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6. Attachment and intervention in adoptive families with and without biological children

Abstract

This paper addresses issues relevant to attachment and intervention in families with an interracially adopted child. It is argued that Bowlby's attachment theory provides a relevant conceptual framework to understand the challenges inherent to the attachment process in adoptive families. Subsequently, the results of two intervention studies on attachment in adoptive families *with* and *without* biological children are compared. In these two groups a similar intervention, consisting of written information and video feedback, was implemented at 6 months. At 12 months the same intervention resulted in a larger number of secure attachments in adoptive families *without* biological children and a smaller number of secure attachments in adoptive families *with* biological children. At 18 months this differential effect had disappeared. Implications of these results are discussed.

Introduction

Adoption - in this paper international, interracial adoption - presents an unique situation with respect to the child-parent attachment process, because it involves special circumstances and challenges for the bonding process: children are separated from their primary attachment figure, then sometimes moved to an institution or a foster home, and finally are placed in an adoptive family with the ultimate and explicit goal to develop new bonds. To understand the phenomena inherent to these processes, attachment theory (Bowlby, 1982) provides a relevant theoretical framework. In attachment theory the determinants and consequences of attachment are depicted, as well as the assumed mechanisms and processes.

We briefly address some implications of attachment theory focusing on the adoptive parent's contribution to the attachment process. According to Bowlby (1982, p.306) it may be less easy for an adoptive mother to behave in a completely 'mothering' way to a child than for a biological mother. An adoptive mother has not been exposed to the same hormonal levels following pregnancy and delivery as a biological mother. Although one could argue that all fathers (adoptive as well as biological) obviously miss this experience and yet are able to behave in a completely parenting way to their child, this comparison does not seem relevant for adoptive families. The adoptive couple is consciously aware of the fact that in contrast with other mothers the adoptive mother missed the experiences of pregnancy and giving birth. In case the adoptive parents already have children of their own, they can compare the adoption process with their own pregnancy and deliv-

ery, and evaluate the differences. In case the adoptive parents are involuntarily childless, the missed experiences of childbirth are unequivocally an emotional issue. These couples already have a (long) history of miscarriages, medical examinations, or unsuccessful efforts with the new reproductive techniques. The emotions surrounding the fertility problems could undermine the adoptive parents' feelings of certainty in their parenting role (Kirk, 1964). The perceptions and emotions in adoptive families *with* and *without* biological children may create a family atmosphere that hinders the emergence of basic trust and security (Singer, Brodzinsky, Ramsay, Steir & Waters, 1985).

Furthermore, according to Bowlby (1982, p.306) adoptive parents miss the stimuli emanating from the newborn baby, because they are not involved in his or her caretaking until several weeks or months after birth. Or, as Papousek and Papousek (1992) put forward, the adoptive parents miss some important initial communication experiences. These limitations on the adoptive parents' part could hinder or disrupt the development of a secure attachment.

Parent-child relationships in adoptive families: empirical evidence

The limited empirical research on child-mother attachment in adoptive families yields some indications regarding the quality of the parent-child relationship (for a review, see Portello, 1993), and the incidence of (in)secure attachment relationships. Two decades ago, the literature suggested that there could be a risk for developing problematic mother-child relationships for children adopted after ap-

proximately 6 or 12 months of age (Tizard & Rees, 1975; Yarrow & Goodwin, 1973). In these studies - both involving locally, intraracially adopted children - the parent-child relationship was studied in an exploratory, descriptive way. Yarrow and Goodwin (1973) studied the immediate reactions to separation from the mother in 70 infants. Fifty-two infants were placed in foster or adoptive homes before 6 months and 18 infants were placed after 6 months of age. According to the authors, disturbances in the relationship with the new mother were much more frequent among the children placed after 6 months than among younger children. The children older than 6 months showed rejection of the mother, excessive clinging to her, or withdrawal. Infants under 6 months showed mainly apathetic withdrawn behavior. Some infants clung to the new mother and cried inconsolably whenever the mother went out of sight. Although Yarrow and Goodwin evaluate the rather *active* behavior of the children placed after 6 months as more problematic than the more *passive* behavior of the younger placed children, we do not know which impact each of these behaviors could have on the developing child-parent attachment relationship. For instance, one could also hypothesize that apathetic withdrawn behavior or inconsolable crying of the infant might lead to an insecure pattern of attachment.

Tizard and Rees (1975) studied 65 children, placed for adoption after 1 year of age. At 4 years of age most parents reported close attachments to their adopted child. However, compared to non-adopted peers some adopted children were described as overfriendly to strangers. At age 8, teachers reported problem-

atic peer relationships for this group, and excessive attention-seeking from adults (Tizard & Hodges, 1978).

In the Netherlands, the long-term adjustment of international adoptees has been studied by Hoksbergen and co-workers, and Verhulst and colleagues. They found that compared to non-adopted peers, adoptees showed more behavior problems, and were placed in residential settings more often (Geerars, 't Hart & Hoksbergen, 1991; Hoksbergen, in press; Hoksbergen, Spaan & Waardenburg, 1988; Verhulst, Althus & Versluis-den Bieman, 1990; Verhulst & Versluis-den Bieman, 1989). This was especially true for adolescents and for boys. Although an association was found between age of placement and problematic behavior, even in the youngest group (placed under 6 months) there were more residential placements and problem behaviors than in non-adopted peers. Since disturbed parent-child relationships were reported in many cases, one could wonder whether these problems originated in early attachment problems in the adoptive family.

More recently, the Strange Situation (Ainsworth, Blehar, Waters & Wall, 1978) provided a measure to observe more precisely the child-parent attachment relationship in adoptive families. Two studies using the Strange Situation suggest that there may be a risk for developing an insecure child-mother attachment for children, adopted even before 6 months (Marcovitch, Goldberg, Gold, Washington, Wasson & Krekewich, 1995; Singer et al., 1985). In Marcovitch et al.'s study (1995) involving 56 Romanian children internationally adopted into Canada, the child-mother attachment relationship was studied with the preschool classification scheme developed by

Cassidy and Marvin (1987; 1992). Thirty children had been adopted by 6 months of age, while 26 had been adopted after 6 months. The results showed (1) that the rate of insecure attachment in the adoptive group was higher than in a comparison group of 38 healthy 4-year-olds (70% versus 58%), (2) that no significant difference was found between the children adopted before or after 6 months.

In Singer et al.'s study (1985) the classification scheme for infant-parent attachment developed by Ainsworth et al. (1978) was used. The results of this study indicated no differences between 27 non-adoptive and 27 *intraracially* adopted infants, whereas the 19 *interracially* adopted infants did show a higher incidence of insecure attachment (58%) in comparison with nonadopted infants (26%). The group of *interracially* adopted infants is of special interest for us, because in our research we also examine *interracially* adopted children. Singer et al. put forward that in *interracial* adoption parents may find it difficult to identify with their children, because of the dissimilarities between their own physical appearance and that of their children. All of the adopted infants of Singer et al.'s study were placed for adoption before 6 months of age, except for two *interracially* adopted infants who were placed between 6 months and one year. As in Marcovitch et al.'s study (1995) no association between age of placement and attachment security was found.

Designing an intervention for adoptive families

From the discussion above we derived the conclusion, on both theoretical and empirical grounds, that in adoptive families

the child-parent relationship seems to be more problematic than in biological families. An important objective of our ongoing research project is to examine whether secure child-parent attachment relationships can be promoted by preventive interventions designed for adoptive parents. Along this line we carried out two intervention studies in two different groups of families with an interracially adopted child: adoptive families *without* biological children, and adoptive families *with* biological children. Both projects worked with an identical design and intervention program, so the studies are highly comparable, except for the type of adoptive family. Participants of the study involving adoptive families without biological children took part in Juffer's Ph.D. dissertation work (Juffer, 1993a). Participants of the study involving adoptive families with biological children took part in Rosenboom's Ph.D. dissertation work (Rosenboom, 1994).

At the time the two intervention studies started, Singer et al.'s (1985) findings on interracial adoption served as an observational or pilot study, despite the small sample size. We had no reason to expect a different distribution of the quality of attachment in our samples of interracially adopted infants. From this point of view an intervention aiming to assist adoptive parents to develop a secure relationship with their child was justified. Translated to the theoretical framework of attachment theory, the concept of sensitive responsiveness provided a relevant working basis for a preventive intervention. Sensitive responsiveness, the ability to respond promptly and adequately to the infant's signals, is considered to be one of the key determinants of a secure child-parent attachment

(Ainsworth et al., 1978). Promoting and reinforcing sensitive responsiveness in order to stimulate a secure infant-parent attachment relationship therefore seemed to be a promising path for intervention. The intervention aimed at assisting adoptive parents to attune to their racially different and biologically unrelated baby, and to encourage sensitive reactions to the sometimes subtle or difficult-to-read signals of their adopted baby. The ultimate goal of the intervention was to promote a secure infant-parent attachment relationship.

In the intervention program we designed for adoptive parents we used two intervention techniques: written information and video feedback. The intervention program was inspired by two successful studies both aiming to promote the parent's sensitive responsiveness: the intervention studies carried out by Riksen-Walraven (1978) and by Van den Boom (1988). In Riksen-Walraven's sample of low-SES first-time mothers a significant increase of the mother's responsiveness was obtained through providing written information about responsive parenting. Our first intervention technique was inspired by Riksen-Walraven's intervention. In Van den Boom's study (1988; 1994) a significant effect on attachment security was reached through supporting the mother's sensitive responsiveness in a sample of low-SES first-time mothers of an irritable baby. Our second intervention technique was inspired by Van den Boom's intervention. As in Van den Boom's study our intervention consisted of three sessions in the home, and focused on personal, individualized feedback on the mother's interactive behavior. In contrast with Van den Boom's strategy we used the video-camera as an interven-

tion tool through recording mother-infant interaction and showing these tapes to the mother involved. The feedback we gave to the mother was based on the behaviors seen on this film and not on ongoing behavior as in Van den Boom's strategy.

Our intervention program aimed to promote maternal sensitive responsiveness in order to support the development of a secure infant-mother attachment relationship. For the construction of the intervention program the concept of sensitive responsiveness was translated in terms of reacting adequately to two types of infant behavior, i.e., attachment behavior (seeking contact or proximity) and, on the other hand, exploration behavior. A sensitive mother should respond differently to these two types of behavior. The baby's contact- or proximity-seeking calls for behaviors such as physical holding, comforting, responding to eye-contact, looking, talking, and playing together. The baby's exploration behavior calls for a non-interfering attitude from the mother's side: when the child's attention is directed at objects, the mother should not disturb his or her activities. When babies frequently experience that their mother interferes with their behavior, for instance, by her showing the 'right' way to handle toys, they will not get a chance to discover things on their own and to experience their own competence.

Adoptive families with and without biological children

Two groups of families participated in the intervention studies: adoptive families *without* and *with* biological children.

These two groups differ in several ways:

- *Motivation for adoption*: most parents without biological children adopt because

they are involuntarily childless (primary infertility), whereas parents with biological children adopt because they have idealistic reasons to help a deprived child, or the way to another biological child appears to be blocked (secondary infertility) (Hoksbergen et al., 1988).

- *Parenting experience*: parents without biological children have no parenting experience prior to adoption placement. Parents with biological children already have parenting experience.

- *Relatedness*: parents without biological children only deal with unrelated, adopted children, while parents with biological children have to deal with both unrelated (adopted) and related (biological) children in one family.

Several adoption studies from the Netherlands (Geerars et al., 1991; Hoksbergen et al., 1988; Verhulst & Versluis-den Bieman, 1989) indicate that the group of interracial adopted children is not homogeneous: children adopted into a family with biological children seem to be more at risk for the development of behavior problems and the disruption of adoption placement than children adopted into families without biological children. For this reason we decided to distinguish between these two groups of adoptive families and to test our intervention program in both groups separately.

In this contribution we compare the effects of a similar intervention program on infant-mother attachment security for the two groups of families: adoptive families *with* and *without* biological children.

Method

Participants

The participants in the two intervention studies were recruited through Dutch adoption agencies. The non-response rate was 16% in study 1 (adoptive families *without* biological children), and 9% in study 2 (adoptive families *with* biological children). Parents gave various reasons for not participating, for instance, they wished no further interference in the home by outsiders after the intense involvement of social workers before placement; they had no time available because of full-time employment of both parents; they argued that adoptive children are 'normal' children, so special research was not indicated.

For the purpose of this contribution 100 mother-infant dyads were selected from the two intervention studies: 60 adoptive families *without* biological children and 40 families *with* biological children (varying from 1 to 4 biological children before adoption). The infants, 51 boys and 49 girls, were adopted from Sri Lanka (53), South Korea (34), and Colombia (13)¹. The infants from Korea and Colombia have a different background compared to the infants from Sri Lanka. Korean and Colombian infants spent some time in an institution after the separation from their biological parents and sometimes went to a foster home as well. The infants in Sri Lanka were taken care of by their biological mother until they were handed over to the adoptive parents. The adoptive parents travelled to Sri

Lanka and Colombia, whereas the Korean infants were escorted to the Netherlands.

The infants in study 2, adoptive families *with* biological children, were placed at an older age (mean age: 14 weeks) than the infants in study 1, adoptive families *without* biological children (mean age: 8 weeks) ($t(98) = -6.75, p < .001$). As expected from measures of group selection, more parents adopted because of infertility in study 1 (55 of 60) than in study 2 (14 of 40) ($\chi^2(1, n = 100) = 36.03, p < .001$).

All of the adoptive parents were white. In all families, the adoptive mother was the primary caregiver. Overall, the families were predominantly from middle-class or upper middle-class backgrounds. The level of education of the mothers in study 1 was comparable with the educational level of mothers in a general Dutch population, whereas the mothers in study 2 had a higher level of education (Rosenboom, 1994).

Design

In both intervention studies mother-infant dyads were observed when the infant was 6, 9, 12, and 18 months of age. There was no drop-out during this period. For this contribution, analyses were restricted to the 12 and 18 months' data. For the research question addressed in this paper the crucial variable is the quality of the infant-mother attachment relationship. In study 1 as well as in study 2 quality of attachment was assessed with the Strange-Situation procedure (described below) at 12 and at 18 months. In order to compare the effects of the intervention for adoptive families with and without biological children, two hierarchical log-linear analyses were performed for the 12

¹ This includes 2 children from Brazil and 1 from Chile.

months' and the 18 months' attachment data respectively.

For the analyses in this contribution a *posttest-only design* (Campbell & Stanley, 1973) seems applicable, with the Strange-Situation procedure as the posttest. The intervention and control groups can be compared on the posttest to trace possible effects of the intervention (Table 1)².

Table 1. Design of the intervention studies and type of intervention

	Intervention 6 - 9 months	posttest 12 months	posttest 18months
Control group	----	SS ¹	SS
Intervention group	video feedback + booklet	SS	SS

¹ SS = Strange Situation

In both studies boys and girls were equally assigned to an intervention or control group. We aimed for random assignment of the parents into an intervention or control group. Perfect randomization was difficult to obtain though, because several parents of an infant from Sri Lanka became acquainted during the journey to their child's country of origin. After adoption placement, these families often met on a regular basis. It could be assumed that parents in the intervention group would share their video-feedback experiences, or the presented booklet, with parents in the control group. To

² In study 1 an intervention consisting of written information only was also tested (Juffer, 1993a; Juffer, 1993b).

avoid this undesirable effect, parents who did know each other well, were placed in the same experimental condition, in a limited number of cases. This measure hardly affected random assignment. With the parents of the Korean or the Colombian infants this problem seldom occurred. These families usually did not keep in touch after adoption placement.

Preliminary analyses revealed no relevant differences between the control group and the intervention group in the two studies, with one exception. In study 2, the age of adoption placement was significantly lower in the control group (mean age: 11 weeks) than in the intervention group (mean age: 17 weeks) ($t(38) = 4.32, p < .001$).

Assessment of quality of attachment

The Strange Situation paradigm was used to assess individual differences in quality of attachment (Ainsworth et al., 1978). In this procedure the presentation of attractive toys aims to trigger the child's exploration behavior, whereas the introduction of mildly stressful events, the arrival of a stranger and two short separations from the mother, aim to induce the child's attachment behavior. On the basis of videotape recordings of Strange Situation behavior at 12 and 18 months, infants were assigned to one of three attachment groups: insecure avoidant (A), secure (B), and insecure ambivalent (C). After a short separation avoidant infants turn, look or move away from the mother or ignore her upon reunion. Secure infants interact positively with the mother upon reunion, they seek contact or proximity, and they are easily comforted by the mother. Ambivalent infants show a mixture of contact-seeking and resistant behavior, and are

difficult to comfort following stress. Classification of the insecure disorganized, disoriented (D) group (Main & Solomon, 1990) was not included in the observations. We are presently studying the possibility of rating the videotapes on D-behavior.

Strange Situation classifications were assigned without knowledge of the subject's experimental condition (intervention or control group). It is acknowledged that the adoptive status of the infant was known to the raters in all cases, since the racial differences between the mother and her adopted child were quite obvious. In study 2, in two cases a Strange Situation classification was missing: one at 12 months and one at 18 months (not the same child).

The observers were trained in rating Strange Situation behaviors by dr. D.C. van den Boom, who was trained by dr. L.A. Sroufe. In study 1 each videotape was rated by two of three observers. Because these observers had paid home-visits to a part of the group and knew the parent's group assignment, it was ensured that they only rated dyads they had not met. In study 1 a reliability of the 12-months' Strange Situation classifications for three pairs of two raters of .90, .85, and .90 (Cohen's kappas) was reported (Juffer, 1993a). Reliability of the 18-months' Strange Situation classifications for two pairs of two raters was .85, and 1.0 (Cohen's kappas). In study 2 each videotape was rated by two observers. The interrater reliability was .81 at 12 months and .80 (Cohen's kappas) at 18 months in the second intervention study (Rosenboom, 1994). Whenever a different classification was given, a consensus classification was reached after discussion in both studies.

Intervention

The parents in the intervention group received a Dutch booklet titled 'The First Year of Life' (Juffer, Metman & Andoetoe, 1986), focused on information about sensitive and responsive parenting in daily life situations. Empirical studies show that written information can promote the parent's responsiveness (Lambermon & Van IJzendoorn, 1989; Riksen-Walraven, 1978). In our studies, examples and vignettes served the goal of explaining how parents could react sensitively and responsively to their child. Also, the relevance of sensitive responsiveness for the development of trust and self-reliance in the child, was stressed. Furthermore, to attune this information to adoptive parents, the booklet discussed several adoption themes, such as dealing with the racially different appearance of the child, the recognition of developmental delays, and the role of the child's temperament. The book had a general part, illustrated with pictures of white non-adopted infants as well as pictures of black and Asian adopted infants, and a personal part with the name of the child in it. In this personal part, parents were invited to make personal notes on the development of their child by answering open and closed questions. The objective of the invitation to make personal notes was to teach the parent observational skills. Observational skills, in turn, are a necessary (though not sufficient) condition for sensitive responsiveness: in order to give an adequate and prompt reaction to the infant's signals, one should be aware of the baby's cues and be able to read them. The booklet was implemented when the adopted infant was 6 months old.

In addition to the booklet parents received three sessions with video feedback (Juffer, 1995). The method of video feedback aims to support parenting skills, especially sensitive responsiveness. In contrast with most parent education programs, this one used video feedback focusing on the individual mother-infant dyad. The intervention was personalized in the sense that feedback and reinforcement were attuned to *this* mother in interaction with *this* child. Compared with written information the technique of video feedback appears to be an intensive, personalized type of intervention. However, compared with long-term, therapeutic interventions, only three non-therapeutic sessions constitute a short-term, non-intensive intervention. Empirical research shows, though, that short-term interventions can be effective (Van den Boom, 1994; 1995) and, may be even more effective than long-term, therapeutic interventions (Van IJzendoorn, Juffer & Duyvesteyn, 1995).

In study 1 the video-feedback sessions were implemented by three female intervenors (the first author, being one of them, trained the other two), with a master's degree in social sciences. In study 2 two female intervenors (the second author was one of them), with a master's degree in social sciences, carried out the video-feedback technique. In three sessions, two at 6 months and one at 9 months, the intervenor showed the adoptive mother videotapes of her own interaction with the baby. While showing and repeating fragments of this videotape the intervenor positively reinforced the sensitive reactions of the mother, explained the relevance of these sensitive reactions for the baby, and sometimes gave advice on how to react more often in a sensitive way.

The behavior of the baby always was the entry in the discussion with the mother: the intervenor verbalized the baby's reactions and explained the meaning of the baby's cues, thereby, as in the booklet, teaching the mother observational skills. The intervenor also asked the mother questions about the meaning of the child's behavior, thereby acknowledging the mother's role as an expert on her own child. The intervenor tried never to evaluate the adoptive mother's parenting attitudes. Instead, she would rather support the positive elements already present in the mother-child interaction. Even in very insensitive mother-child interactions there appeared to be a few moments of sensitivity that can be reinforced.

Results

In Table 2 the attachment distributions of the control groups and the intervention groups are shown for the two groups of adoptive families.

Before addressing the main issue of this paper - the comparison of the effects of the same intervention in adoptive families with and without biological children - we explore the incidence of secure attachment in the two studies. In our control groups we found 70 to 80 percent secure infant-mother attachment relationships (see Table 2). In normative non-adoptive populations, 65 to 68 percent secure attachments have been found (Van IJzendoorn & Kroonenberg, 1988). Contrary to our expectations and to the outcomes of previous studies, secure infant-mother attachment relationships were developed in these samples of adoptive families as often as in non-adoptive families.

Table 2. Quality of infant-mother attachment at 12 months and 18 months in adoptive families without biological children (study 1) and with biological children (study 2) as a function of experimental condition

	Adoptive family type 1		Adoptive family type 2	
	Control n = 30 n (%)	Intervention n = 30 n (%)	Control n = 20 n (%)	Intervention n = 19 n (%)
At 12 months				
Secure	21 (70)	27 (90)	16 (80)	10 (53)
Insecure	9 (30)	3 (10)	4 (20)	9 (47)
At 18 months				
Secure	22 (73)	27 (90)	15 (75)	15 (79)
Insecure	8 (27)	3 (10)	5 (25)	4 (21)

Furthermore, this conclusion seems valid for both types of adoptive families: families *without* biological children and a first adopted child, and families *with* biological children and a first adopted child.

The main objective of this contribution is to examine whether the same preventive intervention leads to the same results in adoptive families *with* and adoptive families *without* biological children. Hereto we compared for both family types the Strange-Situation classifications of the control group and the intervention group. For these analyses the insecure avoidant (A) infants were combined with the insecure ambivalent (C) infants to comprise a group of insecurely attached infants, because the number of C infants was small.

First, we performed a hierarchical log-linear analysis on the 12 month data, in which the following three dichotomies are considered simultaneously: adoptive family type (without or with biological children), experimental condition (control or intervention group) and attachment security (secure or insecure). The results show a three-way (or second-order) interaction (Pearson χ^2 (1, n=99) = 7.02, p =

.008), indicating that at this age the relation between experimental condition and attachment security differs for the two adoptive family types. Inspection of the data in Table 2 shows that the intervention resulted in a larger number of secure attachment relationships in the group of adoptive families *without* biological children and a smaller number of secure attachment relationships in the group of adoptive families *with* biological children. It seems that the intervention program consisting of video feedback plus a booklet worked out different in study 1 compared to study 2 at this age. Second, we performed the same hierarchical log-linear analysis on the 18 month data. Now, the three-way interaction is not significant (Pearson χ^2 (1, n=99) = 0.83, p = .36), indicating that the relation between experimental condition and attachment security is not different for the two family types at this age. Inspection of the data in Table 2 shows that at the age of 18 months the disappearance of the differential intervention effect is probably due to an increase of attachment security in study 2: the intervention group of study 2 now shows a distribution of attachment

security that is comparable to the control group. In study 1 there are no remarkable changes in patterns.

From the results we conclude that a similar intervention, consisting of video feedback plus a booklet, appeared to result in more security of attachment in families *without* biological children and less security of attachment in families *with* biological children and a first adopted child at the age of 12 months. However, at 18 months this differential effect was no longer evident.

Discussion

In adoptive families secure infant-parent attachment relationships may be jeopardized by factors inherent to adoption. For the adoptive parents these risks are: the missed experiences of pregnancy and delivery, delayed physical contact with the baby, and a delay in the process of attunement to the baby. For adopted children risks may be found in their early experiences of separations and deprivation. On the basis of theoretical and empirical grounds, it was assumed that the development of a secure attachment relationship is more problematic in families with interracial, internationally adopted infants than in non-adoptive families. An intervention aimed to support the parents' attunement to their interracial adopted baby, and to promote the development of a secure infant-parent attachment relationship, was designed. In our research project this intervention was implemented in two groups of adoptive families: families *without* biological children and a first interracial adopted child, and families *with* biological children and a first interracial adopted child. All 100 chil-

dren involved in the two studies were adopted as infants, prior to 6 months of age.

The results indicate that the incidence of secure patterns of attachment in our samples of adoptive families with or without biological children is not different from that found in non-adoptive families (with the reservation that we did not score D-behavior). It seems that in an adoptive family a secure parent-infant attachment relationship can develop as well as in a non-adoptive family. Juffer and Rosenboom (in press) reached the same conclusion for a group of 80 adoptive families. Of course, this finding throws a new light on the necessity of an intervention for adoptive families who adopt a young child. Since we found 70 to 80 percent secure attachment relationships in our control groups, one could wonder whether an intervention is justified for adoptive families. Indeed, with the knowledge of these results, other approaches, such as restricting the intervention to insecurely attached dyads, seem indicated.

Our findings do not concur with the outcomes of Singer et al.'s (1985) study who found an overrepresentation of insecurely attached interracial adopted infants. In our view this may be explained by methodological aspects of Singer et al.'s study on the one hand, and by cultural differences between the United States of America and the Netherlands, on the other. In Singer et al.'s study the generality of the findings was restricted by a small sample size: 19 dyads with an interracial adopted infant. In this contribution data were collected from a larger group: 50 interracial adopted infants and their mothers. A second reason may be found in the cultural context of the

studies. Singer et al.'s study was located in America, where it is probably more unusual and less accepted for white parents to rear a black or Asian child than it is in the Netherlands (Juffer, 1993a; Rosenboom, 1993; Singer et al., 1985, p.1549). The resulting uncertainty experienced by the American mother of a black adopted child could interfere with the development of a secure attachment relationship. This leaves the question unanswered why it would be more accepted for white parents to adopt interracially in the Netherlands as compared to America. We suppose that this is partly due to the policy of American adoption agencies. American social workers prefer to place black children in black families. There are also a large number of white adoptable children available in the U.S.A., whereas in the Netherlands almost all adoptions are restricted to intercountry, interracial adoptions. Adoption policy and parent education are probably adapted to these facts.

Our finding that most adoptive mothers and their infant seem to develop warm and secure attachment relationships, also has theoretical implications. According to Bowlby (1982), and Papousek and Papousek (1992) an adoptive mother's nurturing responses may be less strong than those of a biological mother, due to the missed experience of pregnancy and the delivery, and the delay of contact with the baby. Our results show that adoptive mothers may overcome these (perceived) limitations and appear to develop secure attachments. Besides, our findings show that attachment figures may be replaced without negative psychological consequences for the baby. Of course, this may not be the case for children adopted at an older age.

The main question of this paper was whether a similar preventive intervention aiming to promote security of attachment would have the same outcomes in two groups of families: adoptive families *with* and *without* biological children. An intervention program consisting of two intervention techniques was designed for adoptive parents: a booklet, and three video-feedback sessions. At 6 months this program was implemented in both groups. At the posttest of 12 months a significant difference was found between the two groups of families: the same intervention resulted in a larger number of secure attachment relationships in the group *without* biological children and a smaller number of secure attachments in the group *with* biological children. At 18 months this difference had disappeared. It seems that, at least shortly after implementation, the same intervention may have positive outcomes in one group but negative outcomes in another group.

It is remarkable that in contrast to adoptive families without biological children the intervention was associated with *less* security of attachment in adoptive families with biological children. Although this was not the case again at 18 months, where the outcomes of the intervention group and control group were comparable, the 12 month finding is hard to explain. It may point to a short-term negative effect of an intervention considered unnecessary (see below). On the other hand this finding may be related to the age of adoption placement of the children. In study 2 the infants of the intervention group had been placed at an older age (17 weeks) than the infants of the control group (11 weeks). In study 1 the mean age of the intervention children was 9 weeks (versus 7 weeks of the control

children) (Juffer, 1993a). Perhaps the infants of the intervention group of study 2 needed more time to reorganize and redirect their attachment behavior towards their new parents. Maybe the intervention was not adjusted to the attachment needs of infants placed at an older age. At 18 months these children seem to have settled, according to the number of secure attachment relationships at this assessment. Future studies are needed to investigate this issue.

In our view, other explanations of the discrepancy may be found in the special features of the adoptive families, which distinguish these two groups. In contrast to adoptive families with a first and only adopted child, adoptive families with biological children have parenting experience already, which may have restricted their openness for parenting advice. These parents who reared at least one and sometimes even four children of their own, may have evaluated the intervention as unnecessary, because they judged themselves as expert parents. Since their parenting abilities had proved to be good enough for their biological children they would not need assistance for an adopted child. Also, these parents may have evaluated the intervention as unnecessary, for loyalty-related reasons: they would rather treat an unrelated child in the same way as their biological children, in order not to make this child an exception. A second, related, explanation is that the intervention was not attuned to this group. The booklet was written for inexperienced adoptive parents, and showed vignettes and pictures of families with only one (adopted) child, which may have hampered the identification of these parents with the content of the book. Also, the video feedback was not attuned to the

daily parenting experiences and problems of this family type, such as rearing related and unrelated children in one family, feelings of loyalty, the biological children's reactions to the adoptive child's arrival, positive discrimination of the adoptive child by outsiders, etc.. A third possible explanation is that the personal characteristics and the involvement of the intervener play a role in the effectiveness of the intervention. Unfortunately, in our intervention studies we did not have the possibilities to test this hypothesis. In future studies this could be a topic for closer scrutiny.

The presented results emphasize on the one hand the relative flexibility of the attachment system. Despite the adopted child's experience of being separated from the primary caregiver early in life, and despite the adoptive mother's missed experiences and delay of contact with the baby, secure infant-mother attachment relationships appear to develop in adoptive families as often as in biological families. This may well indicate that the baby's attachment system as well as the parent's nurturing system are adaptable to a certain degree. Of course, this need not be the case for children adopted at an older age, since all of the children in the two intervention studies were adopted prior to 6 months of age. On the other hand, the presented results underscore the relative rigidity of the attachment system, in the sense that it is relatively difficult to affect the quality of the developing attachment relationship. Whereas an intervention program may be successful in one case, it may not work in the other case. The main conclusion derived from the dissimilar intervention outcomes reported in this contribution, seems to be that an intervention should be precisely

attuned to the special needs and features of the group under study. In other words: an intervention aiming to promote the parent's sensitive responsiveness, should be sensitive and responsive itself.

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