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Training Program for Infant and Toddler Caregivers: An Evaluation of the Effects on Quality of Care

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TRAINING PROGRAM FOR INFANT AND TODDLER CAREGIVERS: AN EVALUATION OF THE EFFECTS ON QUALITY OF CARE

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An Abstract Presented to the Faculty of the Graduate School of Lindenwood University in Partial Fulfillment of the Requirements for the Degree of Master of Art

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Abstract

Caregiver training has been shown to impact the quality of care for infants and toddlers in "out- of- home" settings. This thesis evaluated the effect of a 2 year program implemented at five urban child care centers (17 classrooms). In order to participate in the program, child care centers had to be licensed and had to serve a majority of children living in poverty. Five infant and toddler early care and education experts were selected to provide training and technical assistance to each of the participating sites. Training consisted of a combination of workshops and reflective supervision. The Infant/Toddler Environmental Rating Scale (ITERS) was used as both a pre-test and a post-test to evaluate the effectiveness of the training program. Results showed a significant increase in the quality of care as measured by the ITERS rating scale.

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process features include equipment, material, activities, teacher-child interactions, child-child interactions and personal care routines. Since children directly experience these environmental components, these components have an influence on the children's well-being and developmental outcomes (Whitebook, Howes & Phillips, 1990), including the physical development of the brain (Shore, 1997). Brain research has indicated the importance of positive interactions for emotional and intellectual development (Shore, 1997). Therefore it is important to ensure that positive interactions between children and their caregivers are an integral part of each child's experience in child care.

According to the Cost, Quality and Child Outcomes in Child Care Centers (1995), caregiver training positively effects the developmental outcomes of children. Caregiver training has traditionally consisted of competency-based training such as seminars or classes specializing in instruction geared toward the learning objectives (Baker, 1997). Recent literature (Bertacchi, 1996; Norman-Murch, 1996) has explored the concept of relationship-based reflective supervision as a model for improvement in quality of care for infants and toddlers in group care. This process of supervision stresses the importance providing a safe, nurturing environment and relationships as the context for learning and change. The model of training examined in this study attempts to integrate the competency-based approach and the relationship-based approach.

Purpose of the Study

The purpose of this study is to evaluate the effectiveness of the caregiver training program designed to improve the quality of care in five urban child care centers (17 classrooms). Competency-based training consisted of monthly group seminars that addressed issues and topics relevant to infant and toddler group care and education; the relationship-based approach consisted of monthly on-site supervision visits by a training and technical assistant who specialized in infant and toddler care and development. Quality of care was determined by the Infant and Toddler Environmental Rating Scale (Harms, Cryer & Clifford, 1990). Changes in quality of care were determined from a pre-test administered in the second month of the project and a post-test administered after 23 months.

Research has suggested that training of caregivers can positively affect the quality of care for infants and toddlers in child care. It is hypothesized that caregiver's attendance at monthly workshops on infant and toddler development and participation in monthly supervision seminars conducted by trained technical advisors for a period of two years will result in significant improvement in the quality of care as measured by the Infant and Toddler Environment Rating Scale (Harms et al, 1990). Significant changes are expected in the subscale areas of personal care, learning activities and program structure.

CHAPTER II

LITERATURE REVIEW

Attachment Theory

Assuring quality infant and toddler childcare has been a concern of parents, caregivers and policymakers alike. What does quality care look like? How can group care meet the individual needs of very young children? What is necessary for optimal development? Proponents of quality childcare have stressed the importance of positive, nurturing relationships in infant and toddler care (Brazelton, 1992; Lieberman, 1993; Pawl, 1992). But how can infant and toddler care foster the development of these relationships? Attachment theory has been suggested as the framework for developing quality infant and toddler programs (Raikes, 1996).

Attachment has been studied and researched beginning in the 1960's and continuing today. Early attachment theorists, in particular Bowlby (1969) studied the single attachment bond that a child forms with his mother. Later theorists, such as Goosens and van Ijzendoorn (1990) examined the attachment relationship that develops between an infant and other caregivers, such as a non-relative child care provider. The two different types of attachment relationships have been labeled primary and secondary attachment. The theory of primary attachment

is well developed and will be presented first. The theory of secondary attachment will be discussed second.

Attachment is the term used by Bowlby (1969) to describe the affective bond that develops between an infant and a primary caregiver. This bond is a pattern of interaction that develops over time as the infant and caregiver interact. The attachment bond is formed and strengthened as the caregiver responds to the infant's bids for attention and comfort. According to Bowlby, the infant is biologically equipped with behaviors that serve to promote attachment, such as crying, following and smiling. These behaviors help the infant keep the caregiver in close proximity, especially in times of stress. As the caregiver learns to read and to respond to the infant's attachment behaviors, the infant learns to use the caregiver as a safe haven and as a secure base from which to explore the environment. When the infant feels threatened she will return to the caregiver for protection and comfort. Bowlby (1988) described these behaviors of proximity maintenance, safe haven and secure base as the three defining features of attachment and the function of the attachment relationship.

On the basis of the repeated actions with the caregiver, the infant learns what to expect and learns to adapt her behaviors according to the caregiver's response. The infant learns to trust in this attachment relationship and develops an attachment system that is

based upon the quality of the attachment relationship. Bowlby (1969) postulated that this attachment system was based upon the internal working models that helped infants understand both their external realities and their inner sense of identity. These internal working models are based upon past experiences, which serve as a guide for behavior in new situations and an organizational system for understanding the world.

American psychologist Mary Ainsworth expanded upon Bowlby's research into the attachment process and provided attachment theory with additional theoretical insight and important empirical support. From a laboratory procedure designed to observe the behavior of infants toward their mothers under conditions of increasing stress (the Strange Situation), Ainsworth et al. (1978), have identified three distinct patterns of infant attachment: secure, ambivalent, and avoidant. Secure infants appear to perceive their caregivers as reliable sources of protection and security. The infants actively seek contact with their caretakers when distressed and are readily soothed and reassured by that contact. Secure infants also tend to explore the environment confidently under non-threatening conditions. In contrast, infants showing an anxious-resistant or ambivalent attachment pattern show ambivalent behavior toward the caretaker when distressed. These infants intersperse contact seeking

with angry resistant behavior and are not easily comforted. Finally infants showing avoidant patterns of attachment actively avoid contact with the caretaker when distressed.

In recent years, researchers have identified a fourth pattern called disorganized/disoriented attachment, distinguishable by the absence of a coherent strategy for managing anxiety (Main & Solomon, 1990). Children with this attachment pattern also have less exploratory behaviors.

The quality of attachment relationships influences a child's developmental outcomes. Secure attachment relationships allow the child to use the caregiver as a secure base to explore the environment (Ainsworth et al., 1978). This exploration is necessary for stimulating intellectual curiosity and promoting optimal brain development (Shore, 1997).

A secure attachment enhances an infant's or toddlers' ability to engage in exploratory play. Exploratory play is spontaneous play where an infant or toddler builds an understanding of the world on his own terms, by acting on the environment. This type of play maximizes the use of cognitive skills and is more likely to occur when adults know each child well enough to develop an appropriately responsive social and physical environment (Caruso, 1988).

Secure attachments are predictive of emotional health; insecure attachments are predictive of emotional instability (Grossman & Grossman, 1990). Sroufe (1989) provides strong evidence of the link between early care and a child's later capacity to connect will with others. Securely attached infants as preschoolers were judged by teachers and independent observers to have higher self-esteem, to positively engage and respond to other children and to be more empathic compared to preschool children with a history of anxious attachment (Erickson, Sroufe & Eggland, 1985).

In a study by Mata, Aren and Sroufe (1978), securely attached children are also at an advantage for acquiring competencies in language and cognitive development. They were judged to be more enthusiastic, more persistent and they displayed more problem-solving abilities than insecurely attached children did.

Early attachment theorists based their research on the relationships that infants and children had with their primary caregivers, which were usually the parents. More recent research has examined the social networks in which attachment relationships form (Goosens & van Ijzendoorn, 1990). These types of relationships have been labeled secondary attachment relationships.

Secondary attachment theory refers to the attachment relationships that a child develops with other important adults in his life.

Secure secondary attachments are formed in the same manner that secure primary attachments are formed. A secure relationship is determined by the caregiver's sensitivity to the child's needs and appropriate responsiveness (Howes & Hamilton, 1992). Secondary attachment relationships can be formed with extended family members (Myers, Jarvis & Creasey, 1987) and with non-relative caregivers (Howes et al., 1988).

When examining the secondary attachment relationship that children develop with their childcare providers, secondary attachments serve the same purpose for children as primary attachments. The child uses the adult as a secure base for exploration, for comfort in times of stress and as a source of stimulation (Goosens & van Ijzendoorn, 1990). Also children who have secure attachments with their child care providers display more exploratory play, adult-child interactions and positive peer relationships (Howes et al., 1988). Based upon above-mentioned studies, secure attachments with childcare providers is important for optimal development for children who spend a large portion of their day in child care environments.

In order to promote secure attachment relationships, infant and toddler care needs to offer opportunities to develop positive relationships between the child and the child care provider. Infants need sensitive, responsive adults to develop this secure attachment

relationship (Bowlby, 1969). Childcare environments need to be places where these relationships can develop.

Child Care Quality and Child Outcomes

Infants learn through sensitive, responsive interactions with caring adults (Shore, 1997). High levels of touching, hugging, holding, engagement, prolonged conversation and joyful interactions have been shown to encourage secure attachment relationship in the child care setting (Howes, Phillips & Whitebook, 1992). Quality infant and toddler environments allow for this engaged style of teaching. Quality infant and toddler care allows for the development of the relationship between the infant and the care provider.

To define and assess quality it is necessary to examine the environment that either supports or detracts from the building of relationships between infant and child care provider. The environmental characteristics of childcare settings can be divided into two categories; structural and process quality features (Phillips & Howes, 1987). Structural features consists of group size, adult-child ratios, education and experience of the child care providers. Structural features are the framework for the process features.

Process features are the qualities that the children actually experience, such as teacher-child interactions, child-child interactions, type of space, activities, and materials available to the children; and

how everyday personal care routines, such as meals, toileting or rest are handled. In defining process qualities for child care, early childhood professionals have relied upon principles of best practice and on findings from child development research. The definition emphasizes practices that encourage language, intellectual and physical abilities, social competence, including a balance of independence and cooperation, as well as emotional well being (Cryer, 1999).

Cryer (1999) further states that definitions of quality all contain the following characteristics: (1) safe care, which includes supervision, safe equipment, toys and furnishings; (2) healthful care, where children have opportunities to develop self-regulation and nutritional needs are met; (3) developmentally appropriate learning opportunities; (4) positive interactions with adults; (5) individualized attention; and (6) positive relationships with peers. These components also define quality for childcare centers as defined by the National Association for the Education of Young Children (Bredenkamp, 1987). Process qualities can influence the well being and developmental outcomes of children in the childcare setting (Whitebook et al., 1990).

Sameroff states (as cited in Burchinal, 1999) the quality of child care is of concern because developmental theories are based on the assumption that infants and toddlers need responsive and stimulating

interactions with adults to enhance social, cognitive and language development in early childhood. The effects of infant and toddler childcare have been hotly debated since Belsky (1986) stated that non-maternal care is detrimental to the attachment relationship between infant and mother and therefore adversely affects child developmental outcomes. But in a later study, Phillips et al. (1987) concluded that there was no difference in infant-mother attachment between children in childcare and children who stay at home.

Further research was conducted by the National Institute of Child Health and Human Development (NICHD). Over a period of 3 years, the NICHD tracked 1201 infants enrolled in childcare. The NICHD Study of Early Childcare (1997) indicated that non-maternal childcare by itself does not constitute a threat to the security of the infant-mother attachment relationship and therefore does not pose a threat to development. The report concluded that there was consistent evidence that poor quality childcare put children at risk, especially when combined with maternal insensitivity. This is consistent with the findings of Phillips et al. (1987) and Lamb (1997) who both concluded that infant day care is problematic when it co-occurs with other risk factors and is of poor quality. It is the quality of the care, not the care per se that is of concern.

Other studies demonstrated the relationship between child development outcomes and childcare. Clarke-Stewart (1989) reported that 2-4 year olds who have spent some time in center child care were, on the average, socially and intellectually advanced over their peers who have only been at home. Fields (1991) reported better adjustment socially, behaviorally and academically among children who began attending high quality child care centers during their first year than among comparable children who began attending the same center later. Children in high quality centers demonstrated better language development and were rated more sociable than children in low quality centers (Phillips et al., 1987).

Wasik, Ramey, Bryant and Sparling (1990) studied children who took part in either a home-based parent education program or both a home-based parent education program and a center based child childcare program. They concluded that children who were enrolled in the home-based program who also attended childcare scored significantly better on measures of cognitive performance than children who were in the home-based program only.

A comprehensive study of center childcare was conducted in 1993 and 1994. Data was collected and analyzed from over 400 centers in four states. Findings of the Cost, Quality and Child Outcomes in Childcare Centers Study (1995) concluded that quality of

children's experiences in childcare centers affects their development in the following ways:

1. Children who attended higher quality childcare centers performed better on measures of language and math abilities and displayed more positive interactions with peers and fewer behavior problems.
2. High quality childcare continues to positively predict children's performance at least through kindergarten and many cases through the end of second grade.
3. Poor quality childcare had negative effects on math skills and social skills of children considered at risk for school.

Other studies also showed that high quality childcare programs promoted positive outcomes, especially for children from at-risk backgrounds. Burchinal, Roberts, Nabors and Bryant (1996) focused their study on the quality of childcare and infant cognitive and language development of economically disadvantaged African-American children. They concluded that higher quality care is related to better cognitive and language outcomes and poor quality care could negatively affect language development. In 1997, Burchinal et al. analyzed data from two children care projects and suggested that quality childcare environments in infancy enhance cognitive performance of at-risk African-American children.

To assess the quality of the childcare environment, several researchers used the Infant/Toddler Environment Rating Scale (ITERS). Whitebook et al. (1990) showed a positive relationship between aspects of quality as measured by the ITERS and positive child development outcomes. Better levels of development were linked to higher quality care and caregivers' positive behaviors. Caregivers were more responsive and interactive and children engaged in more purposeful play in centers that were rated higher quality. Children had higher language development scores when caregivers were more interactive and provided developmentally appropriate caregiving.

Burchinal et al., (1996) found that even when controlling for the quality of infants' home learning environments, the development of infants was significantly related to the quality of their childcare environment as measured by the ITERS. Cost, Quality and Child Outcomes in Childcare Centers (1995) also measured the quality of the structural and process features, which contribute to quality childcare. The findings show that the quality of care is primarily related to adult-child ratios, staff qualifications and administrators' experience. These findings were consistent with earlier research, which stressed the importance of adult-child ratios, and well-trained teaching staff to ensure quality care for children. (Zaslow, 1991). Training of staff is important in ensuring quality childcare.

Training and Supervision

Researchers and child practitioners agree that the most important single determinant of quality in a center is the staff (Peters, 1981). The research evidence supports the importance of increased education and training. Child-related training is linked to more social interaction between the caregiver and the children, children are more cooperative with caregivers and other children, and are able to stay focused longer on (Roup, Travers, Glantz & Coelen, 1979). Caregivers with more training have less authoritarian child rearing styles and receive more positive ratings in observations and are less punitive and detached with children (Baker, 1997).

Caregivers with training relevant to young children deliver better care with better developmental effects for children (Cost, Quality and Child Outcomes in Child Care Centers, 1995; Roup et al, 1979). Caregivers with more training are more interactive, helpful and talkative (Tyler & Dittman, 1980) and children score better on tests of cognitive and social competence when their caregivers have higher levels of child-related training (Clarke-Stewart, 1984). Berk (1985) also found that training and education were positively associated with several qualities of caregiver behavior, such as decreases in restriction and increases in encouragement, development of children's verbal skills and the use of more positive forms of discipline.

Kaplan and Conn (1984) studied caregiver performance in eight child care centers and showed significant gains in caregiver behaviors which facilitated social development and provided for physical care after participation in a training program. Galinsky, Howes and Kontos (1995) indicated that as little as 18 to 36 hours of training improved the overall quality of care where providers had the least experience, resulting in significant improvement in overall quality and in the sensitivity and responsiveness of caregivers after training. The Florida Childcare Quality Improvement Study (Howes, Smith & Galinsky, 1995) reported significant improvement in overall quality and in the sensitivity and responsiveness of caregivers after training. Whitebook et al. (1989) found that the best predictor of appropriate caregiver behavior is the amount of training an individual possesses. Bredenkamp (1987) stated that appropriate caregiving may result from specialized education and training.

Training programs employ different techniques. Jones (1986) stressed that training workshops that include opportunities for practical experiences enable participants to more effectively develop important skills. Individuals also gain a more secure and anchored understanding of the principles and techniques demonstrated in training when they engage in active, hands on approaches (Apelman, 1993). Workshops that provide both information and opportunities to

practice skills, opportunities to reflect on what has been learned are effective in developing effective teaching strategies (Tertell, Klein & Jewett, 1998).

Training of caregivers is an important factor in the development of quality childcare programs. But is it enough? Bowlby (1969) noted that once a child has established an internal working model for relationships it is difficult to change. Caregivers bring into the relationship they have with the children, their own internal working models. The essence of good quality child care for infants and toddlers lies in the quality of the relationship between and among caregivers, parents and children (Pawl, 1992). Reflective supervision is about these relationships.

Reflective supervision involves a parallel process between supervisor and supervisee and supervisee and the people with whom they are dealing. Reflective supervision offers a place for caregivers to feel safe enough to recognize the worst and best of their feelings and capabilities with a partner who helps them get where they need to go (Bertacchi, 1996).

If change is to take place in childcare, caregivers need the technical assistance to understand the child's development and how to implement appropriate techniques. But relationship is a very important

part of learning. Through the complex process of the supervisory relationship, the supervisee changes and grows.

Matthews, Thornburg, Espinosa and Ispa (2000) used a combination of training and supervision to enhance program effectiveness in a rural training project where caregivers had little access to training. Bernstein, Hans and Percnsky (1991) also combined training and reflective supervision in the Developmental Program of Illinois' Ounce of Prevention Fund. Both training programs found that the combination of specialized training and collaboration with a trained advisor was effective in leading to staff development, personal growth and more effective job performance.

Summary

Quality infant and toddler care has its foundation in attachment theory. Positive child outcomes have been shown to be related to the quality of the care children receive in their childcare environments. Training of caregivers has also been associated with both quality of care and positive child outcomes.

The training program in this study was designed to bring training and education opportunities to infant and toddler caregivers who have minimal formal training and education in child development and who also have limited financial resources. The mission of the project was to improve the quality of care of infants and toddlers in low-income urban

centers. Training consisted of a combination of workshops and relationship based reflective supervision. Program effectiveness was measured by the ITERS after 2 months and 23 months of project participation. Improvement in quality of care was noted in all subscales as measured by the ITERS.

CHAPTER III

RESEARCH METHODOLOGY

Participants

The sample consisted of 17 center-based infant/toddler classrooms in an urban community. In order to participate in the project, the childcare settings had to be licensed; they could be either for-profit or not-for profit; they had to serve a majority of at-risk infants and toddlers, specifically children living in poverty. Programs were identified by zip codes, licensing files were reviewed and a list of eligible sites was compiled. The project coordinator then called center directors on the list and visited the sites. The first five childcare centers approached agreed to participate. Participation in the project was voluntary and the centers were given financial incentives to participate in the project.

Participating centers included a family-run for-profit center, two independent not-for-profit centers, a center within a shelter for homeless families and a center that was a component of a church and school. They served a total of 250 infants and toddlers; the majority on state child care subsidies. The centers had a total of 35 caregivers working with infants and toddlers; 34 caregivers were African-American and one was Caucasian who eventually dropped out of the study. They were all female and ranged in age from 18 to 75 years. Five

caregivers (14%) had neither a high school diploma nor its equivalent. Six of the caregivers (17%) had some college courses in child development. Nineteen (54%) had some previous training in infant and toddler care. Experience level ranged from less than one year to more than 15 years working with infants and toddlers. Six caregivers left the study before the end of the two years and were replaced with new participants (see Table 1).

Table 1

Participants in Training Program

Caregiver	Age	Hg.Sch	Coll.	I/T Tr.	Yrs. I/T
1	4	Y	N	N	10+
2	3	Y	N	N	1-3
3	2	Y	N	N	4-6
4	4	Y	N	Y	10+
5	3	Y	N	N	4-6
6	3	N	N	N	1-3
7	1	N	N	N	0-1
8	2	Y	Y	Y	4-6
9*	3	Y	Y	N	1-3
10	1	N	N	N	1-3
11	2	Y	N	Y	4-6
12*	4	Y	Y	Y	7-9
13	1	Y	N	Y	4-6
14	3	Y	Y	Y	1-3
15*	3	Y	N	Y	7-9
16*	3	Y	N	Y	4-6
17	3	Y	N	N	7-9
18	3	Y	N	N	4-6
19	1	N	N	N	0-1
20	2	Y	N	Y	1-3
21	1	Y	N	Y	1-3
22	1	Y	N	Y	4-6
23	2	Y	N	Y	4-6
24	3	Y	Y	Y	4-6
25	1	Y	N	N	0-1
26	1	N	N	N	0-1
27	2	Y	N	Y	4-6
28	4	Y	N	Y	10+
29	2	Y	Y	Y	10+
30	3	Y	N	Y	7-9
31	4	Y	N	N	7-9
32	2	Y	N	Y	7-9
33	4	Y	N	N	10+
34	3	Y	N	N	1-3
35	2	Y	N	N	4-6
36	2	Y	N	Y	4-6
37	2	Y	N	N	1-3
38	1	N	N	N	0-1
39*	2	Y	N	N	4-6
40*	2	Y	N	N	1-3
41	3	Y	N	N	1-3

Age: 1 (18-25) 2(26-35) 3 (36-50) 4 (50 +)
Hg Sch :Graduated or GED Y (yes) N (no)
Coll: Courses in Child Development Y (yes) N (no)
I/T Tr: Training related to infants and toddlers Y (yes) N (no)
I/T Yrs: Years working with infants and toddlers
*Left project

Instruments

The Infant/Toddler Environment Rating Scale (ITERS) developed by Harms, Cryer and Clifford (1990) consists of 35 items for the assessment of the quality of the center-based childcare for children up to 30 months of age. These items are organized under seven categories, which include: (1) furnishings and display for children; (2) personal care routines; (3) listening and talking (4) learning activities; (5) interaction; (6) program structure; and (7) adult needs. Each item is presented as a 7-point Likert scale with descriptors for 1 (inadequate, not meeting custodial care requirements), 3 (minimal, meeting custodial care requirements), 5 (good, basic dimensions of developmental care) and 7 (excellent, providing positive interaction, planning, and personalized care as well as good materials).

The ITERS is used by observing and rating a group for at least a two-hour block of time. Complete instructions, with notes of clarification for each item in the 7 subscales are included in the test booklet. A video with practice rating sheets is included for training and scoring practice. Specific guidelines are given for rating procedures, detailing the differences between individual ratings.

Interrater reliability, test-retest reliability and internal consistency estimates were provided. The sample used in the interrater reliability and internal consistency studies included 30 infant/toddler classes in

30 childcare centers in North Carolina. Two observers independently rated each class on the ITERS during a single visit. The Spearman's correlation coefficient for interrater reliability on the overall scale was .84 and for test-retest reliability on the overall scales was .79. For the internal consistency, the Cronbach's Alpha score on the overall scale was .83.

Three separate validity studies were undertaken including one measure of criterion validity and two measures of content validity. Criterion validity was determined by comparing the ITERS scores for quality with evaluations by infant/toddler experts. A total of 12 classrooms were included, resulting in an overall agreement rate of 83% between the expert evaluations and the ITERS Scores. Content validity was assessed first by comparing the ITERS to seven other widely used instruments. An item-by-item assessment showed that 82% of items included in the ITERS were included in these instruments and 75% of the items in the other instruments were included in the ITERS, suggesting the ITERS provides a valid measure of quality for infant/toddler environments.

For the second measure of content validity, five nationally recognized experts rated the importance of each item in the ITERS on a 5 point Likert scale, (1) low to (5) high. The overall mean rating was 4.3, ranging from 3.0 to 5.0, with 86% of the scores 4 or 5.

The ITERS was designed to be comprehensive in coverage, yet easy to use. It can be used by providers and staff as a self-assessment or by directors and supervisors as a program-quality measure for planning improvement.

Procedure

The training project was designed to reach out to low-income neighborhoods, where licensed childcare centers and limited resources and limited access to the training opportunities of early care and education professional organizations. The project developers wanted to use intact classrooms in preselected sites. The design was a quasi-experimental, one group pretest-posttest design. This design has many threats to validity, since it is very difficult to control extraneous variables in a field study. There was no way to control for history, mortality or maturation of participants.

At the child care centers, the directors were asked if they would allow their centers to participate and were required to sign an agreement to stay with the project for the full two years. The caregivers were told by their directors that the centers were participating. The caregivers were asked to sign an agreement to participate; though it was not truly voluntary for them since the directors had committed to the project.

Two months into the project a pretest was administered by a trained observer using either the ITERS. Intact classrooms were observed for a two-hour time block. There were 17 classrooms observed. The number of children in classrooms ranged from three to 14; ages ranged from 7 1/2 weeks to 36 months.

Training seminars and site visits began the second month of the project. The training consisted of two different components: competency-based seminars and relationship based supervision. Competency-based seminars consisted of 18 workshops. The number of caregivers attending each workshop ranged from 10 to 25. Fifteen workshops were held during the workday, from 12:30pm to 3:00pm; three were held on Saturdays from 9:00am to 11:30am. Some of the workshops were repeated since caregivers were not able to attend each month. Workshop topics were selected to address the items rated on the ITERS. Workshops formats varied, including lecture, group discussion and hands-on participation.

Relationship-based supervision consisted of monthly on-site visits from one of four training and technical assistants (T/TA). Each T/TA was a professional in early care and education and had expertise in infant and toddler care. Each of the T/TA's was assigned to the center classrooms. These monthly site visits consisted of a

combination of observation and modeling (one hour in each classroom) and reflective supervision with the child care providers.

Posttest was administered in the 23rd month of the project, using the ITERS. Classrooms were observed for a two-hour block of time by a trained observer. Analysis was conducted on the difference between the pretest and posttest scores.

Data analysis was a matched sample t-test. Pretest and posttest scores from each of the seven7 subscales from the ITERS were analyzed using a matched pair t-test. Total scores were also examined.

CHAPTER IV

RESULTS

The study expected there would be significant changes in the overall quality of care and the child care sites after a two year participation in the training program. Significant changes were expected in the areas of personal care, learning activities and program structure. Matched pair t-tests were used to test for significant changes.

Table 2 reflects the pretest, posttest mean scores and standard deviations for the seven ITERS subscales and the total score. A pretest and posttest were administered to the data collected from the 17 center classrooms. Each subscale is rated using a 7-point Likert scale with descriptors for 1 (inadequate, not meeting custodial care requirements), 3 (minimal, meeting custodial care requirements), 5 (good, basic dimensions of developmental care) and 7 (excellent, providing positive interaction, planning, and personalized care as well as good materials). A pretest and posttest were administered to the data collected from the 17 center classrooms. Means for the total ITERS scores were compared using a paired sample t-test with alpha level of 0.05. Matched pair results suggested that there was a significant difference between pretest and the posttest scores. Post

test ITERS scores (M=4.00, SD=0.54), were significantly higher that pretest scores (M=3.24, SD=0.60), t=5.80, p<0.00.

Means for the seven subscales were also analyzed using a paired sample t-test, alpha level at 0.05. There was significant change in all the subscales, with posttest scores being higher than pretest scores (see Table 2).

Table 2

t-Test of Means for Pretest and Posttest

Subscales	Pretest M	Pretest SD	Posttest M	Posttest SD	t
Furnishings and Displays for Children	3.44	0.99	3.94	1.06	2.13*
Personal Care Routines	2.96	0.72	3.54	0.58	3.11**
Listening and Talking	3.71	1.15	4.54	1.47	2.27*
Learning Activities	3.08	0.99	3.83	0.88	3.83**
Interaction/Social Development	3.49	1.15	4.92	1.08	4.44**
Program Structure	2.96	0.61	4.29	0.93	5.46**
Adult Needs	3.77	0.57	4.46	0.64	11.05**
Total	3.24	0.60	4.01	0.54	5.80**

*p<0.05
**p<0.01

CHAPTER V

DISCUSSION

This study provides further evidence that the quality of care in child care centers is related to the amount of training of the caregivers. Results of this study indicated that the change in quality of care was modest, but significant in all subscale areas as measured by the ITERS.

According to previous studies (Cost, Quality, & Child Outcomes in Child Care Study, 1995; Howes et al., 1992) 90% of the infant and toddler programs in the United States are rated poor to mediocre in quality with almost half of the infant and toddler rooms having poor quality. For infants and toddlers, a score below 3 indicates that the health and welfare of these children are at risk during the hours they spend at the center. This study found the health and safety, as measured by the subscale personal care routines, was rated in the mediocre range prior to training and some improvements were noted as a result of the training. Children are still in child care centers where their health and safety is considered at risk. I was expected that positive results in this area would be noted because several workshops were conducted to address these issues. One reason to explain the lack of substantial improvement could be the facilities themselves. Toiletting areas and changing tables are not convenient, some not

even located in the same room as the children. This can result in a lower rating as measured by the ITERS.

Quality of care has also been shown to affect the cognitive and language development of children in child care (Burchinal, et al., 1996; Clarke-Stewart, 1989; Cost, Quality and Child Outcomes in Child Care Centers, 1995; Fields, 1991; Phillips et al., 1987; Wasik et al., 1990). In the subscales (1) listening and talking and (2) learning activities, significant gains were noted, 4.54 and 3.83 respectively. These ratings indicate an overall quality of minimal to good as measured by the ITERS. Before participation in the training program, overall quality was inadequate to minimal in the centers, 3.71 and 3.08. Participation in the training program was positively related to increases in these areas, and therefore could positively affect child outcomes in the area of language and cognitive development. Several workshops were held to address language and cognitive development and this could account for the noted improvements. Participants were given financial incentives to purchase books and other learning materials. Classrooms had more learning materials available, resulting in a higher rating in the area of availability of materials for learning. Having access to these materials was noted in the ITERS, and results in a higher rating scale.

This researcher expected to see significant gains in the subscale area of program structure. The improvements in program

structure were significant and raised the quality in this area from below minimal to near the good range. This improvement could be the result of participants training at several workshop on scheduling and planning appropriate activities.

The highest subscale rating as measured by the posttest was seen in the area of interaction and social development. This is the area which was rated closest to the "good" range. Several workshops were presented on positive interactions and social and emotional development. This could account for the change. Another reason could be due to the process of reflective supervision. As caregivers developed positive relationships with the T/TA's in the project, they were able to develop more positive relationships with the children in their care. This is the essence of reflective supervision and the parallel process (Bertacchi, 1996; Pawl, 1992).

Significant gains were also noted in the area of adult needs. Posttest scores indicate ratings near the "good" range. Workshops were held specifically dealing with the stresses of caring for infants and toddlers and how to take care of the caregivers, which could account for the improvement. It is also worth considering the improvement in the overall quality of care for infants and toddlers could be related to the increase in the care of the adults. As the adults felt their needs met, they could better meet the needs of the children. They could be

more responsive and nurturing. They could better atttend to the details of caring for a group of young children.

The quality of care in the child care centers studied in this project improved significantly, though overall it still rated minimal to good (4.00). Training of caregivers has shown increases in the quality of care of infants and toddlers (Bredenkamp, 1987; Galinsky et al., 1995; Howes et al., 1995; Kaplan & Conn, 1984; Whitebook et al., 1989). Participation in this training program may have accounted for the improvements.

Limitations

The study contained a small, non-random sample. Only 17 child care classrooms were examined. In future studies, larger samples would provide more generalizable findings. There were also participants who dropped out and were replaced and this attrition could affect the validity of findings. In a field study, there is now way to control for attrition. This training program was implemented over a 2-year period. With a larger sample, there would still be loss of participants, but the results could be adjusted to allow for this.

There was no way to control for maturation of caregivers and children over time of the program. Though classrooms had some of the same teachers, some teachers moved to different classes and the children did not remain in the classrooms for the full two years. Hence,

the conditions did not remain constant throughout the study. There was no control group to compare findings, therefore it is difficult to state whether changes were due to participation in the training program or uncontrollable variables such as maturation, attrition or history.

Another important limitation was the administration of the ITERS. One individual conducted the pretest and one individual conducted the posttest. Even though each rater went through the same training program to administer the ITERS, the difference in rating scales could be the result of different raters.

Differences in culture were not examined in this study. All of the caregivers and all of the children were African-American. One T/TA was African-American and four were Caucasian. Both the individuals administering the ITERS were Caucasion. Could some of the ratings be based on culturally held views about what is appropriate practices with infants and toddlers? This should be addressed in future studies.

Future studies could also combine classroom evaluations of individual caregivers. This would be more accurate to determine if the practices of the caregiver had changed.

Quality of child care is a concern of parents, caregivers and policymakers. Efforts to improve the quality of care need to be many and on-going. With almost half of the infants and toddlers in poor quality centers, it needs to be a national agenda to improve the quality

of child care. Public awareness efforts need to be launched to help parents and communities identify good quality child care programs and to recognize the liability of poor quality programs. Higher licensing standards need to be implemented in an effort to eliminate poor quality child care. Public and private monies need to be invested in training and retaining a skilled and stable child care workforce.

Millions of children spend a major part of their day in child care every day. What happens during these hours effects the growth and development of these children. It is essential that the hours in child care are beneficial and not detrimental to our nation's children.

APPENDIX

Infant and Toddler Environment Rating Scale

Furnishings and Display for Children.

1. Furnishings for routine care

   1 2 3 4 5 6 7

2. Use of furnishings for learning activities

   1 2 3 4 5 6 7

3. Furnishings for relaxation and comfort

   1 2 3 4 5 6 7

4. Room arrangement

   1 2 3 4 5 6 7

5. Display for children

   1 2 3 4 5 6 7

   Furnishings and Display for Children

   Subtotal _____ Average ____

Personal Care Routines

6. Greeting/departing

   1 2 3 4 5 6 7

7. Meals/snack

   1 2 3 4 5 6 7

Harms, T., Cryer, D., & Clifford. (1990). Infant/Toddler Environment Rating Scale. New York: Teachers College Press

8. Nap

1 2 3 4 5 6 7

9. Diapering/Toileting

1 2 3 4 5 6 7

10. Personal grooming

1 2 3 4 5 6 7

11. Health practice

1 2 3 4 5 6 7

12. Health policy

1 2 3 4 5 6 7

13. Safety practice

1 2 3 4 5 6 7

14. Safety policy

1 2 3 4 5 6 7

Personal Care Routines

Subtotal _____ Average ____

Listening and Talking

15. Informal use of language

1 2 3 4 5 6 7

Harms, T., Cryer, D., & Clifford. (1990). Infant/Toddler Environment Rating Scale. New York: Teachers College Press

16. Books and pictures

1 2 3 4 5 6 7

Listening and Talking

Subtotal _____ Average____

Learning Activities

17. Eye-hand Coordination

1 2 3 4 5 6 7

18. Active physical play

1 2 3 4 5 6 7

19. Art

1 2 3 4 5 6 7

20. Music and movement

1 2 3 4 5 6 7

21. Blocks

1 2 3 4 5 6 7

22. Pretend play

1 2 3 4 5 6 7

23. Sand and water play

1 2 3 4 5 6 7

Harms, T., Cryer, D., & Clifford. (1990). Infant/Toddler Environment Rating Scale. New York: Teachers College Press

24. Cultural awareness

1 2 3 4 5 6 7

Learning Activities

Subtotal ____ Average _____

Interaction/Social Development

25. Peer interaction

1 2 3 4 5 6 7

26. Adult-child interaction

1 2 3 4 5 6 7

27. Discipline

1 2 3 4 5 6 7

Interactions/Social Development

Subtotal _____ Average _____

Program Structure

28. Schedule of daily activities

1 2 3 4 5 6 7

29. Supervision of daily activities

1 2 3 4 5 6 7

30. Staff cooperation

1 2 3 4 5 6 7

Harms, T., Cryer, D., & Clifford. (1990). Infant/Toddler Environment Rating Scale. New York: Teachers College Press

31. Provisions for exceptional children

1 2 3 4 5 6 7

Program Structure

Subtotal ____ Average _____

Adult Needs

32. Adult personal needs

1 2 3 4 5 6 7

33. Opportunities for professional growth

1 2 3 4 5 6 7

34. Adult meeting Area

1 2 3 4 5 6 7

35. Provisions for parents

1 2 3 4 5 6 7

Adult Needs

Subtotal ___

Total Score____

Average Item Score _____

Harms, T., Cryer, D., & Clifford. (1990). Infant/Toddler Environment Rating Scale. New York: Teachers College Press

Demographic Information

Infant/Toddler Teachers

Name (Optional)_____

Age (Circle one)

18-25 26-35 36-50 Over 50

Age of children presently working with _____

# of children presently working with _____

Education level

High School Graduate (or equivalency) Yes No

College (Years completed) 1 2 3 4

(related to child development, education)

Training in Child Care for Infants/Toddler Yes No

Years working with infants or toddlers

0-1 1-3 4-6 7-9 10 +

Workshops

Workshop Topics	Training Area ITERS
1. Caring for Infants and Toddlers: Not Just Routines*	1. Personal Care, Interactions, Program Structure
2. Health and Safety Issues*	2. Personal Care
3. Language Development*	3. Listening and Talking
4. Setting Up Environments	4. Furnishings, Learning Activities, Program Structure
5. Social/Emotional Development*	5. Interactions/Social Development
6. Play, Learning and Development*	6. Learning Activities
7. Discipline	7. Interactions/Social Development
8. Positioning for Play	8. Learning Activities
9. Parent Involvement*	9. Adult Needs
10. Caring for the Caregiver*	10. Adult Needs
11. Sensory Integration	11. Learning Activities
12. Program Evaluation	

*Workshops Repeated

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