	2
38	10 to 20	5	25-Sep	999	0
38	0-10	1	999	999	1
35	20-30	3	40+	6	2
54	30-40	5	999	999	2
61	0-10	6	40+	6	3
64	0-10	6	30-40	6	3

999 = not applicable

Age	# hrs work/wee	day/wk worked	wk sig other wo ay/wk sig other wor	Adults in the home	# children <18 in the home ldren btwn 3-5 in the home
37	25	4	999	999	1
41	15	4	999	999	0
38	15	7	999	999	0
38	15	5	999	999	1
38	5	1	999	999	
single parent or pc	38.4	15	4.2		
23	40	5	0-10	1	1
39	25	3	0-10	1	1
26	25	5	30-40	5	1
40	5	1	30-40	5	1
29	35	5	30-40	5	1
35	35	4	30-40	4	1
35	35	5	30-40	4	3
64	5	6	30-40	6	1
30	40	5	40+	5	1
31	15	2	40+	5	1
40	5	1 to 3	40+	6	1
27	15	5	40+	5.5	1
21	5	1	40+	6	1
30	35	4	40+	7	1
37	5	1	40+	5	2
38	5	5	40+	5	2
35	25	3	40+	6	3
61	5	6	40+	6	
54	35	5	999	999	3
				3	3
					2