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Judith Solomon PhD & Carol George PhD

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The development of attachment in separated and divorced families

Effects of overnight visitation, parent and couple variables

JUDITH SOLOMON and CAROL GEORGE

ABSTRACT This study represents the first systematic investigation of the effects on infant attachment to mother and to father of the increasingly common practice of overnight visitation (time-sharing) with the father in separated and divorced families. There were 145 infants (ages 12 to 20 months) and their mothers (and 83 fathers) who participated in the study. Parents completed questionnaires, were interviewed about their relationship with the baby, and were observed with their infants in the Strange Situation. Infants in separated/divorced families who had regular overnight visits with father ($n = 44$) were significantly less likely to be classified as secure and more likely to be classified as disorganized or unclassifiable in their attachment to mother than infants in a married comparison group ($n = 52$). Attachment classification to father was unrelated to visiting (time-sharing) arrangements, but infants were significantly more likely to be classified disorganized/unclassifiable with father in the separated/divorced groups ($n = 39$) than in dual-parent families ($n = 44$). Disorganized attachment to mother in the Overnight group was associated with maternal reports of low parent communication and high parent conflict, and with low maternal psychological protection of the infant, assessed from maternal interviews. Consistent with Bowlby's and Rutter's context-sensitive views of the effects of separation, the results suggest that repeated overnight separations from the primary caregiver are associated with disruption in mother-infant attachment when the conditions of visitation are poor, i.e. when parents are unable to provide adequate psychological support to the child.

KEYWORDS: divorce – attachment – separation – caregiving – representation of relationships

It is generally well known that nearly half of all marriages in the United States end in divorce (Glick & Lin, 1986).¹ It is less generally appreciated, however,



that divorce is most likely to involve young children: over half of the children who experience divorce do so by age 6; 75% of these children are under age 3 (Emery, 1988). When we consider the number of children whose separated parents were never married, it is obvious that an even larger number develop their primary relationships to mother and to father in the context of a divided family. To date, there have been no systematic studies on the development of parent–infant relationships in this context, on the question of how very young children cope with various visitation and access arrangements, or on possible compensating, buffering, or risk factors. The present study was designed to address these issues.

INTRODUCTION

The effects on attachment of overnight visiting away from the mother

Reflecting contemporary shifts in attitudes toward the needs of young children and the role of fathers, a sizable minority of separating parents choose, or are required by the courts, to establish time-sharing arrangements for the infant that include overnight visiting schedules away from the primary caretaker, usually the mother. Findings from California indicate that over a third of children aged 2 or younger participate in overnight visitation with a second parent (Maccoby, Depner, & Mnookin, 1988). Despite the prevalence of such arrangements, concerns about how they may influence the development of the infant–mother attachment relationship have been expressed. Several early but often cited authorities advised against any overnight visitation away from the primary caregiver for children under 3 years of age (Goldstein, Freud, & Solnit, 1973; Hodges, 1986; Skafte, 1985). Similar cautions continue to be emphasized in publications for families and court personnel (e.g. King County Family Court Services, 1989; Spokane County Superior Court, 1996). This advice is based primarily on the results of classic studies of the effects of prolonged separations from the mother. The basic finding of a number of such studies is that infants aged 6 to 36 months who undergo separation from the mother of a week or more display a predictable sequence of shifts in mood and behavior that can culminate in a cool detachment from the mother and other potential caregivers. Upon reunion, initial detachment gives way to hypervigilance, clinging, or aggression for days or weeks and to continued hypersensitivity to real or potential separation up to several months later (Bowlby, 1980, 1973, 1982; Heinicke & Westheimer, 1965; Robertson & Robertson, 1971).

Alternative hypotheses

It is not clear how relevant the classic separation studies are to the divorce situation. In contrast to the conditions that prevailed in early studies, infant

overnight visitation in cases of separation and divorce most often involves short-term but repeated separations from the mother in the care of a second parent who is familiar and emotionally invested in the relationship. Nevertheless, the attachment and divorce literatures permit us to generate three alternative hypotheses about how time-sharing arrangements and family dissolution might influence infant–mother attachment. The first of these, here termed the simple separation hypothesis, is based on the notion that separations are in and of themselves a threat to infant attachment security with mother. It is derived largely from the early, detailed observations of young children undergoing separations made by Robertson and Robertson (1971) and Heinicke and Westheimer (1965), who emphasized how factors such as the length of separation, the repetition of separations, and brief visits within the separation influenced the child's reactions. Although well aware of moderating influences, these investigators tended to emphasize the risks to the infant–mother relationship of separation even under favorable circumstances. This view has been a very persistent one, as demonstrated by the continuing debate about the effects of early day care. Several early studies found that infants who began day care before 12 months of age were more likely than infants who entered day care later to develop insecure-avoidant attachments to the mother. This was interpreted as a direct consequence of repeated daily separations of the infant from the mother (Bargolow & Vaughn, 1987; Belsky, 1986; Blehar, 1974) based largely on the similarity between the avoidance observed in Ainsworth's Strange Situation and the avoidance of the mother shown by infants who have experienced prolonged separations. These studies were criticized on several grounds, however, particularly with regard to whether variations in day care quality may have influenced infant adjustment (Phillips, McCartney, Scarr, & Howes, 1987). The most recent multi-site investigation of this question has failed to replicate the original findings (NICHD Early Child Care Research Network, 1997; but see Sagi, 1998). Because the simple separation hypothesis continues to exert a strong influence on judicial and public policy, it needs to be addressed explicitly in the context of the divorced family.

In contrast to the simple separation hypothesis, Bowlby (1973, 1980) and Rutter (1972) emphasized a more context-sensitive view, in which separation effects are moderated by the conditions of separation and reunion. Observations of young children undergoing long separations under varying circumstances (Heinicke & Westheimer, 1965; Robertson & Robertson, 1971) demonstrated that a familiar and sensitive caretaking environment during separation can mitigate or even prevent infant distress and detachment. In an hypothesis based on individual cases, Bowlby also expressed concern that adverse responses on the part of the mother to the infant's initial clinginess and anger following separations might lead to enduring changes in the mother–child relationship. This aspect of Bowlby's hypothesis has not been tested systematically in human infants, but it is supported by findings from non-human primates: infant rhesus monkeys whose mothers are rejecting of contact after brief separations are more clinging and hypervigilant than

infants whose mothers are accepting (Hinde & Spencer-Booth, 1968). Thus, in the context-sensitive view, the infant's response to separation from the mother constitutes a special vulnerability or risk for attachment insecurity that may be potentiated and maintained by adverse conditions, or that may, under supportive conditions, be prevented. More recent support for the context-sensitive hypothesis is found in the only study of overnight separation that has made use of Ainsworth's attachment classification procedure. Sagi, van IJzendoorn, Aviezer, Donnell, and Mayseless (1994) found more insecure-ambivalent attachments to mother among Kibbutz infants who experienced daily overnight separations in comparison to infants who slept with parents, but found no effect of occasional longer separations. They attributed the overnight separation results to the lack of sensitive caregiving in the overnight sleeping situation.

A third hypothesis, which we term the simple context hypothesis, is suggested by the divorce literature, which is based almost entirely on the study of children of preschool age and older. Marital separation and divorce present challenges to the establishment of secure infant-mother attachment that potentially are independent of any effects that might be due to overnight separation. The first two years following separation are known to be a chaotic and stressful time, often characterized by changes in residence, a return to work or longer work hours for mothers, new infant day care arrangements, and, in particular, a 'diminished capacity to parent' on the part of both mothers and fathers (Wallerstein, 1991). Given the exceptional psychological demands made upon the parents in the early divorce period, higher than normal levels of insecure attachments among divorcing parents would not be unexpected.

Three variables have emerged in the divorce literature as particularly important to the child's social and emotional well-being: parent conflict (Amato & Keith, 1991; Amato & Rezac, 1994; Block, Block, & Gjerde, 1988; Cherlin et al., 1991; Emery, 1982; Hess & Camera, 1979; Johnston, Gonzalez, & Campbell, 1987); parent communication (Johnston, 1990); and the parents' psychological adjustment to divorce (Kline, Tschann, Johnston, & Wallerstein, 1989; McKinnon & Wallerstein, 1986). These variables may influence infant-mother attachment through their effect on maternal sensitivity (e.g. Kline *et al.*, 1989; Lyons-Ruth, Connell, Grunebaum, & Botein, 1990; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985), or through direct effects on the infant's emotional state and behavior (Cummings, Iannotti, & Zahn-Waxler, 1985; Davies & Cummings, 1998; Osofsky, 1995; Scheeringa & Zeanah, 1995).

The present study was designed to differentiate among these three hypotheses. Thus, if overnight visitation, by itself, has deleterious effects on infant-mother attachment, we would expect more insecure attachments, particularly avoidant ones, among infants participating in overnight visits with father as opposed to infants without overnights or in maritally intact families; this effect should be more pronounced the longer and/or more frequent the overnight separations are and the earlier such arrangements are put into place. Alternatively, results that demonstrate an interaction between contextual

variables and attachment for infants undergoing overnight separations would tend to support the context-sensitive hypothesis. Finally, if the context of divorce rather than the visitation schedule is most important, we would expect higher levels of attachment insecurity in all divorcing families in comparison to maritally intact ones.

The effects of time-sharing schedules on attachment to father

An additional area of interest in this study was the development of infant-father attachment in the context of divorce. Relatively little is known about the factors that are important to the development of this relationship, even in maritally intact families (Belsky, 1996). In dual-parent families, the amount of father involvement (time spent with the infant) has been reported to have either a small but significant or no effect on quality of infant-father interaction or attachment (Volling & Belsky, 1992; Cox, Owen, Henderson, & Margand, 1992; Easterbrooks and Goldberg, 1984). Certainly, fathers can be sensitive caretakers to infants (Cox *et al.*, 1992; Field, 1978) and their relationships with their infants are most likely to be judged secure, at least in maritally intact families (Belsky, 1996; Cox *et al.*, 1992; Easterbrooks & Goldberg, 1984; Main & Weston, 1981). The basis for secure attachment to father, however, has been difficult to pin down (Belsky, 1996) but may reflect the father's sensitivity in the context of play or exploration rather than in caregiving contexts (Cox *et al.*, 1992; Grossmann, 1997; Solomon & George, in press, a). Perhaps for this reason, most infants prefer their mothers as a haven of safety (Lamb, 1976) and more easily 'forgive' their fathers after a long separation, i.e. are less likely to avoid or be angry at him following a long separation (Bowlby, 1980; Heinicke & Westheimer, 1965). Thus, what is known about infant-father attachment in dual-parent families suggests that time-sharing arrangements in separated and divorced families may have relatively little influence on that relationship. On the other hand, when the infant does not have daily contact with the father, the amount and patterning of their time together might have greater impact. Many separated fathers believe that overnight access to the infant is a prerequisite to establishing or maintaining a relationship with the young child. Court and mental health personnel often encourage frequent father-visits, with or without overnights, because of concerns that in the absence of frequent contact, the very young child will be unable to establish an attachment to the father at all (e.g. Hodges, 1986). For heuristic reasons, therefore, we can hypothesize that overnight visitation and longer, more frequent and more regular visits will promote secure infant-father attachment when the parents are separated.

Regardless of the role of time-sharing arrangements, there is good reason to believe that contextual variables (marital conflict, parent communication and father psychological adjustment) will be associated with differences in infant-father attachment. Indeed, studies of dual-parent families suggest that

fathering is even more influenced by these factors than is mothering (Belsky, 1996; Belsky, Gilstrap, & Rovine, 1984; Feldman, Nash, & Aschenbrenner, 1983). One reason for this is that the infant-father relationship is to some degree mediated by the mother who may be either supporting or inhibiting depending upon her perception of the father's competence and her willingness to participate with the father in interactions with the young child (Parke, 1995). This would lead us to hypothesize that insecure infant-father attachments would be more common in separated and divorced families than in maritally intact ones.

METHODS

The sample

The sample consisted of 145 mothers and their children 12 to 20 months of age (*Mean* = 15.9 months; 79 (55%) boys; 66 (45%) girls). Forty-four of the infants participated at least once a month in overnight visitation with the father (Overnight group). Forty-nine infants saw their fathers at least once per month but had no overnight stays with him (No overnight group). Fifty-two infants lived in intact (two-parent) families (Married group). Eighty-three fathers also participated in the study (22 Overnight; 17 No overnight; 44 Married).

Sample characteristics are shown in Table 1. Mothers and fathers were mature and represented a wide range of incomes and ethnicities. Statistical tests examining the descriptive variables included paired comparisons between (1) the Visitation (Overnight + No overnight) and Married groups, and (2) the Overnight and No overnight groups, using Pearson chi-squares or ANOVA, as appropriate. In the comparisons of the Visitation and Married groups, results showed that whereas mothers and fathers in the various family groups were similar in age and ethnicity, **married parents reported significantly higher education and income and married mothers were less likely to work full time than mothers in the visitation groups. Visitation mothers were more likely than married mothers to have had a previous marriage (i.e. to someone other than this baby's father) and were significantly more likely to be in counseling at the time of the study, but all three groups reported high participation in counseling in the past. Finally, Visitation group infants were about 1 month older than Married group infants when seen in the laboratory with father. Only one variable significantly differentiated Overnight group mothers from No overnight group mothers: the former were more likely to have children from a previous marriage, which may indicate some between-group differences in lifestyles before the baby's birth.**

In Table 2, the Overnight and No overnight groups are compared with respect to separation, custody and legal variables of interest. It is noteworthy that many couples had separated before the child's birth and about 20% of

Table 1 Sample characteristics: means and percentages

Variable	Mothers			Fathers		
	Overnight	No overnight	Married	Overnight	No overnight	Married
Parent's age	Mean (SD)	28.67 (6.79)	30.30 (6.79)	32.67 (5.60)	32.81 (5.75)	31.85 (6.04)
Education ^a	Mean (SD)	3.07 (1.47)	3.25 (1.47)	2.77 (.97)	3.24 (1.48)	3.87* (1.57)
Income ^b	Mean (SD)	2.71 (1.30)	2.76 (1.33)	3.05 (1.00)	3.00 (1.41)	4.11* (1.22)
Employed full time		46.2%	48.9%	75%	75%	78.3%
Ethnicity: % white		63.4%	58.0%	55%	61.4%	68.8%
Previous marriage? ^c		33.3%	33.3%	21.4%	23.1%	26.1%
Previous children? ^d		36.0%	15.9% ⁺	30.8%	25.0%	20.5%
Counseling (current) ^e		30.2%	22.4%	36.4%	29.4%	4.3%
Counseling (past) ^f		67.5%	66.0%	57.0%	53.8%	22.2%*
<i>Infant characteristics</i>						
Baby's ages	Mean (SD)	16.56 (2.52)	15.78 (2.34)	17.17 (2.84)	16.39 (2.14)	15.73* (2.28)
Attends day care		59.1%	59.2%			
Hours day care ^h	Mean (SD)	37.48 (16.39)	40.29 (12.69)			
Start day care ⁱ	Mean (SD)	5.95 (5.08)	5.10 (3.67)			

^aHighest degree: 1 = < HS [high school]; 2 = HS; 3 = some college; 4 = two-year degree; 5 = BA; 6 = MS; 7 = doctorate. ^bIncome (annual), coded in thousands: 1 = < 5; 2 = 5-10; 3 = 11-25; 4 = 26-50; 5 = 51-75; 6 = > 75. ^cHad marriage previous to one with current partner (ex-partner). ^dHad children from a previous relationship. ^eParticipating in counseling/therapy currently. ^fParticipated in counseling/therapy in past. ^gBaby's age (in months) at time of laboratory session with particular parent. ^hHours in day care per week. ⁱAge (in months) at which baby started day care. *Pearson chi-square or ANOVA: Visitation (Overnight + No overnight) vs. Married, $p < .05$ (at least). ⁺Pearson chi-square or ANOVA: Overnight vs No overnight, $p < .05$.

Table 2 Separation, custody and legal variables: visitation groups

Variable	Overnight		No overnight	
	Mean	SD	Mean	SD
Length of separation (months)	11.0	7.97	11.19	7.55
Baby's age at separation (months)	5.00	8.07	3.92	7.37
	N	%	N	%
Prior stable relationship	35	80%	49	100%
Legal custody				
Mother	8	19%	24	48%**
Joint	34	81%	26	52%
Physical custody				
Mother	28	64%	49	100%**
Joint	16	36%	0	
Restraining orders ^a				
Mother	7	33%	2	9%*
Father	18	86%	23	100%
Total	21	48%	23	47%
Formal mediation ^b	35	80%	31	62% ⁺

^aRestraining orders filed against mother or father.

^bFormal mediation to resolve custody disputes.

*Fisher's exact, $df = 1$, $p < .10$.

*Fisher's exact, $df = 1$, $p < .05$.

**Pearson chi-square, $df = 2$, $p < .05$ (at least).

couples had no stable relationship at the time the child was conceived. These figures reflect the great fragility of the prior couple relationships in this sample and highlight the fact that the parent-infant relationships were developing during a period of tremendous turmoil and loss in the life of the parents. As expected, joint legal and physical custody were more common in the Overnight than No overnight group. It is interesting to note that while restraining orders against the father were common in both groups, mothers in the Overnight group were significantly more likely than No overnight mothers to have restraining orders against them. This suggests that there was a higher level of mutual threat and mistrust among the Overnight families than the No overnight families. About 70% of the separated families had undergone formal mediation, which is required in California when there is a disagreement about custody or visitation. It is estimated that only about 10% of divorcing couples with children (all ages combined) undergo mediation in the county from which most of the families were drawn (Duryee, 1991). Possibly a higher proportion of parents with infants enter mediation. Alternatively, recruitment methods may have resulted in an unrepresentative number of disputing families in the present sample. There was a statistical

trend for mediation to be more common among the Overnight than the No overnight families, which may indicate greater disagreement between the parents in the former group about the care of the child.

Of the demographic, marital history and legal variables showing group differences, none was significantly correlated with attachment security (see below) and no attempt was made to control for them in subsequent analyses.

Recruitment

Separated and divorced families were recruited from several sources in the San Francisco Bay Area including contact information made available to us by the Family Court Service, Alameda County (California), newspaper advertisements, and referrals from local day care centers, family attorneys and mental health workers. Married comparison families were recruited from newspaper advertisements, local day care centers and referrals from other study participants. Eligibility requirements for all subjects included (1) infant was first-born of the couple; (2) infant age was 12 to 18 months (at time of first laboratory visit); and (3) parents' age was at least 18 years. The following additional eligibility requirements applied to separated/divorced families only: (1) parents separated for at least three months; (2) father visits child regularly at least once per month; and (3) if overnight visiting existed, the plan had been in effect for at least one month.

Where referral information was available from Family Court Services, mothers and fathers were sent a letter describing the study followed by one or several attempts to make telephone contact. Of 97 eligible mothers who were reached by telephone, 68 (70%) agreed to participate. Of 68 eligible fathers reached by telephone, 46 (68%) agreed to participate. Across all three groups, a total of 172 mothers agreed to participate (117 separated/divorced; 55 married comparison). Twenty-three mothers (20 separated/divorced; 3 married) were dropped because of either repeated failure to appear for laboratory sessions or failure to complete any of the questionnaires. Of the 101 fathers recruited across the three groups (49 separated/divorced; 52 married), 15 were dropped for failure to appear (7 separated; 8 married). An additional 4 separated/divorced mothers (and 3 fathers) were dropped from analyses because overnight visitation had been in effect for less than one month ($n = 3$) and/or because arrangements could not be classified as either Overnight or No overnight (parents took turns caring for child in mother's home ('birdnesting'), $n = 2$).

Procedures

Every parent was sent a packet of questionnaires for completion before participating in a single laboratory session with his or her infant. Separated and divorced parents also were interviewed separately in their homes about the history of their relationship with the other parent and about the separation.

The laboratory session began with the Strange Situation, a standardized sequence of episodes, lasting approximately twenty minutes, which includes two separations from and reunions with the parent (Ainsworth, Blehar, Waters, and Wall, 1978). The Strange Situation was videotaped from an adjoining room through a one-way mirror. Following this, parents were administered a modified version of the Caregiving Interview (Aber, Slade, Berger, Bresgi, & Kaplan, 1985; George & Solomon, 1989, 1996). In this semi-structured interview, parents described themselves as parents and their relationship with the child in the course of responding to questions about challenging and pleasurable aspects of the relationship and about daily and unusual separations. Separated and divorced parents were asked specifically about the visitation arrangements, their feelings about them and the process by which the schedule had been arranged. During the interview, which lasted approximately one hour, the child was entertained by the 'playmate' from the Strange Situation, as much as possible, outside the interview room. The session ended with the parent completing the packet of questionnaires, if necessary, and as time allowed. Some parents left without entirely completing forms and returned them later. A few parents did not complete forms entirely, resulting in somewhat different sample sizes for analyses depending upon the form or variable. Parents were paid modest financial compensation following the completion of their laboratory visit and questionnaires.

The infants' laboratory sessions with mother and father were administered by different personnel and were scheduled at least one month apart. An attempt was made to counterbalance order by parent gender, but it was more difficult to schedule fathers, so that in 61% of cases the babies visited the laboratory with mother first.

Measures

Attachment classifications Attachment classifications were completed by highly trained classification judges blind to all information about the families (the first author, Donna Weston, PhD, and a team of three judges at the University of Washington, Seattle). Children were classified into four groups – secure; avoidant; ambivalent; and disorganized – in accordance with published guidelines (Ainsworth *et al.*, 1978; Main & Solomon, 1990). In addition, cases were judged 'unclassifiable' when the baby's behavior did not match any of the classification groups well. Most often such infants showed an incoherence in attachment strategies that was not well captured by established indices of disorganization. For example, some infants were avoidant on first reunion, but inconsolable at second reunion; others were aggressive, defiant, deliberately provoking of anger, or caregiving toward the parent; a few seemed 'hypercompliant' (Crittenden & DiLalla, 1988). Because these children lacked coherent strategies and/or their behavior seemed to resemble the controlling classification that is a sequela to infant disorganization in later childhood (Main and Cassidy, 1988), unclassifiable (U) cases were combined

with disorganized cases for the purpose of analysis. Sessions with an infant's mother and father were classified by different judges.

Agreement on main classification group (ABCD/U) between the first author and Weston was 94% ($n = 16$; Kappa = .89, $p < .000$) and between the first author and the Seattle team was 80% ($n = 20$; Kappa = .71, $p < .000$). The first author consulted Dr M. Main and Dr D. Weston on difficult cases. The Seattle classifications were arrived at by two classifiers, working independently; discrepancies between classifiers were resolved in consultation with Dr S. Spieker. For all cases on which there was consultation, the final classification was arrived at by consensus. For the reliability cases, the final classification was contributed by the judge (or team) who had originally been assigned to that case. There was no effect of session order (mother or father first) on classification with either parent ($\chi^2_{\text{mother}} = 1.84$, $df = 2$, $p = .40$; $\chi^2_{\text{father}} = 3.96$, $df = 2$, $p = .14$).

Visitation arrangements Mothers provided information about the visitation schedule in written form in the questionnaire and when interviewed. Information included exact days and times, when the plan was initiated, earlier plans, and whether or not visits were supervised by them. The two reports were compared to ensure accuracy. When there was a discrepancy between the formal plan and what had actually transpired (this usually emerged in the interview) coding was revised accordingly. Arrangements were extremely idiosyncratic, requiring over 40 codes to represent key variations in plans. Plans were summarized with respect to five variables: (1) *the total time spent with father per month* (counted in terms of whole days, with an 8–12 hour block of time = 1 day, or half days, being less than 8 hours); (2) *the number of overnights per month*; (3) *the (highest) number of consecutive nights spent away from mother*; (4) *continuity* (whether the infant saw father weekly, bi-weekly, or monthly); and (5) *number of transitions to father's care per month* (when mother was present during visits, there was considered to be no transition). In addition, three variables reflecting the amount of experience the infant had with the current visitation plan were taken directly from mothers' questionnaire responses: (1) *how long the plan had been in effect*, coded from 1 (1–2 weeks) to 7 (12–18 months); (2) *the mother's rating of how well parents had adhered to the schedule, overall*, rated from 1 (= 100%) to 5 (= 0%); and (3) *in the last month*, also rated from 1 (= 100%) to 5 (= 0%).

Psychological protection To assess the degree of protection provided by the mother to the infant in the context of visitation with the father, a bipolar scale was developed for use with verbatim transcripts of the Caregiving Interview. This was a five-point scale with the odd numbered scores anchored by specific definitions. A mother was given a high score on the Psychological Protection Scale when she described herself as taking specific, active measures to avoid or mitigate the child's insecurity or distress in the context of visits with the father. Examples include demanding a particular visitation

arrangement based on her assessment of the infant's needs; modifying arrangements to avoid distressing the child; and providing support and reassurance to the infant before, during, or after visits. Mothers also received high scores when they convincingly described themselves as having no concerns about how visitation was affecting the child. Low scores were given when mothers described specific instances in which they failed to take action to avoid or to mitigate psychological ill-effects of visitation despite their observation that the child was distressed or their concern that visitation was psychologically harmful. Mothers could also receive low scores if they described actions taken for the infant's benefit but evaluated these as ineffective and themselves as helpless or ineffectual.

Rating from verbatim transcripts of the Caregiving Interview was completed by two individuals who were blind to the hypotheses of the study and all other information about the family. The correlation between raters' scores on a sample of independently rated transcripts was .87 ($n = 12$, $p < .001$). Raters agreed 100% on whether the transcripts provided enough information to be rated.

Couple conflict The Straus Conflict Tactics Scale (CTS) is a brief self-report instrument designed to estimate the level of conflict in a relationship and the tactics used to express conflict (Straus, 1979). Subjects are asked to rate the frequency with which they and their partner engaged over the last 12 months in a set of 18 conflict tactics ranging from 'Discuss the issue calmly' to 'Use a gun'. A 6-point scale ranging from 0 to 'more than 20 times' is used. Internal validity for the three subscales tapped by the items (reasoning; verbal aggression; and violence) is high and adequate construct validity for the scale has been demonstrated in a wide variety of studies (Hertzberger, 1991; Straus, 1979). Because there is greater question about the reliability of men's scores than women's (Browning & Dutton, 1986; Jouriles & O'Leary, 1985) only mothers' scores were used following the suggestion of Browning and Dutton. Analyses for the present study were confined to the verbal aggression and violence subscales. For the purposes of data reduction, mothers' ratings of their own and their partners' scores on verbal aggression and violence were summed to provide a single estimate of couple conflict (Cronbach's alpha = .82; item-scale correlations ranged from .58 to .74). Because the distribution of scores was highly skewed, the range was divided into quartiles and couples were assigned a score from 1 to 4 representing the quartile into which their scores fell (CTS 1-10 = 1; 11-22 = 2; 23-39 = 3; 40-108 = 4). Straus reports that 80% of mothers from maritally intact families reported 22 or fewer conflict acts.

Couple communication The Ahrons Communication Scale (Ahrons, 1981) is a self-report instrument in which parents are asked to rate on a scale from 1 (never) to 5 (always) how much they discuss and share decision-making with their partner on ten aspects of the child's daily life including major decisions,

day-to-day problems, personal and developmental accomplishments, medical problems, socialization, and their co-parenting relationship. Scores on all ten items are summed to represent a single communication score. Only mothers' ratings were used. Ahrons reports very high internal consistency (.93 for mothers, $n = 54$) and the scale has been used successfully in previous studies of divorce to assess the co-parenting alliance (e.g. Johnston, 1990).

Current psychological adjustment The Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982) was used to assess overall psychological adaptation of parents. The inventory consists of 53 items reflecting 9 subscales (somatization; obsessive-compulsive; interpersonal sensitivity; depression; anxiety; hostility; phobic anxiety; paranoid ideation; psychoticism) that parents rate on a scale from 0 (not at all) to 4 (extremely) according to how much discomfort the symptom has caused them during the past three months. The subscales are positively correlated to corresponding MMPI scales and show excellent test-retest and internal consistency reliability (Derogatis & Melisaratos, 1983). Overall levels of psychological discomfort are represented by mean severity of items (Symptom Severity) and the number of symptoms rated 1 or higher (Total Symptoms). Raw scores were converted to normalized T scores based on large-scale studies of normative populations provided by the authors. These scales were highly intercorrelated ($r = .91$, women; $r = .93$, men) so that only the Symptom Severity scale was used in subsequent data analyses.

RESULTS

Mother-infant relationship

Relation of family group to attachment. The distribution of attachment classifications across the three family groups is shown in Table 3. Loglinear analysis was employed to test for the effects of family group (Overnight, No overnight, Married) and attachment classification (B, A/C, ²D/U) on the cell frequencies. This procedure is equivalent to the Pearson chi-square procedure but allows for 'ANOVA-like' specification of main and interaction effects in the analysis of contingency tables. The analysis revealed a **significant family by attachment interaction** (Likelihood ratio chi-square = 10.34, $df = 4$, $p = .035$). Follow-up loglinear paired comparisons among the three family groups showed that the interaction was largely accounted for by a **significantly different distribution of attachment classifications in the Overnight as compared with the Married group** (Likelihood ratio chi-square = 9.85, $df = 2$, $p = .007$). The distribution of attachment classifications in the Overnight and No overnight groups differed at the trend level (Likelihood chi-square = 4.44, $df = 2$, $p = .10$) while the No overnight and Married groups were similar (Likelihood ratio chi-square = .76, $df = 2$, $p = .69$).

Table 3 Distribution of attachment classifications to mother across family groups

<i>Attachment classification</i>	<i>Overnight</i>	<i>No overnight</i>	<i>Married</i>
	<i>n(%)</i> <i>adjusted residual</i>	<i>n(%)</i> <i>adjusted residual</i>	<i>n(%)</i> <i>adjusted residual</i>
B	7 (16%) -2.18	15 (31%) .45	19 (37%) 1.65
A	6 (14%) -1.22	13 (27%) .34	13 (25%) .57
C	2 (5%) .87	0 -1.45	2 (4%) -.70
D/U	29 (66%) 3.03	21 (43%) -.70	18 (35%) -2.22

Note 1 The adjusted residual is the standardized residual divided by the estimated standard error. The asymptotic distribution is standard normal.

Note 2 Likelihood ratio chi-square = 10.34, $df = 4$, $p = .035$ (attachment group C combined with group A for this analysis).

Although the pattern of findings suggests an effect of overnight visitation on attachment, the family group differences apparently were not due to a specific increase in avoidant relationships in the Overnight families. Looking at the adjusted standardized residuals (shown in Table 3) it is clear that the Overnight group was distinguished from the Married and No overnight groups by lower than expected numbers of secure classifications and higher than expected numbers of disorganized classifications. Indeed, the number of A/C classifications in the Overnight group also appears to be somewhat lower than expected. This unanticipated finding clearly requires replication, but for heuristic purposes the distinction between organized insecure (A/C) and disorganized classifications was maintained in subsequent data analyses. Where appropriate, and as noted, the Bonferroni correction procedure was used for post-hoc comparisons among the three attachment groups (Secure; Insecure/Organized; and Disorganized/Unclassifiable) in recognition of the greater number of comparisons entailed.³

Effects of variations in visitation plans The reduced proportion of secure attachments (and of organized attachments more generally) in the Overnight group could suggest a direct effect of overnight visitation on infant-mother attachment. To further test this hypothesis we undertook two MANOVAS involving visitation variables. In the first analysis, the six visitation plan variables that were relevant to both the Overnight and No overnight conditions (total time with father; number of transitions between mother's and father's care; overall regularity of visits; regularity in the last month; continuity of plan (e.g. weekly, biweekly, monthly); and length of time the current plan had been in effect) were entered into a MANOVA analysis with family group and

attachment classification (B, A/C, D/U) as independent factors. The analysis revealed a significant multivariate effect for family group (Wilks' Lambda (6, 67) = 11.01, $p < .000$) but no significant effect for attachment security (Wilks' Lambda (12, 134) = 1.031, $p = .424$), or for the interaction between factors (Wilks' Lambda (12, 134) = 1.16, $p = .318$). Follow-up univariate tests of the multivariate family group effect revealed that Overnight and No overnight infants' schedules differed significantly with respect to the infant's total visiting time with father, reflecting in large part the inclusion of overnight time in the calculation of this variable (*Mean* (Overnight) = 13.89 'days' per month, *Mean* (No overnight) = 5.44 'days'; $F = 10.151$ (1, 72), $p = .001$), and with respect to the continuity of visits, infants in the No overnight group being more likely to have weekly access to their fathers than infants in the Overnight group (*Mean* (Overnight) = 3.57, *Mean* (No overnight) = 3.90, F (1, 72) = 2.41, $p = .045$).

The second MANOVA was undertaken within the Overnight group alone. Total number of overnights and the highest number of consecutive overnights away from mother were dependent variables and attachment was the independent factor. This analysis showed no significant multivariate effect (Wilks' Lambda (4, 80) = 1.058, $p = .38$). Taken together, these analyses tend to disconfirm the simple separation hypothesis, that is, they suggest that variables other than the infant's response to overnight separations explain or moderate the effects of overnight visitation.

Maternal psychological protection According to the context-sensitive hypothesis, infant security in separated families should be a function of the psychological buffering and protection provided to him or her by the mother in the context of visitation. Thus, mothers who reported that they adapted the visitation arrangements to the infant's needs and were responsive to signs of his or her distress during separations and reunions would be more likely to have children whose attachment to them was classified as secure. Results of an ANOVA, with mothers' scores on the Psychological Protection Scale

Table 4 Psychological protection: related to attachment with mother and family group

Attachment classification	Overnight			No overnight		
	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>
B	7	3.71	1.30	14	4.18	1.15
A/C	6	3.33	1.21	12	3.00	0.75
D/U	21	2.48	1.12	12	3.58	0.95
Total	34	2.88	1.27	38	3.62	1.07

Note *N*s are slightly lower because 13 transcripts were judged as having insufficient information to rate.

as the dependent variable, and family group and attachment as independent factors, shown in Table 4, confirmed this hypothesis: the effect of attachment security on visitation protection was significant ($F(1, 76) = 7.36, p = .008$). Family group was not significantly related to protection scores and there was no interaction between independent variables. Bonferroni-corrected post-hoc multiple comparisons of the three attachment groups revealed that mothers of secure infants were significantly higher on psychological protection than mothers of both insecure/organized and disorganized infants; mothers of insecure/organized avoidant infants were also significantly higher on this dimension than mothers of disorganized infants.

Contextual variables: communication, conflict and psychological symptoms

The relation to attachment classification and family group of the three contextual variables – two reflecting couple interaction (Couple communication; Couple conflict) and one reflecting the mother's psychological functioning (Symptom severity) – was tested in a MANOVA procedure in which security and family group were the independent factors. The data and results of analyses are shown in Table 5. The analysis revealed, as expected, a significant multivariate effect for family group (Wilks' Lambda (6, 256) = 9.21, $p < .000$). Subsequent univariate tests indicated that all three contextual variables made a significant contribution to this effect ($F_s(2, 130) > 3.28, p_s < .03$). Multiple comparisons using the Bonferroni correction confirmed that married mothers reported significantly more communication and less conflict with their spouses and less psychological distress than mothers in the separated groups.

The multivariate effect for attachment classification was not significant, indicating that contextual variables were not uniformly related to infant-mother attachment in the various family groups (Wilks' Lambda (6, 256) = 1.029, $p = .36$), and disconfirming the simple context hypothesis. The family by attachment interaction effect was significant (Wilks' Lambda (12, 339) = 2.91, $p < .001$), however, as predicted by the context-sensitive hypothesis. Follow-up exploration of this interaction consisted of univariate analyses of the three contextual variables, tests for simple effects of attachment group when significant univariate effects were found, and post-hoc Bonferroni-corrected comparisons of the attachment groups for significant simple effects. This procedure revealed that couple communication and conflict made significant contributions to the interaction effect ($F(\text{communication})(4, 130) = 3.69, p = .007$; $F(\text{conflict})(4, 130) = 2.85, p = .026$). Conflict was significantly related to attachment in the Overnight group ($F(2, 39) = 7.22, p = .002$) but was unrelated to attachment in the No overnight and Married groups. Within the Overnight group, post-hoc Bonferroni-corrected paired comparisons showed that mothers of secure infants reported significantly less conflict than mothers of disorganized infants. Communication was related to attachment at the statistical trend level in all three attachment groups ($F(\text{Overnight})(2, 39) = 2.60, p = .09$; $F(\text{No overnight})(2, 44) = 2.70$,

Table 5 Mothers: family and attachment group differences on contextual variables

Variable	Attachment		Overnight		No overnight		Married		Post-hoc ^c
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Communication	B	33.71	11.97	23.00	12.37	7.86	38.84	7.86	M > O, N ^b
	A/C	31.50	13.01	19.67	10.50	6.33	41.57	6.33	
	D/U	23.48	12.37	28.76	11.02	11.63	34.71	11.63	
	Total	26.71	12.91	24.72	11.72	9.23	38.20	9.23	
Conflict	B	2.00	.82	2.93	1.07	.97	2.05	.97	M < O, N ^b
	A/C	3.25	1.16	2.67	1.15	.80	1.79	.80	
	D/U	3.41	.80	2.67	1.06	1.03	2.24	1.03	
	Total	3.14	1.00	2.74	1.07	.95	2.04	.95	
Symptom severity	B	60.00	9.52	54.28	5.11	8.39	54.05	8.39	M < O, N ^b
	A/C	53.13	13.74	61.00	7.31	8.43	51.50	8.43	
	D/U	60.00	9.72	58.19	12.57	10.16	54.06	10.16	
	Total	58.69	10.63	57.74	9.77	8.93	53.34	8.93	

Note 1 Analyses are based on subjects with complete data on all four variables. Total N = 139. Overnight n: (B) = 7, (A) = 8, (D) = 27. No overnight n: (B) = 14, (A) = 12, (D) = 21. Married n: (B) = 19; (A) = 14; (D) = 17.

^aResults of Bonferroni-corrected post-hoc comparisons, $p < .05$.

^bComparison of family groups.

^cComparison of attachment groups within Overnight family group only.

$p = .08$; F (Married) (2, 47) = 2.32, $p = .11$), with lower communication apparently being associated with attachment disorganization in the Overnight and Married groups and higher communication being associated with disorganization in the No overnight group.

Father–infant relationship

Our hypothesis concerning the effects of visitation patterns on infant–father attachment was the very general one, endorsed by many fathers, that overnight visitation would enhance the quality of father–child attachment. We therefore followed a similar analysis plan to that used for mothers. We began with a loglinear analysis of the effects of family group on attachment classification group frequencies. As shown in Table 6, there were essentially *no* Group A and C classifications with father in the visitation groups (1 C in the Overnight group; 2 As in the No overnight group). To facilitate comparison with the maternal data, where the distinctions between the secure and disorganized classifications appeared to be most important, the A and C cases were combined with secure cases to yield a secure vs. disorganized comparison for this and subsequent analyses. Loglinear analysis with attachment (Organized; Disorganized) and family group (Overnight; No overnight; Married) as independent factors showed a significant interaction of family group with attachment organization (Likelihood chi-square ratio = 7.39, $df = 2$, $p = .024$). In contrast to the findings with mothers, however, organized attachments with father were significantly less common than disorganized ones in both of the visitation groups in comparison with the Married group (Likelihood ratio chi-square (Overnight \times Married) = 4.49, $df = 1$, $p = .034$;

Table 6 Distribution of attachment classifications to father across family groups

Attachment classification	Overnight	No overnight	Married
	<i>n</i> (%) <i>adjusted residual</i>	<i>n</i> (%) <i>adjusted residual</i>	<i>n</i> (%) <i>adjusted residual</i>
B	8 (36%) -0.16	5 (29%) -0.54	16 (36%) 0.29
A/C	0 -2.57	2 (12%) -0.76	13 (30%) 2.88
C	1 (5%) 0.27	0 -0.90	2 (5%) 0.48
D/U	13 (59%) 1.73	10 (59%) 1.44	13 (30%) -2.70

Note 1 The adjusted residual is the standardized residual divided by the estimated standard error. The asymptotic distribution is standard normal.

Note 2 Likelihood ratio chi-square = 7.39, $df = 2$, $p = .024$ (attachment groups A, B and C combined for this analysis).

Likelihood ratio chi-square (No overnight \times Married) = 3.93, $df = 1$, $p = .047$), that is, attachment was unrelated to the presence or absence of overnight visitation.

Effects of variations in visitation plans As for mothers, two MANOVAS were undertaken to determine whether aspects of the visitation arrangements influenced attachment organization with father. The first MANOVA, based on visitation variables in common to the Overnight and No overnight groups (total time with father; number of transitions; overall regularity of visits; regularity in the last month; continuity of the plan; and length of time the current plan had been in effect) revealed an expected multivariate effect of visitation (family) group (Wilks' Lambda (6, 19) = 4.18, $p = .008$) but no effect of attachment organization and no interaction. Follow-up univariate analyses showed that only one variable contributed significantly to the visitation group effect: fathers with overnights had about twice as much time overall with the infant as fathers without overnights ($F(1, 24) = 13.45$, $p < .001$). The second MANOVA examined the relation between attachment organization and the overnight visitation variables (total number of overnights per month; number of consecutive overnights) within the Overnight group. This analysis showed no multivariate effect of attachment to father.

Contextual variables related to infant-father attachment: communication, conflict and psychological symptoms The relation to family group and attachment organization of the three contextual variables (Couple communication; Couple conflict; and Symptom severity) was determined through MANOVA. These data are summarized in Table 7. Significant multivariate effects were found for family group (Wilks' Lambda (6, 146) = 5.53, $p = .000$) and attachment (Wilks' Lambda (4, 73) = 3.34, $p = .024$), but in contrast to mothers there was no interaction effect. Follow-up univariate analyses showed significant family group differences for all three contextual variables ($F_s > 4.55$, $df = 2,75$, $p_s < .02$). Bonferroni-corrected post-hoc comparisons of family groups showed significantly higher communication and lower conflict for Married than both Overnight and No overnight fathers and significantly less severe psychological distress for Married as opposed to No overnight fathers. Only the communication variable showed significant univariate effects for attachment classification, with lower communication scores reported for fathers whose infants' attachment to them was classified as disorganized ($F(1, 75) = 8.57$, $p = .005$).

Table 7 Fathers: family and attachment group differences on contextual variables

Variable	Attachment		Overnight		No overnight		Married		Post-hoc ^c
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Communication	Organized	31.00	13.84	26.14	10.57	40.21	6.65	M > O, N ^b	
	Disorganized	21.77	8.57	21.20	9.21	33.38	13.00		
	Total	25.55	11.69	23.24	9.79	38.10	9.48		
Conflict	Organized	2.56	1.13	2.86	1.07	1.97	.94	M < O, N ^b	
	Disorganized	3.23	.93	2.70	.95	2.31	1.03		
	Total	2.95	1.05	2.76	.97	2.07	.97		
Symptom severity	Organized	62.00	9.76	65.86	16.80	56.66	11.10	M < N ^b	
	Disorganized	60.08	12.64	63.40	10.81	53.08	9.95		
	Total	60.83	11.34	64.40	13.16	55.55	10.77		

Note 1 Infants classified B, A, or C are combined in the Organized category.

Note 2 Analyses are based on subjects with complete data on all four variables. Total N = 81. Overnight n: (organized) = 9, (disorganized) = 13, No overnight n: (organized) = 7, (disorganized) = 10. Married n: (organized) = 29, (disorganized) = 13.

^aResults of Bonferroni-corrected post-hoc comparisons, $p < .05$.

^bComparison of family groups.

DISCUSSION

Research demonstrating the negative effects of maternal separation in infancy, combined with studies of divorce in older children, has led some professionals to advise against infants participating in overnight visitation with father. Given that this concern has never been examined empirically for children below the age of 3 or 4, the guiding question of this study was whether overnight visitation with father in infancy appears to threaten attachment security in the infant–mother relationship. The study was designed to critically evaluate the validity of three alternative hypotheses reflecting (1) the effects of overnight separation on infant attachment behavior (simple separation hypothesis), (2) the effects of maternal psychological protection and the divorce and marital separation context, or (3) the interaction between these factors (context-sensitive hypothesis). Consistent with Bowlby's (1980) and Rutter's (1972) proposals, the results appeared to support the context-sensitive hypothesis and to disconfirm the alternatives: infants who had experienced regular overnight visiting with the father were less likely to be classified as secure and more likely to be judged disorganized or unclassifiable in attachment to mother than infants who did not have overnights or who were being raised in intact families. This effect was moderated, however, by the psychological context of overnight visitation: mothers of securely attached infants in the Overnight group described themselves as active and effective in providing psychological protection to the infant in the context of visitation and reported lower conflict with the child's father. Notably, this finding is generally consistent with findings from the NICHD day care studies in which the combination of low maternal sensitivity and poor child care quality was associated with greater attachment insecurity. Because attachment disorganization has been found to be a risk factor for behavioral maladaptation over the course of later development (Carlson, 1998; Moss, Rousseau, Parent, St Laurent, & Saintonge, 1998; Lyons-Ruth, 1996; Solomon, George, & De Jong, 1995), these findings merit careful consideration.

Limitations of the study

As this was the first systematic study of its kind, it is especially important to enumerate the limitations of the data before going on to consider their interpretation and implications. An important area of concern is the representativeness of the divorce and comparison samples. The great majority of separated or divorced families (70%) had participated in formal mediation, which is required in California whenever there is a dispute regarding custody or visitation. It is possible that had we been able to locate more non-disputing couples, the distribution of attachment classifications, especially in the Overnight group, would have been different. Court-ordered mediation may also introduce a number of unknown but psychologically important biases

into the 'assignment' of couples to the Overnight and No overnight groups. The fact that the sample was comprised of first-born children and the young age of the children should also be considered in generalizing results since both factors may contribute to the infant's vulnerability to potential ill-effects of overnight separation. The Married comparison group also had fewer secure and more disorganized/unclassifiable relationships than might be expected. Similar patterns have been noted before in other normative samples from this area both from our laboratory and others (George & Solomon, 1996; Main, personal communication; Silverman, 1990; Solomon *et al.*, 1995). This suggests to us that certain self-selection biases may prevail in this region. The high level of past involvement in psychotherapy reported by the comparison group suggests that it may have included a disproportionate number of individuals with more troubled pasts who therefore had special interest in psychology or the particular topic of the present study. The distribution of classifications may also have been influenced by the use of the disorganized category, which typically results in fewer secure classifications than the standard Ainsworth coding system (Lyons-Ruth & Jacobvitz, in press; Lyons-Ruth, Repacholi, McLeod, & Silva, 1991; Main & Weston, 1981; Vondra, Hommerding, & Shaw, in press), and by the greater diversity in income and ethnicity than has been reported for other samples (e.g. Ainsworth *et al.*, 1978; Belsky, Campbell, Cohn, & Moore, 1996). We note that these factors work against finding a difference between the Divorce group and the Married group rather than the reverse.

Separation-related stress and the assessment of attachment

A more profound methodological and interpretive problem concerns the meaning of attachment classification for infants undergoing overnight visitation. Ainsworth designed the Strange Situation to make use of a 'natural cue to danger', i.e. separation from the mother, to activate the attachment system (Ainsworth *et al.*, 1978) for the purpose of assessing a general quality of the relationship across situations, including, but not limited to, separation and reunion. In recognition of the fact that a recent separation can result in a temporary disturbance in infant behavior, researchers typically refrain from assessing dyads following a separation or at times of family crisis. The present study, of course, required that we violate this practice, although it should be noted that infants who had shifted to an overnight schedule less than a month earlier were excluded from the sample.

In the context of a study of divorce and visitation schedules, what is typically treated as methodological 'noise' may be theoretically significant. Based on the classic separation and day care literatures (e.g. Bargolow & Vaughn, 1987; Blehar, 1974; Heinicke & Westheimer, 1965) we expected avoidant rather than disorganized relationships to predominate in the Overnight group. This raises a question about the meaning of disorganized and unclassifiable attachments in the present context. Attachments are said to be

disorganized when the infant seems to lack a single, coherent attachment strategy with respect to the parent (Main & Solomon, 1986, 1990). Previous studies in both high- and low-risk samples have shown disorganized attachments to be associated with certain kinds of maternal psychopathology (Lyons-Ruth *et al.*, 1990; Vondra *et al.*, in press), unresolved trauma in the maternal history (Ainsworth & Eichberg, 1991; Lyons-Ruth & Block, 1996; Main & Hesse, 1990), and profound disturbances in caregiving characterized by frightening and frightened parental behavior (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Jacobvitz, Hazen, Thalhuber, Burns, & Gordon, 1997; Lyons-Ruth and Jacobvitz, in press; Lyons-Ruth & Block, 1996; Main & Hesse, 1990; Schuengel, Bakersman-Kranenburg, & van IJzendoorn, in press). However, given the overall findings of the study, we propose that the high levels of disorganized attachments in the Overnight group have a different origin. That is, they may reflect the effects on infants of separation from primary caregivers under adverse conditions.

There is some precedent in the literature for this view. Ainsworth (Ainsworth *et al.*, 1978) reported that when the Strange Situation was repeated twice in two weeks, infants who were formerly classified as avoidant were extremely difficult to classify. At the time of the Ainsworth study, coders tended to 'force' the infant's classification into the secure group, but a number of these infants might now be classified as disorganized (Main & Solomon, 1986, 1990). Additionally, a careful reading of the classic literature on the behavior of young children following prolonged separation from the mother reveals that the child's behavior under those circumstances is more similar to that which we now describe as a disorganized pattern in the Strange Situation than to avoidant or resistant attachment classifications. For example, Robertson and Bowlby (cited in Heinicke & Westheimer, 1965) described one little girl as running eagerly toward her mother's door, crying 'Mummy! Mummy!', and then abruptly turning away and withdrawing upon seeing her mother. This is a 'pathognomic' indicator of disorganized attachment in the Main & Solomon system and there are numerous examples of it directed toward mother or toward father in the present sample. Heinicke and Westheimer observed many instances of *sudden, out-of-context* angry, provocative, or defiant behavior directed toward the mother mixed with approach, contact, or avoidance. This unexpected juxtaposition of behaviors was observed frequently in the present sample and usually resulted in the case being judged unclassifiable. In the context of prolonged separation, this behavior has been viewed as a reflection of the breakdown of deactivating defenses that have come into play within the child in the course of coping with separation (Bowlby, 1973). The possibility that overnight visitation under adverse circumstances can lead to disorganization of attachment behavior also raises important questions about the meaning and measurement of the attachment security construct. Are such children truly more insecure in the sense that Ainsworth intended or are they simply more anxious or angry about the separation experience itself? Longitudinal investigation is

clearly required to determine whether this kind of disorganized attachment behavior is stable and has significant developmental consequences (Solomon & George, in press, b).

Protective and risk factors in attachment to mother

Overnight visitation was not inevitably associated with disorganization of infant-mother attachment. Some infants were secure. Others appeared to be at least what we have termed 'good enough' or adequate, that is, they were classified as avoidant or resistant (George & Solomon, in press, a, in press, b; Solomon & George, 1996). No particular characteristic of the visitation arrangements themselves, including their number, duration, patterning, or the age at which visitation was begun, appeared to be a risk or protective factor in relation to attachment. This may in part reflect limited variability in our sample: 80% of overnight infants spent only one or two nights away from mother on a weekly or bi-weekly basis. Possibly, more complex analyses than were permitted by the present sample size (e.g. using age at which overnight visitation began as an additional independent variable) would have revealed scheduling effects.

The risk and protective factors that did emerge – conflict between the parents and the mother's active psychological protection of the child – may readily be understood as influences on the conditions of separation and reunion from the infant's point of view. Interviews revealed that intense conflict between parents and/or the frigid avoidance of all communication were common occurrences during transitions in the infant's care. Johnston and Campbell (1988) made a similar observation regarding transitions involving older children in high-conflict divorces. An atmosphere of tension and hostility may heighten the infant's anxiety and need for reassurance both during separations and reunions and in general (Davies & Cummings, 1998).

This leads to what we see as an important link between the mother's perception of herself as active and effective in providing psychological protection to the infant and the quality of the infant's attachment to her. We found that mothers in the Overnight group who described themselves as helpless or failing to provide protection were significantly more likely to have babies whose attachment was disorganized. Some mothers acquiesced to visitation schedules or failed to adapt schedules to their infants' needs because they sought to propitiate fathers whom they saw as threatening or intimidating. Others failed to reassure a distressed infant or even rejected it because of anger toward the father, fears of being rejected by the baby, a belief that the infant had to learn to adjust, or a general feeling of helplessness. The consequence of this for the infant is that both before and after separations, precisely when the attachment system is likely to be strongly aroused, the mother was oblivious and sometimes angry and threatening to him or her. Although it is our impression that under other circumstances many of these mothers were able to maintain organized ('good enough') care, we speculate

that the mother's failure to respond sensitively and/or her frightening behavior at these times of high arousal may be sufficient to disorganize the infant's attachment behavior during laboratory separations and reunions.

Patterns of communication between parents about the child were related to attachment in a complex way. Whereas in the Overnight and Married groups high communication was generally associated with organized attachments, the inverse was true in the No overnight group. Interviews revealed that Overnight mothers depended upon communication with the father to help organize their caregiving in the context of repeated separation from the infant. In contrast, No overnight mothers whose infants had organized attachments to them tended to exclude the father, reflecting the mothers' greater sense of competence and authority in relation to the infant. High communication between parents in the No overnight group appeared to result from the mother's attempt to involve the father more, both for the baby's sake and her own.

Attachment to father

Results showed that overnight visitation was neither an advantage nor a disadvantage to infant-father attachment. The frequency of disorganized infant-father attachment was higher in both visitation groups in comparison with the married group, while the number of organized relationships with father was lower. This suggests that something in the context of divorce, rather than in the infant's response to prolonged separation from the father, has a disorganizing effect on the infant-father relationship. It is noteworthy that mothers' reports regarding the level of communication about the child with the father were strongly and positively related to organized infant-father attachment organization in all family groups, including the maritally intact ones. Thus, consistent with results from previous normative studies (Belsky, 1996; Belsky *et al.*, 1984; Feldman *et al.*, 1983; Parke, 1995), fathers in all three family constellations may be dependent on approval from and communication with the mother to establish a relationship with the child in the early years. The most extreme example of this dependence, we believe, could be observed among two infants in the No overnight group who were judged unclassifiable and who may actually have failed to become attached to the father at all. These infants cried, called and searched frantically (presumably for the mother) during the laboratory session with the father and were completely uninterested in using and/or unable to use the father as a secure base. (Similar behavior has been observed among infants who experienced early removal from the mother's care following maltreatment and who were judged to be unattached; Jacobsen & Miller, in press.) These fathers had visited with the infant only in the mother's presence and either did not take the initiative in responding to the infant during the visits or were not permitted to do so by the mother. Thus, not only were these fathers rendered incompetent or ineffectual, but their babies may not have had an opportunity

to develop an attachment to them due to the mother's physical or psychological presence. These cases again underline the difficulty of interpreting in the present context an attachment measure that was developed for normative samples, although we must emphasize that in the remainder of cases there was no indication that infants were not attached to their fathers. Indeed, the prevalence of disorganized attachment in both Overnight and No overnight conditions may reflect the fact that whether or not the infants had overnights with their fathers, they experienced repeated and sometimes prolonged separations from them. Infant attachment behavior with father may, as a result, have become disorganized in a way that parallels the process outlined earlier for infants and mothers.

Ultimately, we are hampered in our discussion of father–infant attachment by the small number of visitation fathers, by limitations in our general understanding of infant–father attachment (Belsky, 1996; Solomon & George, in press, a), and by the fact that, as a group, fathers were less articulate about their experiences. We did not attempt to rate fathers along the dimension of psychological protection because we found that it was the exceptional father who expressed concern about how the baby coped with visitation. In many cases, quite understandably, fathers were more preoccupied about whether they would have any relationship with the baby at all and with abstract conceptions of their role in the baby's life. The fathers in this study did not wish to abdicate caregiving, but many were nevertheless rendered helpless as caregivers by the reality of the separation, the infant's age and their inexperience, as much as by their relationship with the mother and by the court's intervention.

Implications for intervention and policy

The results of this study suggest that visitation has different meanings for mothers and fathers with Overnight and No overnight time-sharing plans and we believe that intervention and planning should reflect these differences. Mothers whose babies visit overnight with father approach visitation primarily as a form of separation. Any psychological problems these mothers bring to the relationship appear to be overshadowed by how the couple manages separation, reunion and interaction, and how they support and protect the child. These issues, rather than the details of place, frequency, or duration of visits, should be in the forefront of mediation, evaluation and intervention with these families. In contrast, for parents whose babies do not visit overnight with father, intervention might first focus on resolving the mother's feelings toward the father (those that prevent her from giving the father up or those that prevent her from allowing the father a more meaningful involvement with the baby). The meaning of visitation for fathers was similar, regardless of visitation group. In either case, fathers felt that they did not have sufficient opportunity to develop a meaningful relationship with their babies. We suggest that developmental guidance and facilitation of a

meaningful father–infant relationship will have greater impact than any specific change in the amount or patterning of the time they spend together.

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NOTE ON THE CONTRIBUTORS

Judith Solomon, PhD, is at the Judith Walterstein Center for the Family in Transition, Corte Madera, CA, USA and Carol George, PhD, is at Mills College, Oakland, CA, USA.

NOTES

- 1 The National Center for Health Statistics estimated that 43% of new marriages ended in divorce in 1988. More recent figures are not available.
- 2 Because, as is commonly found in normative US samples, there were so few C classifications (4) these were added to the A group to expedite analysis and interpretation in this and all subsequent analyses involving attachment to mother.
- 3 Since some children who were judged to be disorganized/unclassifiable also showed relatively high avoidance of mother in the Strange Situation, it was possible that overnight visitation might still be associated with higher avoidance that was not reflected in the classifications themselves. To test this possibility we carried out a one-way ANOVA with visitation (family) group as the factor and total avoidance (Episodes 5 and 8) as the dependent measure. The group means for avoidance were

very close and the overall F was non-significant ($F = .342$, $df = 3, 143$, $p = .71$) suggesting again that overnight visitation was unrelated to avoidance of the mother.

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