Education and Training of Home Visitors and Supervisors for Child Abuse Prevention

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Abstract

Despite the recent focus on curricula for home visiting programs to improve parenting, little attention has been given to implementation and its consequences. We followed for two years 17 trainees in an intensive home-visiting program. At entry, one, and two years later, we assessed knowledge of infant and child health and development; philosophic approaches to modifying behavior; and "mental maps" for helping young, at-risk families. Trainees varied in their prior experience and education. Those with little child-rearing experience gained most in formal knowledge. Home visitors and supervisors began with different orientations toward human services, but they moved toward a common understanding of their jobs and the target families, each gaining appreciation of topics initially more important to the other group. They also established a relatively egalitarian form of supervision and coaching. Results highlight the profound interconnections among curriculum, staff selection, pre-service training, and supervision that underlie successful program implementation.

Keywords: home visitors, staff selection, training, supervision, abuse prevention, human services

Education and Training of Home Visitors and Supervisors for Child Abuse Prevention

Home-visiting programs are increasingly seen as an effective method of minimizing risks for a variety of problems in children's health and development, including child abuse and neglect. The growth of home visiting's reputation is reflected in public media (Editorial, 2011), the scientific and clinical literature (Foley-Schain, Finholm, & Leventhal, 2011; Olds, Kitzman et al., 2004), and government initiatives such as the Affordable Care Act of 2010. The primary focus of research on home visiting has been on the curricula and visiting paradigms used in various homevisiting models, as they relate to child and family outcomes (Howard & Brooks-Gunn, 2009).

Little research has focused on the selection and training of home-visiting staff, with the exception of the claim by Olds and colleagues (Olds et al., 2002; Olds, Robinson et al., 2004) that the most effective home visitors are nurses, in contrast to "paraprofessionals," or "those with no formal training in the helping professions" and in many cases without a college degree (Olds et al., 2002, p. 486). The evidence for this claim consists of one study indicating that a program using such paraprofessionals, who were given a one-month training, produced few significant beneficial effects for the target families during a two-year intervention (unlike the case for the nurse-visited families), although a small number of effects became visible two years later (Olds, Robinson et al., 2004).

Neither from this study, nor elsewhere in the empirical literature, can we learn much about what makes a competent home visitor, or what skills and knowledge they might acquire through training and experience. Yet these are critical questions as promising programs are scaled up for diverse populations in a variety of contexts, in order to achieve the goal of reaching all vulnerable children and their families. Implementation, thus, is a key element in the conceptualization and evaluation of home-visiting programs.

In their widely cited review of implementation research, Fixen and colleagues (2005) identified six core internal components of implementation, the first three of which concern staffing: (1) staff selection, (2) pre-service training, and (3) staff coaching. The first component – selection – is particularly relevant to the front-line practitioners employed by home-visiting programs. What kinds of background are desirable? Human service specialists are generally not well represented in the experimental home-visiting literature, although there is some published literature on the personal background of home visitors, their emotional experiences, job satisfaction, and burnout (Burrell et al., 2009; Gill, Greenberg, Moon, & Margraf, 2007).

Pre-service training, the second component of implementation, varies greatly in human services with regard to both breadth and intensity, as well as in the specific content covered (Fixen et al., 2005). Such training is presumably best when coordinated with the skills and knowledge of the staff upon entry into the program, and with the particular tasks and outcomes for which they will be responsible. There are some reports on techniques of successful training with regard to the short-term retention of information (Collins, 2008; Collins, Kim, & Amodeo, 2010), and on trainees' expressed desire for specific guidance, especially regarding crisis situations involving substance abuse and family violence (Duggan et al., 2007; Gill et al., 2007; Tandon, Mercer, Saylor, & Duggan, 2008; Tandon, Parillo, Jenkins, & Duggan, 2005). To our knowledge however, only one study has considered the effects of training over a longer period: Palmer-House (2008) compared the thinking of new and experienced family workers trained in an empowerment model. She found that unlike the novice group, the more experienced home visitors saw empowerment less in terms of access to resources, and more in terms of an ecological model

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of "partnership, strengths, [and] the linkage between the person and her or his environment" (p. 431).

Finally, there is persuasive evidence from a number of fields that continued coaching – the third component of implementation – is critical to the behavior changes underlying faithful execution of designated programmatic elements (Kelly et al., 2000). More than simple supervision, coaching in this sense combines emotional as well as practical support as the trainee begins to use the newly acquired perspective and skills; at best, it implies a longer-term relationship of assessment and reflection (Spouse, 2001). Indeed, coaching by peers has become a topic of investigation in recent years (Lu, 2010).

The present study was undertaken to examine several issues regarding these three key components of implementation in a well established, empowerment-based program to prevent child abuse and neglect. The model of home visitor that had evolved in the program was distinct from any documented in the literature, both in relation to selection and training. Thus the focus of the present study was identification of (1) the knowledge, attitudes, and concepts brought to the training experience by the new staff (both home visitors and their clinical supervisors); (2) the way those attributes changed over the course of an extended training program; and (3) how understanding by home visitors and their supervisors co-evolved over their first year of post-training experience in the field. The results provide several insights relevant to the staffing and implementation of future home-visitor programs to prevent child abuse and neglect.

Methods

The Nurturing Families Network

The programmatic context for this study is the home-visiting program of the Nurturing Families Network (NFN), a nationally recognized, strengths-based service for new families at very high risk of child abuse and neglect. The program was developed and is administered by the Connecticut Children's Trust Fund, with the stated mission to "work in partnership with first-time parents facing the challenges of parenthood by enhancing their strengths, providing education, and creating community connections" (Connecticut Children's Trust Fund, 2006, p. 10). The program is currently offered through 29 birthing hospitals and 14 non-hospital community agencies across the state (Foley-Schain et al., 2011). Sites are located mostly in the cities and towns of central and southern Connecticut characterized by high concentrations of poverty. To determine eligibility for NFN, all first-time mothers are screened prenatally or just after birth for risk of child abuse or neglect. Mothers rated as low risk are offered phone-based support and the opportunity to attend parent support groups. Those whose scores indicate high risk are offered home visitation. These visits, if accepted by the family, take place as needed, usually between two and four times per month, for up to five years.

The Connecticut NFN home-visiting program mothers

The mothers who enroll in the NFN home-visiting program face a wide variety of challenges including homelessness, untreated substance abuse, social isolation, and financial difficulties. Currently, most mothers receiving home-visiting services through NFN are from ethnic minorities (about half Hispanic and a quarter Black or African-American), and nearly half are teenage mothers, most of whom have not completed a high school degree (Damboise & Hughes, 2010). Given this variability, it was clear to the NFN program managers that a "one size fits all" model of service delivery was not appropriate. Instead, a flexible, "case by case" approach to scheduling home visits (rather than a predetermined two or four visits per month) was adopted.

Despite the multiple risk factors of mothers participating in the NFN home-visiting program, ongoing monitoring indicates promising outcomes (Damboise & Hughes, 2010). Compared to when they entered the program, mothers enrolled in home visiting for one or two years demonstrated stronger community and life skills (e.g. connectedness to supports, use of public transit, budgeting, and more organized daily routines). They also showed significant increases in educational achievement, employment and independent living, and less rigid parenting expectations (a strong predictor of abusive behavior). The annualized rate of substantiated abuse or neglect of these mothers, based on records of the Connecticut Department of Children and Families (child protective services) was 2% – a figure that compares favorably to the 1 - 8% average rate among families taking part in other home-visiting programs across the U.S. during the past decade (Black, Damboise, Figueroa, Fuller-Ball, & Lamkins, 2007), and that is strikingly lower than the 22-25% rates found among comparable high-risk mothers in the U.S. who do not receive home visits (Murphy, Orkow, & Nicola, 1985; Stevens-Simon, Nelligan, & Kelly, 2001).

The Connecticut NFN home visitors and supervisors

The initial task for NFN home visitors is usually to foster a trusting, mutually respectful relationship with each family, often by helping them access critical needs like food and transportation. Good rapport is seen as the foundation for all subsequent education and referral work, including education on child development, health, and positive parenting; emotional support; and connecting families to other resources such as Birth to ThreeTM, shelters, domestic violence centers, food banks, and job training. Ultimately, the goal is to empower the mother and family to achieve their goals for healthy self-reliance.

Training for new NFN home visitors consists of about 200 hours, pre- and in-service. Nearly half of the classroom training is carried out through the 90-hour Family Development CredentialTM (FDC), a strengths-based curriculum that stresses support and empowerment (Forest, 2003). Its practice-oriented curriculum includes modules on building respectful relationships with families and in the workplace, promoting self-care, finding strengths in all families, communicating with skill, and collaborating with other community agencies and resources. Other major topics are presented in special lecture or discussion groups based on established curricula such as *Touchpoints*TM (focused on development and communication); the Born to LearnTM training of *Parents as Teachers*TM (focused on intellectual development up to 5 years); and Nurturing Families in Action (focused on attachment and psychosocial development); as well as hands-on experiences (e.g. a visit to the hospital nursery). Additional topics include maternal and infant health (for example, the value of breast feeding); the management of family crisis situations (e.g. violence); and working with special populations such as parents with HIV. Trainees also become familiarized with local community resources such as WIC and diaper banks.

NFN clinical supervisors play a critical role in the long-term professional growth of home visitors by sharing their technical expertise in child development and related fields, as well as by providing insights on less concrete matters like maintaining appropriate boundaries with families (Connecticut Children's Trust Fund, 2008). Beyond the training and experience that has brought them to the supervisor level, those new to the position are given training in *Touchpoints*TM, an adapted form of *Parents as Teachers*TM, and the 35-hour *Empowering Skills for Leaders* (an adapted form of FDCTM) to build skills for strengths-based supervision and staff empowerment. In addition, supervisors are required to take 30 hours of in-service training per year.

NFN home visitors and supervisors have generally expressed a high level of satisfaction with the training they receive and its relevance to their work; with their relationships to each other and with families; and with their opportunities for professional development (Black et al., 2007). In addition, supervisors give high ratings to home visitors' effectiveness in multiple areas including indentifying family problems, developing good relationships with families, and making use of program curricula. Home visitors' assessments of their own effectiveness also are high, particularly in terms of building relationships with families, providing parenting skills, and helping families connect with local community resources.

The present study

In the fall of 2007, a major expansion of the NFN program in the New Haven, Connecticut region was undertaken – from three to eight sites – in light of the program's evident success and in response to the exceptional level of need in that region as evidenced by the fact that almost half of the New Haven mothers screened for NFN eligibility were considered high-risk, in contrast to the statewide average of 36%. The Connecticut Children's Trust Fund, as the NFN program's major source of funding, decided to commission an in-depth study of the training process for the cohort of home visitors and clinical supervisors involved in the NFN's expanded program in New Haven.

Participants

The initial sample consisted of 23 individuals - 17 home visitors and 6 supervisors. Table 1 presents their demographic characteristics. There was considerable variety in the educational background of the home visitors, but nearly two-thirds had some type of post-secondary degree. All the supervisors had a master's degree in a service field such as social work. A few participants had previously received training as part of the Healthy Families program (the original home-visiting program from which NFN evolved) or at another NFN site. Most of the trainees were parents, and almost all had at least some prior experience in the human services field, including in-house training.

----- Place Table 1 about here -----

During the course of this study, seven home visitors and one supervisor resigned their positions, leaving a final group of 15. In most of these cases, departure was to a preferred job. An analysis of the characteristics of home visitors who dropped out and those who continued through the first year of post-training experience revealed that the home visitors who did not complete all three waves of the study tended to be more educated ($M_{drop} = 15.4$ years, $M_{stay} = 13.8$, t(15) = -2.54, p = .02) and less experienced in the field ($M_{drop} = 4.3$ years, $M_{stay} = 10.2$, t(14.15) = 2.15, p = .05) than those who remained through the study period.

Procedure

Data were collected at three times over approximately two years: (1) the week prior to NFN training; (2) one year later, following the completion of training; and (3) one additional year later, during which time trainees had been working full-time in their new roles. These time points were selected in order to allow enough time for the emergence of possible effects of training, accumulated experience in the field, increased knowledge of local community resources, and ongoing professional development.

At each wave of data collection, trainees were interviewed and asked to fill out a series of questionnaires. Three questionnaires concern knowledge about infant and child development and care. First, the 75-item Knowledge of Infant Development Inventory (KIDI) assesses factual knowledge about norms and milestones; strategies of parenting; principles of developmental processes; and health and safety (MacPhee, 1984). Reference norms and psychometric data have

been computed for groups of parents, college students, pediatricians, and PhD-level developmental psychologists, with internal reliability varying from .50 to .82. With the KIDI is a 25-item questionnaire, the Catalogue of Infant Experience (COPE), assessing instruction and experience in infant care.

The Knowledge of Child Development Inventory (Larsen & Juhasz, 1986) ranges higher in age, and places greater emphasis on emotional and cognitive development. The 56-item test has an internal reliability of .93, with the only reference norms available for an ethnically mixed group of adolescent girls.

The third questionnaire was an 18-item test of knowledge about maternal and child health that was derived from the NFN curriculum (Family Development Training Institute, 2007) for the present study. It covers such topics such as contraception, prematurity, and infant safety and child nutrition.

In addition to these three knowledge questionnaires, the Child Behavior Questionnaire (Super & Harkness, 2003) was used to assess trainees' more abstract, metaphorical dispositions for interpreting children's behavior, based on Pepper's (1942) concept of "root metaphors" that are universally found in both formal and informal philosophical systems of thought: (1) Formism (different types of things have inherently different properties); (2) Mechanism (behaviors and events are connected to each other in a direct, causal fashion); (3) Organicism (persons and objects have internal potentials that can become manifest over time); and (4) Contextualism (each person and event has its own unique history and multiple meanings).

As applied to psychology, parenting, and child development, these four metaphors correspond to easily identified paradigms (Super & Harkness, 2003). Formism is inherent in temperament theory and diagnostic taxonomies. The behaviorist theories of Pavlov, Skinner, and their descendents are Mechanical in nature. Organicism is represented by the work of Freud, Piaget, Werner, Adler, and Rogers. The multiple perspectives of Contextualism, and its insistence on the uniqueness, are reflected in aspects of cultural psychology, existential therapy, life-span approaches, and the more radical versions of family therapy. It has further been shown that the root metaphors correspond, in part, to the demand characteristics of various professional roles and behaviors (Super & Harkness, 2003).

The Child Behavior Questionnaire, or CBQ (Super & Harkness, 2003), presents eight vignettes about child behaviors such as a tantrum, pleasant cooperation, and fears, along with four alternative explanations, each of which reflects one of Pepper's four "root metaphors." For example, seeing a child's tantrums as an indication of a "difficult temperament" or other inborn trait is a Formist way of thinking, whereas focusing on the child's behavioral responses to specific stimuli and rewards is a Mechanistic approach. Given the developmental assumptions underlying the NFN and FDC empowerment models, we anticipated an increase over time in preference for the Organismic metaphor.

A more open process, sometimes called "concept mapping" (Trochim, Cabrera, Milstein, Gallagher, & Leischow, 2006), was used to understand the job-related concepts brought to the project by the new home visitors and supervisors at the pre-training wave (wave 1). In the first step of this process, "brainstorming" sessions with the two groups were conducted, separately, to generate a list of "things home visitors and programs like this can or should do to help parents and families." This process generated a wide range of actions or interventions, from building trust with the mother, to starting a new program for teen fathers, and from helping to cope with depression, to accessing affordable housing. The lists generated by home visitors and by supervisors were quite similar, so the nearly 200 items were combined into a single list. By eliminating duplicates and combining equivalent or very similar ideas, we reduced the list to 67 items. At a second meeting, these 67 items were presented to all trainees, with each item printed on a 3-by-5 index card (the order of cards was initially randomized). Trainees were asked to arrange the cards into piles of items that "go together," with the stipulation that all piles should contain more than one but less than the full list of 67 items. The contents of each pile were recorded, and participants were then asked to rated each item on a scale from 1 to 5 for its "importance."

Results from the individual pile sorts were combined into a single square matrix (separately for the two groups), in which the 67 rows and 67 columns represent individual items and their intersecting cell indicates the number of times (over all the pile-sorts) those two items were put together; that number is taken to be a measure of similarity (or proximity) between the two items. For example, "Inter-agency collaboration to make it easier for parents" and "Streamlining connections between services or agencies" (items 60 and 61 in Table 4) were put together by all respondents, indicating the greatest possible similarity or proximity, whereas neither of them was ever put in the same pile as item 13, "Adjusting to significant other of former partner." Because the matrices for the two groups were similar (r = .92), they were combined for subsequent analysis.

In order to represent the semantic organization of the items, the 67-by-67 similarity matrix was first subjected to cluster analysis, a formal procedure that identifies groupings of items (Romesburg, 1984). In the version used here (average linkage), the two most similar (closest) items are combined into a new "item," and the process is repeated until all items have been agglomerated into one unit. The procedure thus yields 67 actual results (with 67 clusters down to 1), and selection of the "best" solution is based on measures of cluster coherence and separation,

as well as psychological meaningfulness. Second, the similarity matrix was also used in a multidimensional scaling procedure (Kruskal & Wish, 1978), in order to produce a map of the items in a conceptual space, presumably modeling the thinking underlying performance on the sorting task. These two procedures are often used together to facilitate interpretation (Kruskal & Wish, 1978).

The basic listing procedure was not repeated in the follow-up evaluations, but the 67 individual items were presented in a questionnaire format for rating again on a three-point scale for their "importance to your work," and, separately, for the degree to which they were remembered as being emphasized in the training.

Finally, at each data collection wave, semi-structured, one-on-one interviews were conducted at a centrally located agency. Each interview lasted about 30 minutes, and was taperecorded and transcribed for later analysis. The first interview addressed reasons for choosing the human services field; personal strengths participants felt they brought to the job; things they hoped to learn or skills they hoped to develop in training; and how they might approach two difficult parenting situations (scenarios concerning promoting breastfeeding to a reluctant mother, and helping a crying baby to sleep). Trainees were also asked what they felt was the most important thing for a home visitor to do with families. In the second and third interviews, participants were invited to reflect on the previous year, particularly on how they felt they had grown professionally or stayed the same. Finally, they were asked to assess the adequacy and relevance of their training and supervised experience, and to speak about how they applied what they learned in the context of a recent, challenging situation.

Results

Knowledge of infant and child development and health

Questionnaire results are presented in Table 1. Both home visitors and supervisors scored well at baseline on all three knowledge tests (no significant differences between groups). Knowledge of infant development was about 10 points below MacPhee's results (MacPhee, 1984) for experienced pediatricians (87.3%) and doctoral-level developmental psychologists (86.3%). Knowledge of child development scores are nearly 20 points above the 68% average correct reported by Larsen and Juhasz (1986) for their largely adolescent sample, and knowledge of maternal and child health was similarly high. The two developmental knowledge tests were highly correlated (r = .81, p < .01), and they were also significantly correlated with the health score (respectively, r = .59, p = .03, and r = .79, p < .01). Correlation of test scores with the available background information indicates that success on the KIDI is predicted by prior instruction and experience in infant care (from the COPE, r = .71, p = .01), and experience as a parent (r = .50, p = .07). Previous experience in an NFN or related program was related to scores on the Knowledge of Child Development Inventory (r = .44, p = .09).

----- Place Table 2 about here -----

Overall, there was little improvement over time in these knowledge scores, but a close look at the range of scores at waves 1 and 3 reveal that the lower end of the distribution has moved up, but not the top. Further analyses in relation to background characteristics of the trainees revealed that trainees with less experience in infant care (based on a median split) show a small but significant increase in scores over time, unlike those who entered the program with more experience. For the KIDI, the change from the first to last assessments for this less experienced group averages 4.5%, compared to -0.1% (*z* of medians test = -2. 8, *p* = .04). For the Child Development Inventory, the changes are in the same direction, but smaller and statistically unreliable (1.8% vs. 0%, *ns*).

In addition, an item analysis indicates a group items were marked incorrectly across individuals and across time (average stability coefficient of items = .72, p < .01). These often incorrect items were primarily of two sorts: pediatric ones that home visitors and supervisors would refer to a medical resource rather than deal with directly; and items with answers that might seem a matter of variable personal experience. Examples are KIDI item #40 "When a baby less than 12 months old gets diarrhea, the parent should stop feeding the baby solids and give it a little sugar water or flat cola"; and Child item #40: "The meal most enjoyed by young children is: breakfast, lunch, afternoon snack, or dinner." Second, further analyses of the background characteristics of the trainees showed that trainees with less experience in infant care (based on a median split) demonstrated a small but significant increase in scores over time, unlike those who entered the program with more experience. For the KIDI, the change from the first to last assessments for this less experienced group averages 4.5%, compared to -0.1% (*z* of medians test = -2. 8, p = .04). For the Child Development Inventory, the changes are in the same direction, but smaller and statistically unreliable (1.8% vs. 0%, *ns*).

In sum, the NFN trainees entered the program with good knowledge of child development and health, especially if they had personal experience with caring for young children, and their specific gaps in information were generally not ones highly relevant to their daily work. Nevertheless, those with less actual experience with young children gained more knowledge over the course of the study.

Patterns of Root Metaphor preference and use

Alone among the test results, metaphor use was found to be a significant correlate of retention through the course of this study: specifically, trainees who dropped out were substantially less Organismic, compared to those who did complete, thus being less likely to

attribute child behaviors to aspects of psychological or personal growth ($M_{drop} = .04$, $M_{stay} = .68$, t [19] = 2.61, p = .02, d = 1.14). Correspondingly, they were marginally more Formist in their attributions ($M_{drop} = .42$, $M_{stay} = -.28$, t [19] = 1.97, p = .06, d = 0.88).

Metaphor preferences for trainees remaining in the program are presented in Table 3, as *z*-scores relative to a standard research population (Super & Harkness, 2003). Despite the small samples of home visitors (n = 11) and clinical supervisors (n = 5) for these analyses, several trends are evident. As can be seen in Table 4, the two most preferred root metaphors (highest positive scores) overall were Organicism and Mechanism, while Formism was generally ranked third and Contextualism was (with one exception) ranked last. The home visitors and clinical supervisors differed in their relative preference for each of the first two metaphors, however, with Organicism being the most highly preferred by the home visitors at all three waves. The supervisors, in contrast, preferred Mechanism most highly at both the first and second waves. By the third wave, however, their preference shifted toward higher agreement with the home visitors, with Organicism now ranked highest. The difference in preference for Mechanism between the home visitors and supervisors is significant at the first and second waves (t [13.9] = 2.01, p = .06, d = 1.02), as is the supervisors' decrease in use of the Mechanist metaphor from wave 1 to wave 3 (t [5] = 2.98, p = .04, d = 4.28).

----- Place Table 3 about here -----

Evidence is found in the interviews for how the home visitors actually used root metaphors to help frame their families' understanding and management of infant behavior, as well as for how supervisors used these metaphors to guide the home visitors' responses to parents' concerns. This was particularly evident in response to a vignette that was presented at each wave. Similar to the CBQ, this vignette depicts a scenario in which the respondent is asked to provide an explanation of a particular child behavior; unlike with the questionnaire, however, the respondents were free to construct their own response rather than choosing from a set of options. The vignette describes a family's struggle with getting a four-month-old baby to sleep through the night. As presented by one interviewer to a home visitor:

"...so now imagine you're visiting a mother with a 4-month-old baby and the mother, you know, based on what she has read perhaps, or based on what her pediatrician said, her expectations are that the baby now should be sleeping through the night. And therefore she has decided, that's going to be it, cold turkey, she's not going to get up, but she is distressed because the baby is continuing to wake up at night, screaming a lot - and not, you know, calming down - that approach doesn't seem to be working. So she's actually looking to you for help. How would you approach that?"

In their responses, the home visitors and supervisors made some use of all four metaphors for explanations and recommendations that they would offer the mother in this situation. Organismic explanations for the baby's sleep patterns were most common, emphasizing the developmental basis of infant sleep; this corresponds to the high level of Organismic responses by home visitors on the CBQ. As one home visitor put it, "I tell them that that is just the way God made these babies [laughs] and you just have to go through it, that they will grow out of it." Along with that explanation, one recommendation was just to accept the baby's behavior while also expressing empathy with the exhausted mother. As the same home visitor put it, "I would realize that, you know, mom is not going to be able to change that behavior right now. It is what it is. So, it's either get someone else to help you out and watch the baby, and do what I tell the moms now, nap when the baby naps, and I do commiserate with all my moms, and I tell my prenatal moms, 'It's the most tired you'll ever be in your whole life,' and you just will ask yourself, 'How could a baby be made this way,' you know?"

More commonly, though, the home visitors turned to a Mechanist metaphor for suggesting practical solutions the mother could try in order to alter the baby's behavior – for example, making sure that the baby was comfortable when put to bed, that the room was darkened and the noise level was low, and that the baby had been fed. In a classic behaviorist framing, one home visitor said that she would find out whether the mother was actually rewarding the baby for waking up in the middle of the night by talking and playing with her. She continued: "…because at that point then the baby is like 'Okay, here I am, I'm ready to interact!'…whereas if it was just quiet and dark and there was no eye contact and there was no talking and all business no play kind of thing at night, the baby might sleep longer… just showing her the benefits of routine stuff like that."

In another common explanation, home visitors also used the Formist metaphor to stress that "Every child is different." One home visitor who offered this perspective also pointed out that the mother should not expect to be able to determine her baby's sleep behavior (a rejection of the Mechanistic metaphor): "There's not much you can do about how long they are sleeping. You can kind of try to prepare them [the mothers], creating a routine, making things as routine as possible...encourage ideas of things they can do," concluding that "but not that they are necessarily going to work because every child is different."

The supervisors also made use of these metaphors in their approaches to the infant sleep vignette, particularly the Mechanistic approach as they recommended that the home visitor check various possible proximal causes. The supervisors also occasionally drew on the Contextualist metaphor, emphasizing the uniqueness of each situation, as they described how they would advise a home visitor. One supervisor commented, "I'm not a child development specialist, but I really do feel that, you know, each case is very individual....it could be colic, it could just be a really hungry baby...I mean it could be a cold room, it could be I don't know what...you know...lots of things." For the supervisors, understanding the wider context of the presenting problem was a primary concern, and along with it, helping the home visitor to work effectively with each family. This supervisor concluded with a Contextualist recommendation that specifically rejected the simpler Mechanistic response: "And I'd want my home visitors and my clinical supervisor to understand that every case has to be looked at, there are, you know, no black and white rules, nothing about this is black and white."

In summary, an Organicist disposition -- seeing the possibilities and realities of psychological growth -- was a salient characteristic of those who completed the training program, which, in turn, probably increased their awareness of this perspective. The supervisors in training, in comparison to the home visitors, were initially disposed to view behavior as relatively malleable through the use of short-term rewards and punishments. With time, however, this disposition declined and the supervisors became more prone to interpret behavior as the expression of internally guided development.

Clustering and concept mapping: Seeing the trees as a forest

Cluster analysis of the similarity matrix derived from the card sorting procedure produced a satisfactory solution at the level of 6 groups, 5 of which had meaningful subclusters. The stimulus items in Table 4 are organized and labeled according to these clusters.

----- Place Table 4 about here -----

Results of the multidimensional scaling are illustrated in Figure 1, a visual representation of how the items were cognitively organized by the trainees as they sorted the cards. It was

derived using non-metric (ordinal), multidimensional scaling in four dimensions; "stress" (a measure of how poorly the graphic results fit the actual data) for this solution is 0.12, an acceptable result given the large number of items scaled. The first two dimensions are the most powerful and, as is usually the case, the most meaningful. For clarity, Figure 1 shows a schematic representation of the item clusters, rather than individual items, in relation to the two main dimensions. As can be seen, the vertical axis contrasts items related to interpersonal actions, at the bottom, to socio-economic resources at the top. The horizontal dimension, in contrast, arrays items according to whether they involve the acquisition of new knowledge, toward the right or, toward the left, new programs and system coordination.

----- Place Figure 1 about here ------

Change over time

The cognitive map and the associated clustering derived from the wave 1data collection can be used as a platform to examine where the home visitors and supervisors changed in their understanding over the subsequent two years of the study. For these analyses, the clusters were combined into three groups: those focusing on (A) mothers' knowledge and skills (all of clusters 1, 2, and 3); (B) connections between the familiy and social institutions and resources (all of cluster 4); and (C) structural and programmatic issues (all of clusters 5 and 6).

We first examine how the trainees rated the 67 items for their overall importance. Using the rank order of the average ratings, home visitors at the baseline assessment rated group A (mother's skills) as significantly more important than did the clinical supervisors ($M_{HV} = 8.9$ where 1 = highest importance, $M_{CS} = 9.7$, *z* of medians test = 2.56, *p* = .01). In contrast the clinical supervisors saw items in both the interfacing and organizational categories as more important (group B: $M_{HV} = 11.2$, $M_{CS} = 10.3$, *z* = -1.43, *p* = .12; group C: $M_{HV} = 7.7$, $M_{CS} = 6.4$, *z* = -1.53, p = .12). In other words, both groups initially saw the kind of work they were most familiar with as most important: home visitors worked directly on client knowledge and skills, while the supervisors were more familiar with systems and interfacing issues. Over time, the groups differed in their direction of change. Home visitors slightly decreased their ratings of group A, while supervisors attached increased importance to the interpersonal knowledge and skill items (group A: M_{HV} = -0.5, M_{CS} =1.5, z = -1.61, p = .11). In the other direction, home visitors increased their valuation of items about connecting clients to services (group B: M_{HV} = 3.4, M_{CS} = -0.1, z = 2.45, p = .01). There was no significant difference in the changes regarding the systemic items in group C.

These results are easy to visualize with reference to Figure 1. Initially, the home visitors gave priority in importance to all the cluster items on the right-hand side, and most of those are toward the bottom, that is, they are items concerning new knowledge and, especially, interpersonal skills and relationships. Clinical supervisors, in contrast, saw greater importance in the activities to the left, ones involving service systems and their integration. After a year of training and supervised experience, the home visitors came to rate those items involving family access and use of system resources more highly, while the supervisors grew in appreciation of the personal and interpersonal aspects of the home visitors' roles.

This same kind of "seeing the whole picture" is evident in the trainees' recollection of what topics were emphasized during the training process. At wave 2, shortly after the completion of training, both groups accurately recalled the importance given to issues of trust and support (cluster 2 in Table 4). After a year of field experience, the home visitors presented a slightly fuller picture of their training in that general domain, and added a number of systemic concerns to what they remember as being emphasized. Eliminating bureaucratic complications, building

community resources, and streamlining inter-agency connections now figured large in their memories of the training experience. The clinical supervisors, in contrast, recalled at the final evaluation much more emphasis during training on interpersonal and parenting skills needed by the parents. Developing relations with their child, understanding the nature of development and management of both self and child were now what they particularly remembered about their training experience. This pattern of results can be summarized by using the three groupings above to compare changes in recollection for the 67 items between wave 2 and wave 3. For home visitors, a third of the items that increased most in recalled emphasis ($z_{change} >= .50$) belonged to cluster group C, involving organizational and programmatic issues, compared to none for the supervisors (Table 5). Conversely, the majority of such items for supervisors concerned cluster group A, knowledge and skills. This pattern, unlikely by chance (p = .01), reflects the same broadening of perspective and sensitivity to systemic connections seen in the concept mapping.

----- Place Table 5 about here ------

Supervision: Coaching and collaboration

The co-evolution of perspectives by home visitor and supervisor is a distinctive aspect of the data presented here, and it may prove essential to the model of the professional home visitor developed by NFN. Trainees in both groups frequently commented in their later interviews on the necessity of a knowledgeable and supportive supervisor. "It is important," said one, to have a supervisor who "is going to be there to help [you] gain skills and provide the level of interest that makes you, you know, something that [you] want to continue to pursue and stay involved in." In addition, however, both groups also described a newly experienced mutual learning. As one supervisor said: I'm learning, to be perfectly honest with you, from the staff. So what they bring back, you know, ... I'm learning from their examples and experience as well and I'm learning from, you know, just what they are dealing with...

A home visitor, in turn, included interaction with her supervisor in the same description as interaction with peers:

I don't think I'm just the same [as I was two years ago]... I'm always kind of looking for a new twist on things...for me as far as training, I have continued to get input from that as new employees have come in to work with me...and then you go to supervision, and then you talk with your colleagues about the families they are seeing and...I don't work in a vacuum, you know. Literally, I'm in an office with four desks and we are all moving around each other and...somebody puts a new twist on something and we are like...oh, that's so fun! How did it work out? ...and then like I said, somebody new comes in...goes through the training...and we are like...How was it? ...And it just kind of feeds on itself in that way...it doesn't stop by any means and I don't feel like I'm the same as I was a year and a half ago.

A second supervisor used the specific "empowerment" vocabulary of the FDCTM training (Forest, 2003) to describe the changes in her style, toward a more inclusive approach:

I have to say since doing the FDC [for Leaders program], it has...benefited me more than anything because it made me see my position as a clinical supervisor in a different light...I'll give you an example. When I would have team staff meetings prior to doing FDC, my agenda, what I needed to go over with all the staff [came first] and then at the end Q&A. [Now I'm] putting the agenda on the staff...What should we talk about this morning? What would you like to bring up this morning? And then we have a share time where each staff goes around...So it's become more inclusive as opposed to exclusive...and I think that helps me much in my work...I think more of the staff are enjoying being at the staff meetings, being able to participate more. ...But really, opening it up and starting them doing the agenda themselves and coming to me with the agenda I think is, you know, like I said has been an eye-opener for me and has been very beneficial for them.

Similarly, another supervisor reflected on how "professional development" for home visitors is part of a chain of empowerment from themselves to the home visitors, and ultimately to the community:

We talk about, you know, professional development, you know we talk about that, but then we don't actualize it in how we interact with them, you know, in terms of growth and development. And so I'm good on that, I'm keen on that and so that's something I'm not going to let slip through because that helps them have more value in terms of their work. And then if we do that, we ingrain that into the work and they take that out into the community. Now we have what we call something that is being transferred. Not only they feel empowered or feeling some upward mobility, ... if we can have the staff feel a sense of upward mobility then they can transfer that to the folks that they work with, and they can feel empowered .. and that is the loop I'm looking for.

Discussion and Conclusions

The ultimate goals of intervention programs such as the Nurturing Families Networks are family outcomes: healthy development for child and parent. Most research therefore focuses on program content, and on results for participating families. Establishing more and larger versions of small-scale successes, however, poses another set of challenges, the challenges of implementation. The present study has focused on three core components of successful implementation, the selection, training, and longer-term supervision of the staff who carry out the program.

On entering the program, the home visitors and their supervisors here were already quite knowledgeable in the "content" of their work (e.g. infant and child development, maternal-child health), scoring at a level comparable to other professionals with advanced degrees in the field. In this case, therefore, some of the additional training in these areas may have been unnecessary, although it no doubt augmented and reinforced their prior knowledge.

In less concrete matters, the effects of training in an empowerment and growth model of family intervention are evident. Supervisors came over time to be less Mechanistic in their interpretation of behavior. This shift is also evident in the increased importance they accorded over time to programmatic items in the immediate personal domain (e.g. helping mother deal with depression, giving mothers new knowledge about the child's "ages and stages"). It is further reflected in their interviews, as they discussed incorporating their evolving understanding not only into their program, but also into their daily model of staff relations and management.

Home visitors, for their part, increased their initial focus on growth and development as reflected in their relative preference for the Organismic root metaphor, and those whose orientation did not fit so well with this emphasis were more likely to leave the program. Like the supervisors, they entered the program with a breadth of knowledge about the possibilities of positive interventions. For the home visitors, however, their understanding of important services shifted with time *away* from a nearly exclusive focus on the interpersonal to include more organizational and systemic factors.

In short, home visitors and supervisors moved "toward" a common understanding of their jobs and the families in the program, each gaining a greater understanding of the importance of topics that seemed initially more important to the other group. In addition to the common training, this was no doubt supported by the general tone of accessibility and openness -- an "open door policy," as one supervisor called it – and by the empowerment model promoted by the FDCTM curriculum, which supported a relatively egalitarian form of supervision and coaching.

The details of the process outlined here may not be the same in other programs, in other environments, and with other staff recruits. Three general conclusions, however, seem warranted. The first is that home visitors with training and experience in human services, but without a professional background in health care, can implement a highly effective program to reduce the incidence of child abuse and neglect. One can speculate, in the absence of a randomized control trial, that they were especially effective in promoting family and child development, compared to home visitors with little or different professional backgrounds, and possibly less effective than nurses in health interventions.

Second, a salient element in the operation of this program was its flexibility in adjusting the interventions to match the families' needs. The home visitors drew on a broad array of knowledge and experience with regard to child development, personal relations, and community offerings, mixing and matching as needed. The holistic, multi-faceted conceptualizations of their roles and action domains, as reflected in the concept mapping exercise, speaks to the home visitors' ability to move easily across traditional professional roles as they supported the mothers. In addition, an important aspect of the home visitors' initial training and field experience was acquiring a broader community and human services perspective on how these resources integrate to shape the life of an individual family. Finally, it is clear that the selection of staff, the content and extent of pre-service training, and the nature of supervision are profoundly interconnected aspects of program implementation. Time invested in these activities can be richly rewarded in staff morale and program success, in part because of their potentially mutually supportive nature.

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Demographic characteristics of the sample

	Home Visitors	Clinical Supervisors	
Total <i>n</i>	17	6	
Education (highest degree earned)			
Master's	0	6	
Bachelor's	7		
Associate's or professional	4		
Some college	3		
High school or GED	3		
Number who have children	12	4	
Average number of children (if parent	t) 2	1.6	
Average age of children (years)	12	25	
Years in human service field: mean (a	and range) 14.8 ((0-20) 9.0 (4-2	2)
Number of trainings at entry: mean (a	nd range) 2.4 ((0-5) 6.3 (3-1	2)

Knowledge Questionnaire Results

	Wave 1-	Wave 2-One	Wave 3-Two	
	Baseline	Year	Years	
Knowledge of Infant Development:				
percent correct	77%	78%	83%	
(range)	(59% - 95%) (55% - 91%)		(75% - 92%)	
Knowledge of Child Development:				
percent correct	85%	85%	85%	
(range)	(55% - 98%)	(70% - 98%)	(63% – 95%)	
Knowledge of Maternal and Child				
Health: percent correct	89%	86%	87%	
(range)	(67% - 100%)	(67% - 94%)	(67% - 100%)	

Metaphor Questionnaire Results

	Wave 1-Baseline		Wave 2-One Year		Wave 3-Two Years	
	Home	Clinical	Home	Clinical	Home	Clinical
	Visitors	Supervisors	Visitors	Supervisors	Visitors	Supervisors
Metaphors (z-scores)						
Formism	23	34	.14	.27	13	03
Mechanism	.03	.68	.36	.68	.16	22
Organicism	.66	.31	.67	.17	.95	.41
Contextualism	40	43	92	-1.22	18	.00

The 67 Service Items for Concept Mapping, Arranged by Cluster Results

Cluster 1 – Enhancing Life Skills

- 1. Speaking "proper" English
- 2. Scheduling and time management
- 3. Budgeting and money management
- 4. Family literacy
- 5. Education (going back to school)
- 6. How to interview for employment
- 7. Finding job training and/or job
- 8. Living as undocumented immigrant

Cluster 2a – Building Positive Parenting

- 9. Adapting to a new child
- 10. Establishing healthy relationship with child
- 11. Effect of domestic violence on the child
- 12. Not letting child be pawn in arguments

Cluster 2b – Enhancing Mother's Family Relationships

- 13. Adjusting to significant other of former partner
- 14. Being realistic about marital/partner relationships
- 15. Managing relationships with one's own parents
- 16. Working better with child's other parent

Cluster 2c – Supporting the Mother

- 17. Being personal/emotional support for parent
- 18. Building relationships of trust and mutual respect
- 19. Keeping your word

Cluster 2d – Helping the Mother to Cope

- 20. Dealing with depression and stress
- 21. Getting out of abusive situations
- 22. Recognizing an abusive situation

Cluster 2e – Encouraging Advocacy

- 23. Communicating her own needs
- 24. Advocating for her child
- 25. Advocating herself

Cluster 3a – Teaching Child Development

- 26. Ages and stages for the developing child
- 27. Child nutrition
- 28. Positive child discipline
- 29. Preparing child for school (school readiness)

Cluster 3b – Teaching Health Care

- 30. Parenting premature baby or special needs child
- 31. Prenatal classes
- 32. Limiting visits to the Emergency Room

Cluster 3c – Planning for Well-Being

33. Home safety programs

34. Sex education, family planning

Cluster 3d – Accessing Care

- 35. Finding quality child care
- 36. Taking care of themselves

Cluster 4a – Accessing Resources

- 37. Accessing transportation
- 38. Affordable housing

Cluster 4b – Finding Resources

- 39. How to develop/access informal networks
- 40. Resources beyond "bare bones" (social outings, etc.)
- 41. Connecting families to community resources (library)
- 42. Connecting parents with appropriate service agencies
- 43. Family resources (e.g. shelters for Mo & Fa together)
- 44. How to locate various social services
- 45. How to use Info Line

Cluster 4c – Working Through the System

- 46. Getting families through red tape
- 47. Supplying basic needs (diapers, bus passes, etc)
- 48. How to follow-up previous contacts

Cluster 5a – Supporting Parents

- 49. Identifying support systems
- 50. Interventions starting prior to conception
- 51. Mentoring the parent

- 52. New target groups (e.g., second-time mothers)
- 53. Networking parents together
- 54. Organizing parents to educate politicians

Cluster 5b – Extending Services

- 55. Educating parents about rights in the community
- 56. Programs designed for young teen mothers (13-15)
- 57. Services for unmarried fathers
- 58. Special programs for parents with cognitive limitations

Cluster 6a – Coordinating Systems

- 59. Agency coordination/consistent messages to clients
- 60. Inter-agency collaboration to make it easier for parents
- 61. Streamlining connections between services or agencies
- 62. Networking and integration among agencies

Cluster 6b – Connecting to the Community

- 63. Creating community awareness of NFN etc.
- 64. Educating communities about availability of programs
- 65. Multiple entry-points to programs (schools, hospitals)
- 66. Developing community resources
- 67. Political lobbying for programs

Recalled Item Emphasis in Training

Training Group Clinical Item Category Home Supervisors Visitors (a) Client Knowledge and Skills 4 (29%) 7 (88%) (b) Client Interface 5 (36%) 1(13%)with Resources (c) Organizational 5 (36%) 0 (0%) and Programmatic

Note: $X^2 = 9.01$, p = .01, $\varphi = .58$

Figure Title

Figure 1 Concept mapping of Activity Items (by Cluster)



