

*Promoting Healthy Feeding Relationships and
Nurturing Parenting Practices*

New Mexico WIC Program

FINAL REPORT

WIC Special Project Grant
Fiscal Year 2000



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Author:

Esther Devall, PhD, CFLE, Family and Consumer Sciences Department
New Mexico State University

Editor:

Monica Schaeffer, PhD, MPH

FNS Project Officer:

Marta Kealey, RD
Nutritionist
Food and Nutrition Service, USDA, Alexandria, VA

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New Mexico WIC Program

Table of Contents

Abstract	5
1.0 Introduction and Background	8
1.1 The Characteristics of the WIC Program in New Mexico.....	8
1.2 Why <i>Promoting Healthy Feeding Relationships and Nurturing Parenting Practices</i> for New Mexico?.....	8
2.0 The Theoretical Basis for <i>Promoting Healthy Feeding Relationships and Nurturing Parenting Practices</i>	12
3.0 Implementation: How Does <i>Promoting Healthy Feeding Relationships and Nurturing Parenting Practices</i> Work?	15
3.1 Implementation of Component 1: <i>Promoting Healthy Feeding Relationships</i>	15
3.1.1 Preparation Phase: <i>Promoting Healthy Feeding Relationships</i>	15
3.1.2 Delivery Phase: <i>Promoting Healthy Feeding Relationships</i>	19
3.1.3 Evaluation Phase: <i>Promoting Healthy Feeding Relationships</i>	19
3.2 Implementation of Component 2: <i>Nurturing Parenting Practices</i>	21
3.2.1 Preparation Phase: <i>Nurturing Parenting Practices</i>	21
3.2.2 Delivery Phase: <i>Nurturing Parenting Practices</i>	22
3.2.3 Evaluation Phase: <i>Nurturing Parenting Practices</i>	23
4.0 Impact of <i>Promoting Healthy Feeding Relationships and Nurturing Parenting Practices</i> : Results of Evaluations.....	25
4.1 Results of Component 1: <i>Promoting Healthy Feeding Relationships</i>	25
4.2 Results of Component 2: <i>Nurturing Parenting Practices</i>	28
5.0 Lessons Learned and Recommendations	31
6.0 Resources.....	34
6.1 Tools and Forms.....	34
6.2 People to Contact	36
6.3 Other Helpful Resources.....	36
7.0 Acknowledgements	37

Appendix A. Results of Evaluation of Primary Intervention Training of WIC Staff in Component 1: <i>Promoting Healthy Feeding Relationships</i>	38
Appendix B. Results of Evaluation of Secondary Intervention Training of WIC Staff in Component 1: <i>Promoting Healthy Feeding Relationships</i>	39
Appendix C. What Staff and Participants Had To Say About <i>Promoting Healthy Feeding Relationships</i> <i>and Nurturing Parenting Practices</i>	41
Appendix D. Statistical Analysis of the Questionnaire Used for Evaluating <i>Promoting Healthy Feeding</i> <i>Relationships</i> Curriculum of Component 1.....	44
Appendix E. Financial Considerations.....	46

Promoting Healthy Feeding Relationships and Nurturing Parenting Practices

New Mexico WIC Program

Abstract

New Mexico has been identified as one of the worst States in the nation to raise a child, due to high rates of poverty, single parent families, and youth problem-behaviors. According to a WIC survey, 85% of WIC parents in New Mexico want more guidance in raising their children. One aspect of parenting, developing a positive feeding relationship, is especially relevant for WIC programs.

To address some aspects of parenting pertinent to WIC's mission, the Revitalizing Quality Nutrition Services project team in New Mexico developed *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices*. The goals of the project were to: (1) Improve parents' feeding relationship knowledge and skills through education and (2) Decrease negative parenting beliefs and practices, and increase the use of effective discipline techniques among high-risk WIC participants. Specific objectives addressed in two program components were to: (1) Train WIC nutrition educators and clerks about feeding relationships; (2) Reach 75% of the WIC participants in the State with facilitated discussion on feeding relationships; (3) Improve WIC parents' knowledge, attitudes and behaviors related to the feeding relationship; (4) Reduce negative parenting practices and (5) Increase positive parenting practices of WIC participants.

The first project component focused primarily on improving feeding relationships within the family. WIC staff members were trained in Ellyn Satter's approach to feeding relationships, and were provided with materials to use in a new curriculum that included facilitated group discussions (FGD). The curriculum was integrated into nutrition education in all 55 primary WIC clinics in New Mexico, with

each clinic developing unique approaches. Most clinics used facilitated group discussions; some used bulletin boards and handouts to reinforce concepts learned in FGD. Every WIC educator discussed feeding relationships during the certification process. Because the intent was to infuse feeding relationships into all participant contacts, there was no specific measurement of the dosage each clinic provided or each participant received.

To evaluate the impact of the intervention, participants were surveyed at baseline and four and eight months later. For the baseline evaluation, 50 participants were randomly selected from each of the 55 main WIC clinics in New Mexico. The 2,750 participants were asked to complete a 14-item questionnaire before WIC staff implemented FGD of the feeding relationship curriculum. Four and eight months later a random sample of participants from each clinic was surveyed. Note that these respondents may have had only brief exposure to the curriculum during certification, or may have been long-time participants who had participated in many FGD's about feeding relationships. At four months, there was a slight decline in scores from baseline. However, there was a small but significant improvement in the "Lack of Structure" factor, a compilation of results from four of the 14 items on the questionnaire. From four to eight months, there were significant improvements in the factor called "Positive Feeding Behaviors" (a compilation of six items) and the "Negative Feeding Behaviors" factors: "Lack of Structure" and "Over Control." The intervention was deemed successful, since WIC participants showed changes in knowledge, attitudes, and behavior over the eight-month implementation period.

A second component of the program focused on improving overall parenting skills of WIC parents. Families in one county with high rates of poverty and teen pregnancy were offered intensive parenting classes. Parents (160) and children (205) participated in 20 (for teenage parents) or 24 (for adult parents) sessions lasting 2½ hours each. Classes were taught in both English and Spanish. Participants completed questionnaires at the first class and again at the last class and responses were analyzed to evaluate the effectiveness of the curriculum. After completing the classes, participants demonstrated greater empathy, were less likely to use corporal

punishment, had fewer inappropriate expectations of children, decreased reversal of parent-child roles, and had greater knowledge of positive discipline techniques.

The four objectives of the New Mexico project were met. Over 90% of WIC nutrition educators and clerks received training in feeding relationships. About 80% of the clinics reported conducting facilitated discussion on feeding relationships with their participants, but it is not known if 75% of all WIC participants were reached with the intervention. Based on the final survey of WIC participants, there were positive improvements in knowledge, attitudes and behaviors related to the feeding relationship. WIC parents who participated in the parenting classes also showed significant increases in other positive parenting practices. The project demonstrated ways in which WIC nutrition educators can address the needs of parents by discussing not only food selection, but also family feeding dynamics with their participants.

1.0 Introduction and Background

1.1 The Characteristics of the WIC Program in New Mexico

The WIC Program in New Mexico serves 62,000 pregnant, breastfeeding and postpartum women, infants and children each month. There are 110 clinic sites: Of these, 55 are in permanent sites and serve large numbers of participants. However, 55 clinics are considered satellite sites. The satellite clinics are located in rural areas. They may serve participants only one or two days a week, and carry smaller caseloads. There are 255 authorized grocers, and four mobile WIC clinics.

In addition to the focus on feeding relationships, new programs have been developed to promote breastfeeding and prevent childhood obesity. The Federal budget for the New Mexico WIC Program is almost \$49 million. More information can be found at www.health.state.nm.us/phd/wic.

1.2 Why Promoting Healthy Feeding Relationships and Nurturing Parenting Practices for New Mexico?

New Mexico has been identified as one of the worst States in the nation to raise a child.¹ This rating was due to the number of children living in poverty and in single-parent families, teenage-pregnancies, and other problem-behaviors. New Mexico was also ranked highest in the nation in food insecurity.^{2 3}

¹ *Kids Count Data Book* (1999). Published by the Annie E. Casey Foundation. Retrieved from <http://www.aecf.org/kidscount/sld/databook.jsp>; <http://www.aecf.org/cgi-bin/kc.cgi?action=profile&area=New+Mexico> (accessed May 1, 2006).

² The definition of food insecurity was that the household did not always have access to enough food to meet basic needs.

³ Mark Nord, Kyle Jemison, and Gary Bickel (1999, September). *Prevalence of Food Insecurity and Hunger, by State, 1996-98*. Food Assistance and Nutrition Research Report No. (FANRR2) 24 pp.

Poverty. In 1997, New Mexico ranked 47th in the nation in per capita income; in 1998, the ranking dropped to 48th with a per capita income of \$19,936 compared to the national average of \$26,412. One out of six families lives below the poverty line.⁴

Births to single mothers. In 1998, an estimated 44% of births in New Mexico were to single mothers (3rd highest rate in the nation).⁵ This percentage is higher among Native American mothers whose cultural norms regarding childbirth and marriage differ from mainstream U.S. culture.⁶ Births to single mothers were also higher in the Hispanic population.

Teen pregnancy and teen births. In 1997, 18% of all births in New Mexico were to teenaged mothers (<20 years of age); only two States had higher rates.⁷ In the same year, 20% of subsequent births in New Mexico were to teenaged women: New Mexico ranked 20th in the nation in this regard.

Food Insecurity. A recent report by the USDA indicated that from 1996-1998, New Mexico ranked 3rd highest in the country for prevalence of hunger.⁸ New Mexico had the highest level of food insecurity in the nation: 15% of households were rated “food insecure”. In 3% percent of those households, food insecurity was severe enough that one or more members were hungry at least some time during the year.

Parenting skills. In a 1998 survey of 600 parents in Doña Ana County conducted by a local newspaper 85% of respondents said they wanted more information and training in parenting, especially in the areas of discipline and communicating with children.⁹ A WIC survey conducted with parents in New Mexico WIC clinics gave similar results: 85% of WIC participants also wanted more parenting education.¹⁰

⁴ United States Census Bureau (1999). Retrieved from <http://www.census.gov> (accessed May 1, 2006).

⁵ National Vital Statistics Report, Vol 48, No. 3, March 28,2000, Table 19 on page 47.

⁶ Eleanor W. Lynch and Marci J. Hanson (1998). *Developing cross-cultural competence*. Baltimore, MD: Paul H. Brookes Publishing.

⁷ *The Right Start: Conditions of Babies and Their Families in America's Largest Cities*, Special Kids Count Report, Annie E Casey Foundation, 1999

⁸ Mark Nord, Kyle Jemison, and Gary Bickel (1999, September). *Prevalence of Food Insecurity and Hunger, by State, 1996-98*. Food Assistance and Nutrition Research Report No. (FANRR2) 24 pp.

⁹ Jim Rosenthal (1998). *Survey: Area residents want parenting info*. Las Cruces Sun-News, July 13, 1998, A-1, A-3.

¹⁰ Chris Roesel and Esther Devall (1998). *Survey of WIC parents in New Mexico*. Unpublished study, New Mexico State University.

The feeding relationship is a key component of parenting. The proper balance of responsibility between parents and their children around the feeding relationship is critical and affects the parent/child relationship directly. Parents must learn how to support their children's feeding development positively in order to maintain their child's health.

WIC is strategically positioned to have an impact on local communities through the education component of its programs. To address aspects of the above problems that fall within WIC's mission, the Revitalizing Quality Nutrition Services project team in New Mexico developed the project, *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices*. The goals of the project team were to:

- ✓ Improve parents' feeding relationship knowledge and feeding skills through revitalized nutrition education;
- ✓ Decrease negative parenting beliefs and practices, and increase the use of effective discipline techniques among high-risk WIC parents in one of the largest counties in the State.

The project team addressed these goals by defining specific objectives for two distinct components of their program:

Promoting Healthy Feeding Relationships (Component 1):

- ✓ Train WIC nutrition educators and clerks about the feeding relationship and how it affects parents' relationships with their children. Clerks were included in the training for several reasons. First, clerks often make the initial contact with the participant and can screen for feeding relationship issues. Second, having all staff members trained helps ensure that consistent messages are being given to participants. Third, some clerks aspire to being nutrition educators and providing them with training is one way to increase the capacity of the organization.
- ✓ Reach 75% of the WIC participants in the State with facilitated discussion on feeding relationships.
- ✓ Document positive improvements in WIC parents' knowledge, attitudes and behaviors regarding the feeding relationship, as measured pre- and

post-intervention.

Nurturing Parenting Practices (Component 2):

- ✓ Reduce negative parental attitudes and behaviors of WIC parents who participate in the Nurturing Parenting Program, as measured by pre- and post-intervention scores on the Adolescent-Adult Parenting Inventory evaluation tool.
- ✓ Increase knowledge of positive, effective discipline techniques by WIC parents who participate in the Nurturing Parenting Program, as measured by comparison of pre- and post-intervention scores on the Nurturing Quiz.

2.0 The Theoretical Basis for *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices*

The development and behavior of the individual and the family, two dynamic social units, has been described in several important social theories. Based on these theories, the project team designed a program to address the developmental stages and needs of the individual child and his/her family, in order to maximize the potential for positive change. What follows is a brief description of the established theories that form the basis of this project and how they were applied.

Psychosocial Theory. In psychosocial theory, eight stages of individual development, from infancy through older adulthood and death, are described.¹¹ At each stage, the individual must positively resolve a unique, major psychological conflict in order to become a fully realized adult. In infancy, the developmental conflict is trust versus mistrust; during the toddler years, it is autonomy versus shame and doubt; for the preschooler, it is initiative versus shame and doubt. As children are growing through these three stage and conflicts, parents are dealing with their own stages and tasks: In young adulthood, the conflict is intimacy versus isolation; in middle adulthood, it is generativity (a sense of making the world a better place by contributing to the next generation) versus stagnation. An approach to feeding relationships based on these developmental stages was developed by the nutritionist, Ellyn Satter.¹² Her approach was built on recognizing children's developmental capabilities in eating, and fostering a sense of trust, autonomy, and initiative in young children. The New Mexico Nurturing Parenting Program was designed to educate parents about the needs of children at each stage and to teach ways to interact with children that do not rob them of autonomy and initiative. It also helped parents examine how to meet their own needs for intimacy and generativity.

¹¹ Erikson, E. (1950) *Childhood and society* New York: Norton.

¹² Ellyn Satter Associates, Madison WI.

Social Learning Theory. Social learning theory emphasizes the role of modeling in learning.¹³ Children and adults learn by imitating others and by observing the consequences of behaviors. Over time, individuals abstract general rules from their observations and develop personal standards for behavior. Parents often raise their children the same way they were raised, automatically applying their learned personal standards. The Nurturing Parenting Program helps parents become aware of what parenting behaviors they learned growing up, helps them analyze their own behaviors, including those involved in food and eating, and determine which they want to repeat and/or discard. Being in a parenting class with other parents also allows them to learn from each other as they discuss methods of handling children and balancing multiple roles.

Family Development Theory. Just as individuals have a life cycle and progress through stages of development, families also have a life cycle and move through stages of family development.¹⁴ As mentioned before, at each stage, there are certain developmental tasks. The tasks that occur during the childbearing stage include adjusting to the birth of new family members, promoting children's growth and development, and balancing the needs of the adults with the needs of the children. If developmental tasks at one stage are not accomplished, functioning in subsequent stages may be impaired. The Nurturing Parenting Program helps parents cope with the transition to parenthood and teaches parents how to nurture one's self as well as one's children. Family development theory is different from psychosocial theory in that it looks at the development of the family instead of the individual.

Family Systems Theory. The family has been described as a system, meaning that its members are interconnected, and what happens to one member has an impact on the other members.¹⁵ Feeding behavior in a family is based on this reciprocal influence between parents and children. Involvement of all family

¹³ Bandura, A. (1977) Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215. Bandura, A. (1986). *Social foundations of thought and action: A social-cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall. Bandura, A. (1992). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.

¹⁴ Duvall, E. M. (1957) *Family development*. New York: Lippincott.

¹⁵ <http://www.thebowencenter.org/pages/theory.html> (accessed May 1, 2006).

members is essential to change the system. To promote children's health, nutrition educators must assess the dynamics in the parent-child relationship. For this reason, both parents and children participated in the Nurturing Parenting Program.

3.0 Implementation: How Does *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices* Work?

Implementation of each component of this project was carried out in several phases: preparation, delivery, and evaluation. All three phases of implementation will be described separately for each component. Results of component evaluations are described in Section 4.

3.1 Implementation of Component 1: *Promoting Healthy Feeding Relationships*

3.1.1 Preparation Phase: *Promoting Healthy Feeding Relationships*

To enhance the abilities of WIC staff to provide support in the area of feeding relationships, the project team developed a staff-training program tailored to the New Mexico WIC population. The training program was designed to teach skills for intervening at three levels of participant need: The first level of need was for all WIC families to promote healthy eating behaviors and balance feeding responsibility. The secondary and tertiary levels of need were those of WIC families at greater risk. In order to tailor a training program to address these three levels, project team members consulted with the recognized expert in the area of feeding relationships, Ellyn Satter.

The first-tier intervention training was developed and delivered by project staff, following the consultation with Ellyn Satter.¹⁶ In the first-tier training, WIC nutritionists and clerks throughout the state received a one-day *primary intervention* training workshop. In this training, WIC staff learned or reviewed the content they needed for educating parents about feeding relationships and the division of

¹⁶ Five project members (the state WIC director, two WIC program managers, a university professor in Family Studies, and a family therapist/parent educator) attended a three-day workshop in Wisconsin conducted by Ms. Satter. Following the workshop, three of the team members (WIC manager, university professor, family therapist) then developed the primary intervention training described below for New Mexico WIC staff.

responsibility. A three-day *secondary intervention* training was conducted by Ellyn Satter herself for selected WIC staff. These trained staff provided consultation to WIC staff engaged in primary intervention, when they identified families with more serious feeding issues. A two-day *tertiary intervention* training was lead by Ellyn Satter for community dietitians and mental health professionals, to build a network of support in the community when feeding problems exceeded the purview of WIC.

Primary Intervention Training. The purpose of the primary intervention training was to educate WIC staff on child development, parenting practices, and the division of responsibility in feeding young children. The goal of this one-day training was to help staff to teach positive feeding practices, detect risk for feeding problems, provide anticipatory guidance on common challenges, support parents in their role as primary caregivers, and increase their skills in facilitating group discussions on the feeding relationship.¹⁷

A team of three professionals, all trained by Ellyn Satter, delivered the training in New Mexico. The team consisted of an experienced WIC manager, a university professor with expertise in child development and parenting, and a family therapist. This combination was particularly helpful in providing a deep understanding of the concepts and then translating the concepts into practice. During the first year of this project, the primary intervention training was given to 146 WIC staff members in the four health districts of the State. In the second year, 55 new staff in two areas of the State received the same training; in the third year, the training was held in Albuquerque for 15 new staff members from around the State.

A variety of teaching methods, such as lecture, small group discussion, analysis of videotapes, and role-play, were utilized in the training. Availability of materials used in this training is described in Section 6.1. Topics included:

- ✓ Children's ability to internally regulate the amount of food they eat;

¹⁷ Facilitated group discussion (FGD) was pioneered by New Mexico WIC. New Mexico WIC has found FGD to be as effective as lectures in imparting knowledge and more effective than lectures in eliciting participants' discussion. In FGD, participants identify their own information needs, and more experienced parents share their advice, cultural wisdom and support with less experienced parents. The response of participants to these facilitated group discussions has been very positive. Facilitated nutrition education discussions are routinely used for delivery of nutrition education within the New Mexico WIC Program. The facilitated group discussion format was considered ideal for approaching the topic of feeding relationships with WIC participants.

- ✓ The division of responsibility in feeding children;
- ✓ A description of the developmental stages during the preschool years, and parents' tasks during each stage;
- ✓ Children's eating skills at each developmental stage;
- ✓ Risk factors for children and parents in the development of feeding problems;
- ✓ Factors that affect children's growth; and,
- ✓ Distinguishing between normative and divergent growth patterns.

In order to evaluate the immediate *impact* or effectiveness of the training in increasing staff knowledge, WIC staff members were asked to complete a questionnaire (*Knowledge of Feeding Dynamics*) at the outset and again at the completion of the one-day training. The 20-item questionnaire measured knowledge of feeding relationship issues.¹⁸ (See Section 6.1 for availability of the questionnaire.) The average overall score on the pre-training was 83% correct; the average post-training score significantly increased, to 89%. Two items did not show improvement with training, indicating that more training was needed on topics related to those items.¹⁹

WIC staff members were also asked to evaluate the training *process* or quality of their training experience by completing a six-item questionnaire (with response choices ranging from strongly agree to strongly disagree) at the conclusion of the day's session. Items included topics such as quality of information, organization of material, application to the WIC setting, etc. Overall, over 98% of trainees were satisfied with the training they received. WIC staff members were also asked several open-ended questions about how the training could be improved and what were the most helpful aspects of the training. See Appendix A of this chapter for more detail on the results of these evaluations.

¹⁸ This 20-item questionnaire was based on a tool by Ellyn Satter called the Knowledge of Feeding Dynamics tool.

¹⁹ These items were "Parents are responsible for making young children eat certain foods" and "It is okay to let young children drink juice or milk whenever they are thirsty."

Following the primary intervention training to all WIC staff, the delivery phase of the intervention began. The secondary and tertiary level trainings, which did not involve all of the “front-line” WIC staff, progressed simultaneous to the delivery phase.

Secondary Intervention Training. The purpose of this training was to develop the ability of selected WIC staff to serve as resident experts in the area of family feeding dynamics. When WIC staff work with participants who have serious problems with feeding dynamics and whose needs go beyond education and support (e.g., when deviation in a child’s normal growth has occurred), they may need to consult other professionals to determine appropriate assessment or treatment. Twenty-six WIC staff from the four health districts in New Mexico attended a three-day workshop to develop skills on this secondary-level of intervention. The training was conducted by Ellyn Satter in New Mexico during the second year of the project. The staff selected for the secondary intervention training had master’s degrees in nutrition and extensive experience working with participants. At the conclusion of the workshop, staff members were asked to evaluate their experience by completing a 10-item questionnaire. Staff response to the three-day workshop was overwhelmingly favorable.²⁰ See Appendix B for details of the process evaluation of this workshop.

Tertiary Intervention Training. The purpose of the tertiary intervention training was to build a support network so that WIC staff could refer at-risk WIC participants to health professionals knowledgeable about complicated feeding issues. Ellyn Satter trained 25 registered dietitians and mental health professionals from around the State in tertiary intervention training during the third year of the project. Tertiary intervention is appropriate for parents with longstanding problems that interfere with feeding relationships.

²⁰ Response to one item, “Distinguishing feeding management from psychotherapy”, indicated that training related to that topic needed to be enhanced.

3.1.2 Delivery Phase: *Promoting Healthy Feeding Relationships*

Following the primary intervention training, each of the 110 clinics in New Mexico began the work of *Promoting Healthy Feeding Relationships* in every aspect of their work with WIC participants. They were provided with the following materials²¹ developed by Ellyn Satter to help them in their efforts:

- ✓ The book entitled, *Child of Mine*;
- ✓ The book entitled, *Secrets of Feeding a Healthy Family*;
- ✓ Handout masters entitled, *Nutrition and Feeding for Infants and Children, and*
- ✓ The video and teacher's guide entitled, *Feeding with Love and Good Sense*.

WIC staff were encouraged to utilize these resources at certification, in one-on-one counseling, and in facilitated group nutrition education sessions. Staff were also encouraged to develop bulletin boards, handouts, or other outreach materials based on the Ellyn Satter approach. The clinics did not follow a specified intervention protocol. Instead, they tried to infuse “the division of responsibility” approach in feeding into every aspect of their work with participants. In other words, the clinics shared the same philosophy but not the exact methods of delivery. While most clinics conducted several FGD's on feeding relationship topics, some of the smaller satellite clinics, which might serve participants only one or two days a week, did not.

3.1.3 Evaluation Phase: *Promoting Healthy Feeding Relationships*

Ultimately, the purpose of staff training is to improve outcome for WIC participants. The *impact* of increased staff efforts on the feeding relationships in WIC families was therefore evaluated. A new tool, *Feeding Your Child*, was developed for this evaluation, based on a feeding assessment tool by Ellyn Satter.²² The new tool was designed to assess parents' responsibilities in feeding and children's (one to five

²¹ The description and purchase price of each item is available at www.ellynsatter.com (accessed May 1, 2006).

²² Questions pertaining to food insecurity were not included on the New Mexico tool.

years of age) capabilities in eating. The 13-item questionnaire was translated into Spanish by bilingual parent educators at New Mexico State University. Both language versions were evaluated by a panel of experts, including WIC staff from New Mexico, and edited accordingly. A pilot test of the questionnaire was conducted with 26 English-speaking parents and 13 Spanish-speaking parents from one WIC clinic in Doña Ana County. Based on analysis of the pilot test results and consultation with Ellyn Satter, a revised version with 14 items was finalized for use in this project. Items were scored on a 5-point scale ranging from “never” to “almost always”. Items on this new tool, *Feeding Your Child*, are shown in Table 1.

Table 1 Evaluation Tool for *Promoting Healthy Feeding Relationships Curriculum: Feeding Your Child* Questionnaire*

Item Number	Original Version	Revised Version
1	I see that my child gets meals and snacks at about the same times every day.	I make sure my child’s meals and snacks are at about the same times every day.
2	I make my child eat what is on his or her plate.	Same
3	I let my child have drinks other than water whenever he or she wants.	I give my child water when he or she is thirsty between meals. I let my child have drinks (like juice, milk, soda, or ice tea) between meals.
4	I let my child eat as much as he or she wants at meals and snack times.	Dropped
5	My child has to taste everything I make for a meal.	I make my child taste everything I make for a meal.
6	If my child won’t eat, I make something different.	Same
7	I cook only what I know my child will eat.	Same
8	To get my child to eat, I offer him or her something like dessert or a toy.	To get my child to eat, I offer something like dessert or a toy.
9	I enjoy family meals.	Same
10	I eat meals with my child.	I sit down and eat meals with my child.
11	I am comfortable with my child’s growth.	I feel my child is growing well.
12	I only let my child eat at meal time and snack time.	My child eats off and on all day.
13	I hold down on how much my child eats.	If I don’t set limits, my child eats too much.
14		I feel good about my child’s eating.

Adaptation of evaluation tool of Ellyn Satter

Before implementation of *Promoting Healthy Feeding Relationships*, the *Feeding Your Child* questionnaire was administered to 50 parents during a one-week period at each of the 55 primary WIC sites. A WIC staff member explained the purpose of the study, and then distributed the questionnaire, consent forms, and a brief demographic questionnaire in either English or Spanish. Parents with low literacy levels were read the instruments in either English or Spanish. The same questionnaire was administered to another sample of WIC parents at four months and again at eight months after implementation began.

3.2 Implementation of Component 2: *Nurturing Parenting Practices*

3.2.1 Preparation Phase: *Nurturing Parenting Practices*

The *Nurturing Parenting Practices* component of the New Mexico project was based on an approach developed by Dr. Stephen Bavolek, entitled, “The Nurturing Parenting Program.”²³ This program has been extensively field tested and validated with at-risk families in the U.S. and throughout the world for the past 20 years. It is listed as a promising program on the National Registry of Evidence-based Programs and Practices.²⁴

The goals of the Nurturing Parenting Program are to help family members develop empathy for others, increase family communication, build family support and cohesion, increase awareness of children’s developmental needs, and learn positive discipline practices. A core philosophy of the program is that learning to nurture oneself is a necessary prerequisite to becoming a nurturing parent. Self-nurturing topics include communication and conflict resolution, handling stress and anger, healthy couple relationships, personal power and personal space, and preventing

²³ <http://www.nurturingparenting.com/> (accessed May 1, 2006).

²⁴ <http://modelprograms.samhsa.gov/template.cfm?page=nreppover> (accessed May 1, 2006).

substance abuse. Parenting topics include family rules, rewards and punishment, using choices and consequences, age-appropriate expectations, communicating with children, and establishing routines.

Parent and child educators were hired by New Mexico State University to conduct the parenting education classes for WIC participants. The parent educators were professionals trained in parenting education. They had bachelor's degrees in Family and Child Science, and worked directly with WIC parents. The child educators were paraprofessionals who provided a structured program for the children that accompanied their parents to the parenting classes. Dr. Stephen Bavolek, the developer of the curriculum, trained both the parent and the child educators in the conduct of the program.

3.2.2 Delivery Phase: *Nurturing Parenting Practices*

Separate Nurturing Parenting Program classes were offered for adult parents and for teen parents of preschool-aged children, in both English and Spanish. The format of the Nurturing Parenting Program for adult parents was 24 classes lasting 2½ hours each; for the teen parents it was 20 classes lasting 2½ hours each. During the three years of this project, 19 series of classes were completed: 14 for adult parents, five for teen parents. Ten of the programs were offered in Spanish, and nine in English. The classes were offered in various communities, including large cities, small towns, and rural villages. They were held at health clinics, schools, community centers, college campuses, and at community agencies. One hundred and sixty parents and 205 children participated in the programs. The majority of the participants were WIC participants, although the classes were also open to other families in the community.

During the classes, parents engaged in cognitive and affective activities designed to: (1) build self-awareness, self-esteem, and empathy; (2) teach alternatives to yelling and hitting; (3) enhance family communication; (4) replace abusive behavior with nurturing behavior; (5) promote healthy development; (6) teach

appropriate role and developmental expectations; and (7) build family support and cohesion. While their parents were in class, children participated in activities led by the child educators: art, music, drama, and games designed to build self-esteem and promote physical and emotional development.

Educators facilitated a discussion with parents on the division of responsibility in feeding, modeled the concepts being taught, and demonstrated how to make snack- or meal-time a pleasant experience. Feeding relationship skills were also reinforced during the class session on establishing positive routines during mealtime, bath-time, and bedtime. Midway through each 2½-hour class, parents and children took part in a joint 30-minute family nurturing time that included games and songs. A demonstration featuring preparation of healthy snacks was also presented.

Several strategies were used to retain families in the parenting classes. Parent educators mailed post cards each week to thank parents for coming, alert them to the topic for the upcoming class, and let them know they were missed if they were absent. They also called families the day before each class to encourage them to attend and see if help with transportation was needed. Finally, a special graduation ceremony with certificates and gifts for the family was held for those who completed the program.

3.2.3 Evaluation Phase: *Nurturing Parenting Practices*

On the first day of the Nurturing Parenting Program, families were asked to participate in an evaluation of the program. The purpose of the evaluation was explained and consent forms in English and Spanish were distributed for families. Bilingual parent educators were available to assist parents with low literacy levels. Once parents had given consent by signing the form, two pre-training parenting measures (the AAPI and the NQ—see below) and one pre-training feeding relationship measure (*Feeding Your Child*—see Section 3.1.3) were administered. Since parents would receive education on parenting and feeding relationships during the parenting classes, it was important to measure their knowledge in both areas. The post-training

parenting measures and feeding relationship measure were administered at the last class meeting to evaluate changes in the measures from baseline.

The Adult-Adolescent Parenting Inventory (AAPI) was developed by Bavolek (1984).²⁵ The AAPI assesses adolescent and adult parents in the following areas: (a) inappropriate expectations of children; (b) lack of empathy towards children's needs; (c) strong belief in the use of corporal punishment as a means of discipline; (d) reversing parent-child roles; and (e) oppressing children's will and independence. There are two forms, A and B, which can be alternated to gather pre- and post-training data. Each has 40 items and a five-point scale with response choices ranging from "strongly agree" to "strongly disagree." The AAPI is written at a fifth grade reading level, and takes about 15 minutes to complete.

The Nurturing Quiz (NQ) is a 26-item multiple-choice assessment of parents' knowledge about effective discipline techniques such as praise, redirection, consequences, active listening, and "I Statements."²⁶ The availability of all forms is given in Section 6.1.

²⁵ For more information on the AAPI, what it measures and its validity, please see http://www.nurturingparenting.com/research_validation/index.htm (accessed May 1, 2006).

²⁶ To determine the reliability of the Nurturing Quiz for the current sample, a modified odd-even correlation was transformed using the Spearman-Brown prophecy formula. The split-half reliability was calculated as 0.76.

4.0 Impact of *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices*: Results of Evaluations

Both qualitative and quantitative responses from participants illustrated the success of this project. When asked to write comments about the content or quality of training received, participants and staff were generous in their eagerness to express opinions, which were very positive. A sampling of some of those comments is listed in Appendix C to this chapter. Results of the quantitative evaluations of impact incorporated into each component also indicated positive results, as described below.

4.1 Results of Component 1: *Promoting Healthy Feeding Relationships*

The demographic characteristics of the WIC participants who participated in this component of the New Mexico project were:

- Gender: 94% female, 5% male, 1% not given;
- Ethnicity: 68% Hispanic American, 21% European American, 3% Native American, 8% other;
- Number of children: 86% one to three children, 14% four or more;
- Marital status: 48% married, 24% single, 16% cohabiting, 12% not given.

After evaluation of the 14-item *Feeding Your Child* questionnaire by a statistician, data were analyzed in the following way.²⁷ Each of the 14 items from the questionnaire was distributed into one of four factors:

- 1) Positive Feeding Behavior (items 1, 3, 9, 10, 11, 14);
- 2) Negative Feeding Behavior (items 2, 5, 8, 13, 4, 6, 7, 12);
 - 2a) Over Control (items 2, 5, 8, 13) and
 - 2b) Lack of Structure (items 4, 6, 7, 12).

²⁷ For details on this evaluation, please see Appendix D.

At baseline, before implementation of *Promoting Healthy Feeding Relationships*, questionnaires were collected from 50 of the 55 main clinics for a response rate by the clinics of 90%. A total of 1,978 (1560 English, 418 Spanish) questionnaires were returned, but only 80% were useable. Questionnaires were excluded when the family's child was less than one year old or when fewer than half of the questions were completed.

Scores were calculated by summing responses to all the items relevant to an analysis factor. For example, the Positive Feeding Behaviors factor has six items that are scored on a 5-point scale. For each person completing the measure, the lowest possible score is 6 and the highest possible score is 30. For both positive and negative factors, a low score indicates problematic feeding practices and a high score indicates more desirable feeding practices. So, for example, when the average score on Negative Feeding Behaviors increases, it means that parents were demonstrating fewer negative behaviors.

Mean scores of each of the four analysis factors were compared across the four state health districts to test for differences due to location. There were no significant differences among the health districts at baseline or at four or eight months, so results from the districts were combined for each time-point.

At four months, questionnaires from 50 of the 55 clinics were analyzed. More questionnaires were returned at four months than at the baseline period (2,008 total; 1553 English and 455 Spanish). There were no significant changes in the two main factors, Positive Feeding and Negative Feeding, at four months compared to baseline. This lack of change may have been due to new staff who were not yet trained in the program, or new participants who had just entered the WIC Program and had little exposure to the intervention. There was a small but significant positive change in the Lack of Structure sub-factor. A positive change indicates that parents were providing more structure by giving children meals and snacks at regular times throughout the day. This factor may be more amenable to change than the other factors.

At eight months, 47 of the 55 clinics returned questionnaires. The final data analysis included only the 20 clinics that sent complete data at each of the three

time-points. There were 1,250 complete questionnaire-sets and these were used for the final analysis; 1,002 were English and 248 were Spanish. For this complete set of questionnaires, the average scores at baseline, four months and eight months for each factor are shown in Table 2.

There were small but significant positive changes in Positive Feeding Behaviors, Negative Feeding Behaviors, and Lack of Structure from four-months to eight-months. All factors but one (the main factor of Negative Feeding) were significantly higher at eight months than at baseline. Possible explanations for the increase are the greater length of time for the intervention to take effect, or more consistent implementation of the intervention by the WIC staff.

**Table 2 Results of Evaluation of Facilitated Group Discussion:
Average Scores on *Feeding Your Child* Questionnaire**

Scale	Baseline n=1250	4 Months n=1250	8 Months n=1250	p-Value* Baseline vs. 8 mos.
Total	49.97	48.92	50.13	.0001
Positive Feeding	26.95	26.27	27.81	.0002
Negative Feeding	22.99	22.83	23.32	.14
Over Control	12.96	12.02	13.02	.0001
Lack of Structure	9.95	10.19	10.97	.0001

The change in scores was analyzed using a hierarchical model that compared means across time-points.

The long-term impact of this project on WIC staff was not measured, but appeared to be significant. As a result of participating in the *Feeding Relationships* component of this project, WIC staff members developed several competencies and skills. First, they gained information about child development, parenting, and family dynamics as it relates to feeding young children. Next, they learned ways to infuse the philosophy of healthy feeding relationships into their work with WIC participants. They began discussing feeding issues at certification, during one-on-one counseling

sessions, and in facilitated group discussions. Finally, they gained an understanding of primary, secondary, and tertiary intervention. This helped them clarify boundaries in their professional role as nutrition educators.

4.2 Results of Component 2: *Nurturing Parenting Practices*

Complete pre- and post-training data were obtained from 126 parents who attended the parenting classes. The demographic characteristics of that respondent group were:

- Gender: 91% female, 9% male;
- Ethnicity: 81% Hispanic American, 13% European American, 4% Native American, 2% African American;
- Number of children: 36% had one child, 28% had two children, 21% had three, and 15% had four or more children;
- Marital status: 59% single, 41% married;
- Age of parent: 15% were in their teens, 44% were in their twenties, 25% were in their thirties, and 16% were 40 or older (includes some grandparents raising grandchildren);
- Education: 53% with 11th grade or less, 24% graduated high school or completed a GED, 23% attended or graduated from college;
- Income: 43% earned less than \$8,000 a year, 13% earned between \$8,000-\$11,999, 10% earned between \$12,000-\$17,999, 26% earned \$18,000 or more, 8% were not sure or missing.

For analysis of the AAPI, the 40 questionnaire items were clustered into four “subscales”, and individual subscale scores were computed, rather than a total score (see Table 3). For each subscale, raw scores were converted into standard scores ranging from one to ten. Low scores indicated a high risk for abusive or neglectful parenting.

After completing the series of classes, participants described positive changes in parenting practices: Average scores on the four subscales of the AAPI increased

significantly. Parents had fewer inappropriate expectations of children, decreased belief in the value and use of corporal punishment, and fewer reversals of parent-child roles. They also showed increased empathy for children's needs. Results are shown in Table 3.

Table 3 Average Scores* On Each of the Subscales of the AAPI

Subscale	Pre-Training Mean	Post-Training Mean	<i>p</i> -Value
Inappropriate expectations of children	5.51	6.07	.01
Lack of empathy towards children's needs	5.99	6.41	.05
Strong belief in the use of corporal punishment	5.64	6.71	.0001
Reversing parent-child role responsibilities	5.25	6.19	.0001

*Note: Raw scores were converted to standard scores ranging from 1-10; mean=average of 126 participants. Means were compared with t-tests, the *p* value for which is shown.

An increase in parenting skills following the class series was also shown by the results of the Nurturing Quiz. Possible scores on the NQ range from 0 to 26. The average score on the test was 16.77 before the parenting classes, and was 19.3 after the classes. Participants gained an average of 3 points, showing a significant increase in their knowledge of related parenting issues.²⁸

In summary, the four objectives of the New Mexico project were to (1) Train WIC nutrition educators and clerks about feeding relationships; (2) Reach 75% of the WIC participants in the State with facilitated discussion on feeding relationships; (3) Improve WIC parents' knowledge, attitudes and behaviors related to the feeding relationship; and (4) Increase positive parenting practices of WIC participants. There are objective data to support the accomplishment of objectives 1, 3, and 4. Over 90%

²⁸ $F(3, 119) = -7.30, p < 0.0001$.

of the WIC nutrition educators and clerks participated in one-day primary intervention training. They showed increased knowledge as measured by the Knowledge of Feeding Dynamics tool. Over the eight-month period of *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices*, WIC participants made positive improvements in their knowledge, attitudes, and behavior related to feeding their young children as evidenced by their scores on the *Feeding Your Child* measure. WIC parents who participated in the parenting classes also showed positive gains in their childrearing knowledge and attitudes as measured by the AAPI and the Nurturing Quiz. In regards to objective 2, there is self-report data from WIC staff members that 80% of the clinics conducted facilitated discussion on feeding relationships with their participants. However, it is not known if 75% of all WIC participants participated in the facilitated discussions—the actual number of participants in the FGD’s were not reported.

WIC parents want information on parenting and feeding children. WIC nutrition educators can address these needs by discussing not only food selection, but also family feeding dynamics with their participants. The New Mexico project provides one model for how to incorporate information on parenting and feeding dynamics into the quality educational services provided by WIC staff.

5.0 Lessons Learned and Recommendations

Listed below are the most important *Lessons Learned* by the New Mexico project team, related to WIC staff:

- ❖ *Staff training is not a one-time thing!* Once staff members are trained, they need encouragement by the administrative team to change their usual ways of working with participants. Monthly discussions of successes and challenges can keep staff motivated and overcome resistance to change. Moreover, with staff turnover, new employees need to be trained on a regular basis to maintain the integrity of the intervention.
- ❖ *The evaluation process must be quick and easy to administer.* WIC staff members are very busy with their many duties. Tools should be one page or less in length.
- ❖ *Evaluation tools should be written at a low literacy level and be available in Spanish and English.* There is a wide range of literacy levels and cultures among WIC participants.
- ❖ *Although it is desirable to have uniform implementation of an intervention in every WIC office, that is not always realistic.* Staff members face many challenges, including shortage and turnover of staff and other constraints on their time which might affect uniformity of implementation among offices.
- ❖ *Even with training, WIC staff members may hold on to outdated practices.* For example, many still believe they have to make children eat

certain food items, and that they can't trust children to regulate their own eating. These beliefs are diametrically opposed to Ellyn Satter's philosophy. Some staff may have had difficulty teaching the feeding relationship concept because it conflicted with their beliefs.

Listed here are the most important *Lessons Learned* by the New Mexico project team, related to WIC participants:

- ❖ *Information on parenting, child development, and family dynamics related to feeding young children makes nutrition education more meaningful to WIC participants.* For many participants, the WIC staff is a primary source of health education. Parents want to be able to ask questions about finicky eaters, overeaters, mealtime routines, and the parent's responsibilities in feeding children.
- ❖ *WIC participants are interested in family programs that last four to six months!* Don't assume that parents are not motivated to participate, or that they will not attend longer programs. When programs are family-friendly (e.g., offered in the early evening at convenient locations and provide healthy snacks and a children's program), parents will want to attend.
- ❖ *Don't expect results overnight!* Behavior change takes time and continued support.

Based on the success of the *Healthy Feeding Relationship and Nurturing Parenting Practices* project in New Mexico, the following *Recommendations* are given:

1. Quality nutrition education services should include more than food selection as a topic. Both WIC staff and WIC participants benefit from the expansion of

nutrition topics to include feeding dynamics. WIC staff members in New Mexico were energized by the focus on parent-child relationships surrounding feeding. They were better able to engage participants in meaningful discussions, and to provide information that made feeding children effective and enjoyable. Instead of being the “food police”, WIC staff could become the “parent support system.”

2. WIC staff can meet the expressed need of WIC families for information on parenting and child development in several ways.
 - a. First, they can briefly discuss parenting and child development as it relates to feeding issues. WIC staff can be trained within one to two days on this information, and can easily incorporate discussions of how parenting and child development impact feeding into their daily work with participants.
 - b. Second, they can identify parenting resources in their local community. Parenting brochures and newsletters can be made available in WIC waiting rooms. WIC staff can compile a list of parenting programs in the community and distribute it to participants.
 - c. Finally, WIC clinics can partner with agencies that provide parenting education. They can help recruit parents for the classes, and even provide space if facilities are adequate.

6.0 Resources

6.1 Tools and Forms

The following tools will help you implement this project. Training materials and forms developed by WIC are available on the WIC Works Resource System (<http://www.nal.usda.gov/wicworks/>). Availability of other materials is indicated below. Please see Appendix E for important financial considerations.

1. For the primary intervention training: a sample agenda, PowerPoint slides, and a tool to assess satisfaction with the training.
2. WIC 20-item questionnaire, *Knowledge of Feeding Dynamics*, to assess staff knowledge in the area of family feeding dynamics, both pre-and post-primary intervention training.
3. Materials distributed to clinics for *Promoting Healthy Feeding Relationships*:
 - ✓ The book entitled, *Child of Mine*;
 - ✓ The book entitled, *Secrets of Feeding a Healthy Family*;
 - ✓ Handout masters entitled, *Nutrition and Feeding for Infants and Children*;
 - ✓ The video and teacher's guide entitled, *Feeding with Love and Good Sense*.

The description and purchase price of each item is available at <http://www.ellynsatter.com> (accessed May 1, 2006).

4. Evaluation tool for participant facilitated group discussions with participants on the feeding relationship: *Feeding Your Child* Questionnaire.
5. The Adult-Adolescent Parenting Inventory (AAPI) for assessment of parenting skills (available from Family Development Resources, Inc.; see below).

6. The Nurturing Quiz for assessment of parents' knowledge about effective discipline techniques (available from Family Development Resources, Inc.; see below).

To order Feeding Relationship materials, contact:

Ellyn Satter, MS, RD, CICSW, BCD
4226 Mandan Crescent, Suite 50
Madison, WI 53711
Phone and Fax: (608) 271-7976
Website: www.ellynsatter.com (accessed May 1, 2006)

To order Nurturing Parenting Program materials, contact:

Family Development Resources, Inc.
3070 Rasmussen Road, Suite 109
P.O. Box 982350
Park City, UT 84098
Phone: 1-800-688-5822
Fax: (435) 649-9599
E-mail: fdr@nurturingparenting.com

For training and information about the Nurturing Parenting Program, contact:

Stephen Bavolek, Ph.D.
Family Nurturing Centers International
Phone: (828) 681-8120
Fax: (828) 681-8620
E-mail: fnc@nurturingparenting.com
Website: www.nurturingparenting.com (accessed May 1, 2006)

6.2 People to Contact

Esther Devall, PhD, CFLE

Family & Consumer Sciences Department

New Mexico State University

P.O. Box 30003, MSC 3470

Las Cruces, NM 88003

Phone: (505) 646-1185

Fax: (505) 646-1889

E-mail: edevall@nmsu.edu

Deanna Torres, MPA

Deputy WIC Director

2040 S. Pacecho

Santa Fe, NM 87505

Phone: (505) 476-8814

E-mail: deannat@doh.state.nm.us

6.3 Other Helpful Resources

Bright Futures in Practice: Nutrition (2nd ed.)

“This guide provides developmentally appropriate nutrition supervision guidelines for infancy through adolescence. It also presents information on nutrition issues and concerns such as breastfeeding, eating disorders, and iron-deficiency anemia. Tools include nutrition questionnaires, indicators of nutrition risk, nutrition resources, and CDC growth charts.” Order on the web: <http://www.brightfutures.org/nutrition/index.html> (accessed May 1, 2006).

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Sid Golden

Family Food and Nutrition Section Chief

Deanna Torres

WIC Deputy Director

Connie Dixon

WIC Manager

Marty Garcia

WIC Manager

Shirley Jaquez

WIC Manager

Jennifer Maestas

WIC Manager

Mary Meyers

WIC Manager

All WIC Nutrition Educators and Clerks

All WIC Participants

New Mexico State University

Dr. Ann Vail

Professor and Dept. Head

Family and Consumer Sciences

Dr. Dawn VanLeeuwen

Associate Professor and Statistician

Agricultural and Extension Education

Lisa Shields

Associate Director of Parenting

Programs, Extension Home Economics

Parent Educators

Connie Gomez

Maria Samaniego Jimenez

Luis Nolasco

Trena Pollard

Susana Martinez Ramirez

Child Educators

Patsy Becerra

Laura Bernal

Stan Bernal

Denise Chavez

Mary Corral

Miriam Rodriguez

Rosa Rodriguez

Student Interns

Jessica Atkins

Crizel Barraza

Sylvia Barraza

Shannon Bracamonte

Julie Dutchover

Amber Foster

Dora Gross

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Joanne Herrera

Nicole Holland,

Lillian Jimenez

Lena Johnson

Marilee Kerschen

April Larcher

Michelle Lopez

Maribel Ochoa

Alisha Reyes

Kristy Sonnemaker

Alisha Torres

Natalie Turner

Holly Yeager

Graduate Research Assistants

Angela Dixon Contreras

Iris Fleschenhour

Karim Martinez

Appendix A. Results of Evaluation of Primary Intervention Training of WIC Staff in Component 1: *Promoting Healthy Feeding Relationships*

Item	Satisfied	Not Satisfied
Quality of information	99%	1%
Organization of material	99%	1%
Relevance of case examples	99%	1%
Usefulness of information	98%	2%
Opportunity to participate	99%	1%
Application to WIC setting	97%	3%

Examples of comments from the WIC nutritionists and clerks who participated in the training:

- This was a wonderful training and the facilitators were outstanding.
- This class was very interesting - when is the next one?
- This is the most excellent, valuable training I have attended in a long time.
- One of the best trainings that WIC has ever provided!
- I gained a lot of information to apply towards my own family.
- The training had good information that we can use in the clinic.
- I'm very excited about this new information and I look forward to introducing it to our participants.
- I think the staff is really going to use this. It is practical and makes good sense.
- I came back with fresh ideas and am able to help the participants better. I am able to answer their questions and give them the help and encouragement they need.
- This has helped me feel more comfortable discussing family feeding practices.

Appendix B. Results of Evaluation of Secondary Intervention Training of WIC Staff in Component 1: *Promoting Healthy Feeding Relationships*

Achievement of Objectives	Exceptional or Very Adequate	Somewhat Adequate or Inadequate
Understanding principles of child development as they apply to feeding	100%	0%
Observing and interpreting feeding interactions	100%	0%
Instituting positive feeding dynamics between parent and child	100%	0%
Evaluating feeding distortions	100%	0%
Developing positive approaches towards parents about the need for change	100%	0%
Structuring treatment	96%	4%
Evaluating childhood obesity	100%	0%
Adapting feeding dynamics principles to childhood obesity	100%	0%
Distinguishing feeding management from psychotherapy	77%	23%

The comments from the secondary intervention training illustrate the value of the experience:

- The training had incredible value, not just professionally but personally too.
- I liked how thorough it was. It was great to see the evaluation right through to the treatment plan.
- It definitely makes one reflect on your own feeding relationships, which will help us to better understand some of our participants.
- The training helped me have a more relaxed attitude toward eating and enabled me to envision moving out of my role as “fixer” with participants to a more positive, relaxed, and supportive coach.

- The more people we can reach with this, the better. These concepts need to be out there, put to use to change people's lives.
- The information provided was presented in a calming atmosphere. We did not rush through it. A great amount of time was allowed for discussion and learning. I learned a lot by the resources used in the training.
- Ellyn Satter is extremely knowledgeable and down to earth. She has empathy for both the kids and the parents.
- The training gave me tools and insight on how to look at the feeding dynamic and involve others to help treat problems that may arise.

Appendix C. What Staff and Participants Had To Say About *Promoting Healthy Feeding Relationships and Nurturing Parenting Practices*

Comments from Staff on *Promoting Healthy Feeding Relationships: Impact on Staff*

- I think one of the most important things I have learned is to look at the way children eat and to some degree realize that children have the power.
- I feel this program has helped support parents but has not done much to change behaviors. It has been an excellent source of information about feeding dynamics. It has also helped me feel more comfortable discussing the family feeding practices.
- The trainings that I attended have helped tremendously. I came back with fresh ideas and I feel that I am able to help the participants better.
- I am able to answer their questions and give them the help and encouragement that they need to lead a healthy and active life and also pass on this gift of knowledge to their children and family members.
- I feel that the Feeding Relationship philosophy is a great teaching method that the participants are actually relating to. What has worked really well for my sessions is the feeding responsibility of both the parent and the child.
- It is much easier for me to discuss issues with parents using this philosophy and actually having Ellyn Satter books to back me up. I pull those books out when I need to, to get my point across. Thanks for this great store of useable knowledge. Hope to have more education that we may apply to our jobs.

Comments from Staff on *Promoting Healthy Feeding Relationships*: Impact on Participants

- Mealtimes together have helped the whole family eat better.
- I am using this information at certification. The parent sets the goal and then we discuss the goal later. A lot of the parents are really working on it and achieving it.
- I have been giving the sheet at the certification with “Parent’s Responsibilities with Feeding and Children’s Capabilities with Eating.” Then, at class I have had several parents talk about some of the points on the sheet. We have discussed things they liked and things they still had questions about such as children making their own plates and stopping when they are full. I have had a couple of parents surprised at how well it works.
- When we have our facilitated education sessions, I have had some positive comments and that seems to help those who are reluctant to trust their child. Not forcing a child to eat has helped the kids feel more positive about meals and helped to cut down on mealtime stress for the parents.
- The feeding relationship teaching is going really well in my office. I can see it in the participants’ faces. They are interested in what I am saying and I believe the participants are getting a lot out of these classes.
- Parents are always afraid their child will lose weight or get sick if they don’t eat much on a given day. I give out the paper that describes the parent’s and the child’s responsibilities. This always seems to reassure parents.
- Stopping the cooking on demand cycle has helped several parents in dealing with food jags.
- The response from parents has been very positive. The relationship between parents and children has gotten better, too. Families that had

problems or difficulties in getting children to eat and participate with meals have had positive results.

Comments from Parents on *Nurturing Parenting Practices*

- I think a lot more, I don't just scold. I thought scolding and spanking were the right thing to do. But taking these classes has taught me a lot. To redirect my children and give them choices, not just what I say. My kids are a lot more understanding and they listen better, so that helps us both. (22-year old father of three preschool boys)
- The classes teach you what you can do to better the lives of your children. I'm more centered. I feel better seeing that what I do is not in vain. It is giving me results. (38-year mother of three preschool children)
- In class, we talk about our feelings and how we can deal with them. We get to talk about what is bothering us about our parenting skills and troubles with our children. (24-year old mother of one preschool child).

Appendix D. Statistical Analysis of the Questionnaire Used for Evaluating the *Promoting Healthy Feeding Relationships* Curriculum of Component 1

The first step in evaluating the results of the intervention was to determine the psychometric properties of the *Feeding Your Child* tool. An analysis of internal reliability was conducted. Cronbach's alpha was .40 at baseline, .41 at 4 months, and .42 at 8 months. This is much lower than the desired .60 for internal consistency reliability.

A subsequent factor analysis revealed two clear factors, Positive Feeding Behaviors and Negative Feeding Behaviors. The cut-off for an item to be included in a factor was .40. The internal consistency reliability of the two factors was much higher than of the total scale. The reliability for Positive Feeding Behaviors was 0.65; the reliability for Negative Feeding Behaviors was 0.58. The reliability of the factors was adequate for research purposes.

Factor 1, Positive Feeding Behaviors, consisted of items 1, 3, 9,10, 11, and 14. Items in this factor included:

- Establishing regular routine for meals and snacks (1,3)
- Enjoying family meal time (9,10)
- Accepting children's natural body size (11)
- Trusting children's eating (14)

Factor 2, Negative Feeding Behaviors, consisted of items 2, 4, 5, 6, 7, 8, 12, and 13. The factor broke down into two sub-factors:

1. Over Control

- Making children clean their plate (2)
- Making children taste everything (5)
- Bribing children to eat (8)
- Setting limits on how much children eat (13)

2. Lack of Structure

- Giving caloric drinks between meals and snacks (4)
- Short-order cooking (6,7)
- Allowing grazing all day (12)

Test-retest reliability of the instrument was analyzed in a pilot test of 44 parents over a six-month period. These parents were not involved in the feeding relations intervention. The percent of agreement from Time 1 to Time 2 was 84%. This suggested that parents provide similar answers over time and that the tool had adequate psychometric properties.

Appendix E. Financial Considerations

There are many financial factors to consider when implementing a project such as this. A summary of expenses to consider include the following:

Materials and supplies

Books, videos, and handouts masters are needed for the training in feeding dynamics and to implement the educational intervention with WIC participants. For the NM WIC project, these materials were purchased from Ellyn Satter Associates:

- *Child of Mine: Feeding with Love and Good Sense* book (\$16.95);
- *Secrets of Feeding a Healthy Family* book (\$16.95);
- *Feeding with Love and Good Sense Video and Teacher's Guide* (\$150);
- *Nutrition and Feeding for Infants and Children: Handout Masters* (\$224);
- New bilingual, low-literacy handout masters may be purchased instead: *Feeding in Primary Care Pregnancy through Preschool: Easy-to-Read Reproducible Masters* (\$250).

Ordering larger quantities of each item can result in substantial price reductions.

Curriculum packages that include instructor manuals, 15 parent workbooks, instructional videos, children's activity manual, games, and all evaluation instruments may be purchased for offering the parenting classes. The NM WIC project used three Nurturing Parenting curricula:

- *Nurturing Program for Parents of Infants, Toddlers, and Preschoolers* (\$1,616.60);
- *Nurturing Program for Teenage Parents and their Families* (\$1,474.60);
- *Crianza con Cara* (\$750).

Some expendable supplies are needed for conducting the parenting classes. Parent educators would need flip charts, markers, construction paper, and tape. Child educators would need arts and crafts supplies, a first aid kit, and toys and games for children. A healthy snack is also offered during each class.

Include the costs of copying the *Knowledge of Feeding Dynamics* tool (pre- and post-training) for all WIC staff members who participate in the primary intervention training. Also include the costs of copying the *Feeding Your Child* tool (pre- and post) for WIC participants.

Personnel

At least one person is needed to oversee the implementation of the project. This individual would organize and coordinate the primary intervention trainings, purchase educational materials and supplies, oversee data collection from WIC staff and participants, and prepare summary reports. To offer the parenting classes, at least one parent educator and two child educators are needed per class.

Travel

Funds will be needed to support staff travel to the primary intervention training in feeding relationships. If the training can be held in conjunction with regular district or state meetings, the expenses can be minimized. The project coordinator will also need travel funds to attend an Ellyn Satter training, and to make visits to project sites.

Communications

The project coordinator will need local phone service and the ability to make long distance calls to communicate with WIC staff, the evaluator, and any other consultants. Use of a fax machine may also be necessary. Postage may be needed for mailing completed questionnaires to the evaluator.

Consultants

One or more trainers are needed for the primary intervention training in feeding relationships. Ellyn Satter can be contacted about conducting a training event. If funding is limited, WIC staff in New Mexico or other States who have been trained by Ellyn Satter may be willing to provide training if their travel expenses are

covered. (A third alternative is to purchase the *Montana Feeding Relationship Training Package* from Ellyn Satter, which costs \$350. Local staff could then facilitate this video-based training.) An evaluation expert is also needed for data collection, entry, and analyses. A faculty member at a college or university may be willing to consult on the project for a minimal fee if he or she is able to publish data from the project.

Indirect costs

A certain portion of the budget goes towards the overhead of the organization that administers the grant. For USDA grants, this amount is fixed at 15% of the total amount awarded.