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ABSTRACT

Adolescent mothers were recruited from a local hospital and from a local social service agency to participate with their newborn infants in a home visitation program intended to increase maternal sensitivity and to support the developing mother-infant relationship. The mother-infant pairs (n=46) were randomly assigned to either a control group or to an experimental group. Experimental group mothers received weekly home visits for 3 months. A post-program follow-up visit was made 2 months after program end. Control group participants received three visits: at program entry, immediately post-program, and 2 months post-program. Teaching episodes and free play episodes were videotaped across the three time periods. In addition to mother-infant interaction assessment, adolescent mothers completed an open-ended early experiences interview based on their recollections of events during childhood. Results indicated no significant differences between experimental and control groups in parenting skills as a function of program participation. However, clinical risk status, based on observations and detailed home visit notes made independent of other assessments, proved to be significantly related to parenting behaviors. Mothers identified as higher risk for poor parenting outcomes scored consistently lower on measures of maternal sensitivity and responsivity, cognitive growth fostering skills, and social and emotional growth fostering skills in both free play and teaching episodes. Also, the importance of maternal reflectivity was impressive. Maternal reflectivity about her own, past family experiences was found to be more significantly associated with sensitive current parenting practices than participation in a brief home visitation program. (Contains 28 references.) (Author/EV)

DELIVERING SERVICE TO TEENAGE MOTHERS: ISSUES AND OUTCOMES

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Abstract

Adolescent mothers were recruited from a local hospital and from a local social service agency to participate with their newborn infants in a home visitation program intended to increase maternal sensitivity and to support the developing mother-infant relationship.

Forty-six adolescent mother-infant pairs were randomly assigned to either a control group or to an experimental group. Experimental group mothers received weekly home visits for three months. A post-program follow-up visit was made two months after program end. Control group participants received three visits: at program entry, immediately post program, and two months post program.

Teaching episodes and free play episodes were videotaped across the three time periods. In addition to mother-infant interaction assessments, adolescent mothers completed an open-ended early experiences interview based on their recollections of events during childhood.

Results indicated no significant differences between experimental and control groups in parenting skills as a function of program participation. Participation in a brief (3 month) home visitation program may not be sufficient in increasing maternal sensitivity and appropriateness in parenting.

However, clinical risk status, based on observations and detailed home visit notes made independent of other assessments, proved to be significantly related to parenting behaviors. Clinical sensitivity in intervention and observation resulted in a fairly accurate ability to predict maternal sensitivity in teaching and play episodes with infants. Mothers identified as higher risk for poor parenting outcomes scored consistently lower on measures of maternal sensitivity and responsivity, cognitive growth fostering skills, and social and emotional growth fostering skills in both free play and teaching episodes.

The importance of maternal reflectivity was impressive. Maternal reflectivity about her own, past family experiences, as assessed through an early experiences interview, was found to be more significantly associated with sensitive, current parenting practices than participation in a brief home visitation program.

DELIVERING SERVICE TO TEENAGE MOTHERS: ISSUES AND OUTCOMES

The annual occurrence of over a half-million births to adolescent mothers has compelled professionals to find ways to support young parents and their infants. In general, research findings indicate that as compared to older mothers, adolescent mothers show less optimal positioning and handling of their infants (Field, 1980; Ruff, 1987), vocalize less frequently to their infants (Culp, Culp, & Levy, 1986; Field, 1980), provide a less positive affective environment for their infants (Grace, 1990; Ragozin, Basham, Crnic, Greenberg, & Robinson, 1982), and provide fewer varieties of cognitive activities in their homes (Ruff, 1987). Adolescent parents who believe they have an influence over their child's development, tend to provide more supportive environments for their infants (Luster & Rhodes, 1989).

Teen parenthood is associated with a number of personal risk factors including poor prenatal care, tobacco and drug use during pregnancy (Honig, 1984) and higher rates of pregnancy complications such as toxemia, anemia, premature delivery, and the delivery of low-birthweight infants (Kopp & Kaler, 1989). Other personal and family risk factors include lack of family acceptance of the teen pregnancy resulting in hostility toward the new adolescent parent and baby (Foster, 1988). Teen parents are also more like to be poverty-stricken (Lamb, 1988; Marsiglio, 1986) which negatively influences child cognitive development (Hardy, Welcher, & Standley, 1987). Helping professionals working with teen parents must contend with numerous personal, family and social risk factors that may influence the success of the support program.

Much research has focused on the influence of parental attachment patterns on current parenting behaviors. For example, maternal perceptions of their childhood attachment relationships, as measured during their pregnancies, predicted subsequent mother-infant attachment patterns with 75% accuracy (Fonagy, Steele, & Steele, 1991). The way adolescent mothers perceive their infants in the prenatal period has been found to be very similar to the way they perceive their infants at four months postpartum so that infants who were thought to be difficult in utero were also described as fussy and difficult at four months of age (Zeanah, Keener, Anders, & Viera-Baker, 1986). Parental attachment patterns are predictive of later maternal sensitivity and subsequent attachment status (Ward & Carlson, 1995), subsequent child behaviors and social competence (Crowell, O'Conner, Wollmer & Sprafkin, 1991), as well as maternal rejection of infants (Main & Goldwyn, 1984).

Study Goals

For the purposes of this study, adolescent mothers were recruited for a three month post-partum parenting program with the following major goals:

1) To determine if the provision of emotional and informational support could serve to increase maternal sensitivity to prevent later difficulties in the mother-infant relationship.

2) To determine if maternal interaction patterns learned in program would be maintained 2 months post program when infants were 5 months of age.

3) To determine if:

a) clinical risk assessments can be made based on interviews and observations.

b) whether program content is as salient in determining parenting outcomes as are clinical risk factors.

Methods

Forty-six mother-newborn infant pairs were randomly assigned to either an experimental group or a control group. Ninety-one mother-infant pairs were originally enrolled in the study. The final sample consisted of 27 mother-infant pairs in the experimental group, and 19 mother-infant pairs in the control group. Mean maternal age in the experimental group was 17.2 (SD = 1.11) years, and 17.3 (SD = 1.37) years for the control group (See Table 1).

For the experimental group, a pre-post plus delayed post-test design was used (Campbell & Stanley, 1963). The E group received 12 weekly home visits (over a three month period; T1 and T2) and one follow-up visit occurring two months post program (T3).

Mothers and infants in the control group were to receive 3 visits corresponding with the initiation of the program (T1), the end of program (T2), and the two month post-program follow-up group (T3). Except for the intensity of home visitation, both control group families and program families received the same curriculum components including activity ideas for infants and informational booklets.

Table 1
Demographic Characteristics of the Sample

Characteristic	Experimental Group (n = 27)	Control Group (n = 19)
Mother's Age	M = 17.2 years (SD =1.11)	M = 17.3 years (SD =1.37)
Education	67% enrolled in high school 19% dropped out of school 11% enrolled in vocational or business programs 3% completed high school (n=1)	65% enrolled in high school 20% dropped out of school 0% enrolled in vocational or business programs 15% completed high school (n=3)
Parity	85% first pregnancy	84% first pregnancy
Ethnicity	52% African American 44% Caucasian 4% Hispanic	42% African American 47% Caucasian 6% Hispanic 5% Native American
Living Arrangements	52% with immediate family 30% with father of infant or current boyfriend 11% alone 7% with friends	60% with immediate family 20% with father of infant or current boyfriend 20% alone 0% with friends
Reported Father Involvement	63% fathers involved	68% fathers involved
Infant Gender	14 female infants (1 set of twins) 14 male infants	10 female infants 9 male infants
SES	low (93% receive welfare) **as reported by mothers	low (95% receive welfare) **as reported by mothers
Date of Initial Prenatal Care Treatment	M = 10.4 weeks gestation (SD = 5.25)	M = 8.9 weeks gestation (SD = 5.13)

* Some percentages do not equal 100% due to rounding error.

Program Curriculum

The curriculum for the home visits was based primarily on the work of clinicians such as Bromwich (Bromwich, Burge, Kass, Khoka, Baxter, Fust, 1981) and Fraiberg (1987). Curriculum components included the following topics: infant states and infant cues; activities for parents and infants; boosting parental noticing skills infant massage and touch; dealing with parenting frustrations; infant positioning and holding; talking with infant; infant tempo, pace, and temperament; and mothers' thoughts, concerns, and strengths. Because the investigator accepted cues from the mothers and used those cues as guides to the course of the home visits, a particular sequence and timing of the topics could not be set firmly.

Measures

Mother-Infant Interactions

Structured play and free play interactions were videotaped and assessed using Barnard's (1980) Nursing Child Assessment Teaching Scale (NCATS)[1], and the Maternal Behavior Categories Scale (MBC), a scale of maternal behaviors designed by the investigators.

For structured play episodes, mothers were asked to teach their infants to follow visually a black, white and red rattle or hold the rattle for older infants at the two month post-program visit.

Play interactions were videotaped during casual interactions between mothers and their babies during the visits. Mothers were not asked to carry out any special activities with their infants.

The investigator had attained 92% reliability with national NCAST trainers for the Teaching Scale. Further study of maternal behavior during free play interactions with infants was completed using the Maternal Behavior Categories (MBC) scale, designed by the investigators and based on Ainsworth's (1976) clinical work.

Four MBC subscales identify specific maternal behaviors in toy play with their infants: *Facilitation of Sensorimotor Development, Facilitation of Cognitive & Language Development, Socio-Emotional Contact with Infant Responsiveness to Infant Distress.*

[1]The Teaching Scale is composed of 73 binary items and is divided into 4 parent behavior subscales and 2 child subscales. Parent subscales and Cronbach's alpha for the scales are as follows: sensitivity to cues (.52); response to distress (.80); social-emotional growth fostering (.58); and, cognitive growth fostering (.78). Child scales and alpha levels are: clarity of cues (.50); and responsiveness to parent (.78).

Each mother-infant interaction episode, 3-5 minutes in length, was viewed by coders four times with each of the four subscales coded separately during each coding sweep. The following inter-rater reliabilities measures, by trained Child Development specialists, blind to the study questions, were obtained for 10 randomly chosen episodes: social-emotional contact, 91%; facilitation of sensorimotor development, 97%; facilitation of cognitive and language development, 88%; responsiveness to distress, 95%; and 91% for the overall scale.

Home Visit Records

The content, events, and observations of the home visit were recorded weekly. Other information recorded included the presence of other visitors in the home, the noise level in the home (i.e. TV on or off), characteristics of the home environment, and mothers' concerns or questions during the visits.

An identification of maternal risk level was based on detailed, clinical notes from home visit notes and observations. Operationalized definitions of maternal behaviors associated with negative parenting practices are provided in Appendix A. Risk identification was made independent of scores on interaction episodes, which were coded after clinical identification had been completed by the researcher. Mothers were identified as either "high risk" (HR) or "lower risk" (LR) for negative parenting practices that might result in problematic mother-infant relationships.

Early Experiences Interview (EEI)

An Early Experiences Interview (EEI) was conducted and audiotaped with each experimental group mother to understand how mothers believe their perceptions of their childhood experiences have influenced them. Interview questions were based on the strategies used by Solter (1990) to encourage parents to reflect on their feelings about past experiences and items from the Adult Attachment Interview (George, Kaplan, and Main, 1985). EEI questions addressed the areas of childhood stability, the amount of loss in childhood, the amount of perceived acceptance in early childhood, the amount of affection in early childhood, and the parent's ability to reflect on the past.

Each interview rating was based upon the assessment of the complete interview transcript. Inter-rater agreement assessed between the investigator and a child development specialist blind to the status of the subjects was 89%. The Early Experiences Interview (EEI) regarding perceptions of childhood was administered at the midpoint

of the three month visitation period, and was used to increase the mother's awareness of past family interaction patterns on her current role and actions as a parent.

Results

Repeated Measures GLM procedures, as well as *T*-tests, revealed no significant Time X Group difference between the experimental (E) group and control (C) group mother-infant interaction scores. Differences were found between scores according to maternal risk level and according to mothers' early family of origin experiences.

Maternal Risk Level

Of the E group mothers, 9/27 and 5/19 mothers in the C group were clinically identified as being at particular high risk for negative parenting practices. This difference was not significant, [p = .62]. Of the 9 HR mothers in the E group, three had dropped out by T3 (a 33% drop-out rate). Of the 5 HR mothers in the C group, three proved unavailable for the T3 visit (a 60% drop our rate). Thus the drop out rate for the HR mothers was not equal proportionately in the E and C groups. However, small numbers make interpretation of the data difficult.

Sensitivity to cues. Adolescent mothers identified at lower risk for negative parenting practices scored significantly higher on measures of maternal sensitivity to infant cues during teaching episodes at T1, T2 and T3 (see Table 2).

Maternal response to distress. Lower risk mothers also responded more appropriately to infant distress cues, M = 10.14 (SD = 1.32) during teaching episodes at T1 compared to higher risk teenagers, M = 7.92 (SD = 1.60), [t(38) = -4.65, p < .05]. There were not differences at T2 or T3.

Regardless of E or C group status, lower risk mothers scored significantly higher on measures of maternal response to distress during free play episodes at T1, T2, and T3. Mean scores at T1 for lower risk and higher risk mothers were, respectively, 3.37 (SD = 1.45) and 2.46 (SD = 1.03), [t(43) = -2.37, p < .05]. At T2, mean scores for lower risk and higher risk mothers were, respectively, 3.53 (SD = .71) and 2.33 (SD = .98), [t(42) = -4.4, p < .01]; at T3, scores for lower risk and higher risk mothers were, respectively, 3.7 (SD = .46) and 2.6 (SD = 1.34), [t(10) = -2.5, p < .05).

Table 2

Mean NCATS Maternal Sensitivity Scores for High Risk and Lower Risk Adolescents Across Time

	Time of Assessment		
Status	T1	T2	T3
High-risk			
M	6.53[a]	6.0[b]	7.11[c]
	(1.80)	(2.17)	(2.08)
	(n = 13)	(n = 12)	(n = 9)
Lower risk			
M	8.51[a]	8.77[b]	9.11[c]
	(1.82)	(1.52)	(1.45)
	(n = 27)	(n = 31)	(n = 17)

Note. SDs are in parentheses. T1, T2, and T3 assessment periods corresponding with infants age in months are 1-2 months, 3-4 months, and 5-6 months.

a, b, c differences are significant at $p < .01$.

Maternal social and emotional growth fostering. Lower risk teen mothers had higher scores on measures of maternal social and emotional growth fostering during teaching episodes at both T1 and T2 compared to higher risk teen parents (see Table 3).

Lower risk adolescent mothers scored significantly higher on measures of social and emotional growth fostering during free play episodes compared to higher risk mothers at T1, T2 and T3 (see Table 4).

Maternal cognitive growth fostering. Lower risk adolescent parents had higher mean scores on measures of cognitive growth fostering behaviors during teaching episodes at T1, T2 and T3 compared to higher risk teenagers (see Table 5).

Lower risk mothers also had higher cognitive and language growth fostering scores during unstructured, free play episodes at T2. The mean score for lower risk mothers was 3.65 (SD = 2.070 and 1.91 (SD = 2.19), [t(42) = -2.44, $p < .05$) for higher risk mothers. Differences were not significant at T1 or T3.

Maternal Reflectivity and Current Maternal Interactions

While stability and acceptance, two domains explored with the early experiences interview were not related to maternal behaviors, maternal reflectivity about the family of origin was associated with a number of maternal behaviors. Teenage mothers who were very reflective about their early life experiences had significantly higher scores on measures of maternal response to infant distress during teaching episodes at T1 (M = 10.44, SD = .88) compared to less reflective adolescent mothers, M = 9.22 (SD = 1.77), [t(25) = -2.39, $p = .02$]. There was a trend toward significance at T2 ($p=.09$).

Highly reflective teenage mothers were more responsive to their infants' distress cues during free play episodes at T2 and T3 compared to less reflective mothers. Response to infant distress cues for reflective and less reflective mothers at T2, respectively, were M = 3.88 (SD = .33) and M = 2.93 (SD = 1.23), [t(23) = -2.24, $p < .05$]. At T3, reflective teens had a mean score of 3.86 (SD = .38) compared to 2.94 (SD = 1.24), [t(15.5) = -2.48, $p < .05$) for less reflective adolescents.

Table 3

Mean NCATS Maternal Social and Emotional Growth Fostering Scores for High and Lower Risk Adolescent Mothers

	Time of Assessment	
Status	T1	T2
High Risk		
M	6.30[a]	6.25[b]
	(1.65)	(1.35)
	(n = 13)	(n = 12)
Lower Risk		
M	7.59[a]	8.12[b]
	(1.73)	(1.72)
	(n = 27)	(n = 31)

Note. SDs are in parentheses. T1, and T2 assessment periods corresponding with infants age in months are 1-2 months, 3-4 months. a Differences significant at $p < .05$ b Differences significant at $p < .01$.

Table 4

Mean MBC Maternal Socio-Emotional Scores for High Risk and Lower Risk Adolescent Mothers Across Time

	Time of Assessment		
Status	T1	T2	T3
High Risk			
M	6.30[a]	5.08[b]	6.4[c]
	(2.52)	(2.99)	(3.74)
	(n = 13)	(n = 12)	(n =10)
Lower Risk			
M	8.71[a]	10.09[b]	10.33c
	(3.72)	(3.38)	(2.02)
	(n = 32)	(n = 32)	(n = 18)

Note. SDs are in parentheses. T1, T2, and T3 assessment periods corresponding with infants age in months are 1-2 months, 3-4 months, and 5-6 months.

a and c differences significant at $p < .01$. b Differences significant at $p < .001$.

Table 5

Mean Scores on NCATS Maternal Cognitive Growth Subscale for High Risk and Lower Risk Adolescent Mothers Across Time

	Time of Assessment		
Status	T1	T2	T3
High Risk			
M	5.0[a]	5.58[b]	6.33[c]
	(2.61)	(2.57)	(3.42)
	(n = 13)	(n = 12)	(n = 9)
Lower Risk			
M	8.74[a]	9.90[b]	10.35[c]
	(2.78)	(3.19)	(3.04)
	(n = 27)	(n = 31)	(n = 17)

Note. SDs are in parentheses. T1, T2, and T3 assessment periods corresponding with infants age in months are 1-2 months, 3-4 months, and 5-6 months. a, b, and c Differences are significant at $p < .01$.

Table 6

Mean MBC Socio/Emot Scores for Reflective and Less Reflective Adolescents at T1, T2, and T3

	Time of Assessment		
Status	T1	T2	T3
Reflective			
M	11.44[a]	11.89[b]	11.14[c]
	(1.50)	(2.37)	(1.46)
	(n = 9)	(n = 9)	(n = 7)
Less Reflective			
M	7.39[a]	8.06[b]	7.77[c]
	(3.23)	(4.93)	(3.70)
	(n = 18)	(n = 16)	(n = 13)

Note. SDs are in parentheses.

a Differences significant at $p < .01$. b and c Differences significant at $p < .05$.

Significant correlations were found between maternal reflectivity and cognitive growth fostering scores during teaching episodes at T1, $r = .56$, $p < .05$ ($n = 27$), at T2, $r = .44$, $p < .05$ ($n = 24$), and at T3, $r = .49$, $p < .05$ ($n = 20$).

Similarly, reflective mothers engaged in more cognitive and language growth fostering behaviors during free play episodes at T1, $M = 3.77$ ($SD = 1.20$) compared to less reflective mothers, $M = 2.33$ ($SD = 1.87$) [$t(23.2) = -2.41$, $p < .05$]. There was a trend toward significance and T2 with slightly higher scores for more reflective adolescents compared to less reflective mothers ($p = .06$).

Positive correlational relationships were evident between maternal reflectivity and maternal sensitivity to infant cues during teaching episodes at T2, $r = .42$, $p < .05$ ($n = 24$). T-tests did not reveal significantly different maternal sensitivity scores between less reflective and more reflective mothers.

Total maternal teaching scores (combination of the maternal subscales) were positively correlated with maternal reflectivity at T2, $r = .42$, $p < .05$ ($n = 24$), and at T3, $r = .45$, $p < .05$ ($n = 20$).

High maternal reflectivity was significantly associated with higher mean scores on measures of social and emotional growth fostering during free play episodes at T1, T2, and T3 (see Table 6).

Discussion

Participation in a brief (3 month) home visitation program was not sufficient to increase maternal sensitivity and responsivity among low-income, adolescent mothers since no differences were found between E and C group teen mothers. However, attrition rates were high, and data were scarce for T3 analyses.

Risk Status

Identifying maternal risk status has a number of important implications in developing early intervention and support programs. First of all, research has documented that later quality of attachment is related to early maternal responsivity and sensitivity (Egeland & Farber, 1984; Morisset, Barbard, & Kiang, 1990). Thus, identification of high risk adolescent parents is a preventive task which should galvanize programatic efforts to increase maternal responsivity and to prevent the development of insecure avoidant and ambivalent infant attachment patterns. The fact that not all of the HR mothers had dropped out by T3 is a positive sign. Of the HR mothers in the E group who remained in the program at T3, most were consistent in allowing visits. In other words, HR status

alone did not mean that all HR mothers missed a higher proportion of visits than LR mothers. This is encouraging despite their HR status. The relationship between the E group mothers and the home visitor, and the growth of trust between them, is an important influence, perhaps reflected in the lower HR attrition rate in the E group. C group mothers had a higher proportion of T3 drop out occurrence (3 of the 5 HR mothers) among their HR status mothers. Building rapport in the C group was, of course, more difficult due to the nature of the research design.

Consistently, lower risk mothers scored significantly higher than higher risk mothers during teaching episodes on measures of maternal interaction behaviors. The wide gap between the scores of lower risk mothers and higher risk mothers is striking. In fact, there was never an overlap in scores for the two groups. Lower risk mothers had consistently higher scores over time compared to higher risk mothers. For example, the T1 mean maternal total teaching score (combination of the 4 maternal subscales) for lower risk mothers was 34.55 compared to 25.76 for higher risk mothers. By T2, a 10 point difference was evident between the two groups. These differences dramatically show how vulnerable the relationship between HR mothers and their infants is. HR mothers may need far more help in learning to tune into their infants' behaviors.

A similar trend was evident in the free play episodes. Lower risk mothers, again, scored significantly higher on measures of maternal interaction behaviors. One might wonder what LR mothers are doing that HR mothers are not. Broadly stated, HR mothers are exhibiting fewer positive, emotional connections with their infants. They kiss, stroke, and pat their babies less frequently than LR mothers. They make fewer eye contacts with their babies and less often hold and cuddle their infants. Some are not "psychologically present" as often with their babies. For example, they watch television while holding a toy in front of the infants. Other HR mothers try to play with their babies, but their tempos are consistently different the infant's tempo. Behaviors necessary for a secure attachment such as tender, leisurely holding and sensitivity to cues were not evident among HR mothers. When HR mothers did hold their babies, they typically held infants casually on their laps, facing outward, or against the outside of their shoulders rather than tucked snugly into their necks or snuggled securely against their chests.

These risk status data are important because they prove that clinical "hunches" are valuable, and are not "guesswork." Clinical hunches, assessed solely through clinical notes and observations and independently of scale scores, continually proved to be significantly linked with qualitative assessment.

Social workers, therapists, and other helping professionals may be able to "operationalize" their clinical hunches. Professionals may ask what behaviors, other than obvious abuse or neglect, characterize particularly vulnerable families in an already at-risk population. Such information is relevant at a time when moneys are not available to serve all families as needed. If one has to make a choice between accepting Family A or Family B into a program, on what grounds can the decision be made? Risk level can be a factor in that social decision making process. Clinical hunches can be operationalized to act as a "triage" needs assessment by experienced home visitors.

Reflectivity

Early family experiences as reported through a qualitative interview (the EEI), proved to be significantly predictive of E group mothers' own later parenting behaviors with their infants. When interpreting qualitative interview data, one must be cognizant of potential "halo" effects through which teenagers may be remembering only positive past experiences On the other hand, some researchers (Blos, 1979) suggest that the opposite might be true because teenagers are trying to separate themselves from their families in an effort to attain their own personal sense of identity. From this perspective, teenagers might reflect on past experiences with a more negative viewpoint. Because research has shown (Main & Goldwyn, 1984; Sroufe & Fleeson, 1986; Ward & Carlson, 1995) that past attachment patterns influence current parenting patterns, understanding adolescent mothers' past emotional and family experiences is very necessary in developing effective programs sensitive to the enormous influence that past experiences have with respect to current maternal perceptions and parenting behaviors.

As might be expected, reflectivity was correlated ($r = .43$) with the number of visits completed, suggesting that mothers who are able to process their feelings about past experiences are more receptive to accepting educational and support programs for themselves and their infants. This information is important to professionals trying to understand factors in attrition in home visitation programs.

Reflective teens were the mothers who commented on their own childhood in relation to the kind of life they wanted for their children. Some adolescents wanted to parent their children in a way different from that of their own parents. For example, some stated that they were not going to hit their children as they had been hit and spanked as children. Reflectivity is not a skill that can be easily taught or even easily learned. Fraiberg's clinical studies (1987) showed that long periods of time were needed to help extremely depressed and at- risk mothers develop

the skills and strength to delve into and reprocess buried feelings about past experiences that cloud current reflectivity. Fraiberg's "kitchen therapy" (in the home) can be useful for home visitors.

Reflectivity can help young mothers to "decenter" and realize that their wishes and likes are much different from what is pleasurable for their infants. The lack of maternal decentering may be a factor in some teenage maternal behaviors that seem more like interactions between a teenager and a peer rather than a teen and her infant. For example, one mother in this study began to feed her 6 month old infant soda and canned frosting during one visit while commenting "*She loves this. Don't you* (to baby)." Mothers who are more reflective are more able to separate their wishes from those of their infants and are more sensitive to their infants.

During both free play and teaching episodes reflective mothers were more sensitive to infant distress. Similarly, they demonstrated higher cognitive and language growth fostering behaviors in both teaching and play situations. Based on past researches (Ward & Carlson, 1995), one can infer that mothers who are reflective are more able to handle and resolve painful or conflicting feelings from the past. They become emotionally more free to exhibit sensitive parenting skills. Reflectivity helps parents "reframe" infant behaviors, such as crying and fussing, that are sometimes construed as negative (van den Boom, 1989) or less important. For example, parents often notice "big" advances such as crawling and walking. By reframing as "exciting" the less obvious developmental advances, such as transferring an object from one hand to the other, parents can better appreciate how active and competent their infants are.

Over time, reflectivity continues to be an important tool for parents. Adults often recreate family-of-origin negative interactions with young children (Wittmer & Honig, 1990). Reflectivity helps a parent to step away mentally from a child's frustrating behaviors and then reframe perceptions of and responses to those behaviors.

Conclusions

Helping professionals may be better able to serve the most vulnerable families by identifying clinical risk status and providing support for parents at particular high-risk. Using clinical hunches combined with assessment measures may prove useful in tailoring the best form for support to parents. Finally, the power of maternal reflectivity about mothers' own early experiences on current parenting practices was strikingly evident in this study. Because reflectivity proved to be such an influential attribute, early support and intervention programs should incorporate therapeutic techniques in early support programs with trained staff in order to nurture the growth of

reflectivity among parents. Moreover, professionals' understanding of the power of personal reflectivity can help attune the community to be more reflective itself in thinking about adolescent parenthood.

These findings about clinical risk status and maternal reflectivity increase our understanding of risk factors. Sociological indices of risk as a basis for public policy in formulating program effects need to be supplemented with clinical assessments. Typical sociological risk factor indicators such as age, low education, and poverty (Ramey & Gowan, 1986) may not be as sensitive a measure of whether programs should be offered as much as *clinical* risk factors such as those described in this study. In this study, clinical factors such as maternal risk status and maternal reflectivity proved to be more salient variables in predicting sensitive mother-infant interactions than program participation itself. Such information is useful in fine tuning the decision making process with regard to clientele served and the length of program offered.

Appendix A

Maternal Behaviors Used to Derive Clinical Risk Status

Lack of prolonged eye contact with infant
Mother is not focused on the infant during the visit (talking with other people in the room, watching TV, etc
Mother does not change her facial expressions at least twice during the visit
Mother does not talk to her baby; ask questions; describe an object; sing or hum at least once during visit
Mother has glazed eyes when looking at her infant
Mother does not make comments about the baby's behaviors (what he's looking at; what she might be feeling; why he might be happy or fussy
Mother does not comment on the infant's behavioral state)perhaps commenting that the baby is sleepy today or playful, etc.)
Mother does not appear to be aware of her infant's tempo at any time during the visit
Mother does not appear to be aware of her infant's tempo at any time during the visit
Mother does not touch or hold the baby tenderly at least once during the visit
Mother's tempo is consistently intrusive; mother does not change her interaction behaviors even after the infant exhibits distress cues such as fussing and crying
Mother holds baby facing outward or in a position in which mother-infant eye contact is impossible
Mother seems completely unable to decenter and separate what is enjoyable for her and what may be enjoyable for her infant

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