

Synchrony in the Triad: A Microlevel Process Model of Coparenting and Parent-Child Interactions

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Guided by a microanalytic approach to the study of relationships, we assessed parent, infant, and coparental behaviors during triadic interactions in 94 parents and their 5-month-old firstborn child. Relational behaviors in each family subsystem—mother-infant, father-infant, and coparenting—were microcoded. Marital satisfaction and infant temperament were self-reported. No differences were found in the infants' behavior toward mother and father or in the time spent with each parent. Mothers' and fathers' relational behavior during parent-infant episodes were generally comparable, yet mothers vocalized more and the latency to father's displaying positive affect was longer. Conditional probabilities indicated that under conditions of coparental mutuality, fathers showed more positive behaviors than mothers. Lag-sequential analysis demonstrated that change in the infant's social focus between parents followed change in coparental behavior. Fathers' coparental mutuality was independently predicted by maternal behavior during mother-child episodes, father marital satisfaction, and infant difficult temperament, whereas mothers' coparental mutuality was only linked with fathers' relational behavior. Results highlight the importance of including a microlevel perspective on the family system at the first stages of family development.

Keywords: Transition to parenthood; Microanalysis; Coparenting; Family interactions; Synchrony

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The transition to parenthood marks a critical period for the formation of the family unit and is considered a stressful phase in the lives of individuals, couples, and families (Cowan & Cowan, 1992). During the transition to parenthood, the family system, which previously consisted of the marital relationship only, expands to include several interrelated systems that are integrated into a higher-order process; the father-infant, mother-infant, and the coparenting units (Feldman, 2000; Minuchin,

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1985). The system's perspective, which underlies the conceptualization of the family as an integrative whole, suggests that family functioning is best studied in relation to the various subsystems as they organize into an adaptive whole (Cox & Paley, 1997; Feldman, 2007a). Research on the transition to parenthood has indicated that the construction of the family process at that stage is influenced by individual determinants, dyadic relationships, and the triadic process (Cowan & Cowan, 1992). Few studies, however, focused on the observation of microlevel relational behaviors of individuals and dyads during family interactions (Feldman, 2007b).

Several studies addressed factors that may impact the family process during the transition to parenthood. On the individual level, the transition is associated with increased risk for maternal anxiety and depression and infant temperament has shown to affect parental adjustment at this stage (Volling & Belsky, 1991). On the dyadic level, the transition to parenthood is often accompanied by a decline in marital satisfaction (Cowan & Cowan, 1992; Twenge, Campbell, & Foster, 2003). In addition, mothers' and fathers' interactive styles during family observations contribute to the emerging family process. During triadic interactions, fathers were found to be as attentive to their infants as mothers, yet mothers spent more time in routine caretaking activities (Jain, Belsky, & Crnic, 1996; Parke & Sawin, 1976). Furthermore, the marital and parental family subsystems were found to be interrelated. For instance, McHale (1995) found associations between observed marital distress and subtle signs of conflict during a triadic family interaction. Feldman (2007a) examined individual, dyadic, and triadic influences on the development of the family process. Structural modeling indicated that father involvement had an impact on the individual level, by decreasing maternal depression and anxiety, which in turn affected the dyadic level, by increasing reciprocity in the mother-child and father-child subsystems, and these dyadic patterns led to higher coherence and harmony in the family triad.

An additional important construct in the context of the emerging family system is that of "coparenting"—the quality of coordination between adults as they work together in their parental roles (Belsky, Crnic, & Gable, 1995; McHale, 1995). Coparental behaviors include systemic behaviors of mother and father as mutual parents, such as solidarity, hostility, competitiveness, undermining, support, and involvement. Although there is still no consensus as to the definition and measurements of coparenting (Van-Egeren & Hawkins, 2004), this construct is conceptualized as distinct, albeit related to the marital subsystem. The coparenting subsystem develops in the context of the parent-child and marital relationships and is thought to be more related to proximal factors, such as parental and child adjustment, as compared with other aspects of the marital relationship (Feinberg, 2002). Coparenting has been associated with marital quality and infant temperament (Belsky, Putnam, & Crnic, 1996; Schoppe-Sullivan, Mangelsdorf, Brown, & Sokolowski, 2007), findings which point to the need to study coparental behaviors in relation to the various family subsystems during the transition to parenthood.

To date, research focusing on the analysis of observed family-level processes has been sparse and most existing studies used global rating scales (McHale & Fivaz-Depeursinge, 1999). Very few studies addressed the coordination of microlevel behaviors in the triad into a synchronous process. A notable exception is the "Lausanne Trilogue Play" paradigm (Fivaz-Depeursinge & Corboz-Warnery, 1999), which examines interactions between the various family subsystems during a triadic session on the basis of microlevel relational behaviors such as gaze, proximity position, and affective expressions. A central issue in the microanalytic study of social behavior

is that of interaction synchrony, defined as the temporal coordination of microlevel relational behaviors into patterned configurations that become internalized and, over time and repeated experience, shape infant development. Most research on interaction synchrony examined the development of dyadic parent-child interactions and very few studies address synchrony in the triad. The two most frequently studied forms of synchronous relations between the behavior of interacting partners are *concurrent relations*—addressing the co-occurrence of discrete social behaviors between parent and child—for instance, infant gazes at mother while mother vocalizes—and *sequential relations*—considering behaviors that tend to follow each other, for example, mother’s positive affect precedes the infant becoming positive (Feldman, 2007b). A microanalytic approach and the concept of triadic synchrony may be useful to the study of the family process at the first stages of its development and may provide a unique angle on the nature of family interactions that is not captured by global constructs (Feldman, 2007b; Fivaz-Depeursinge & Favez, 2006; McHale & Fivaz-Depeursinge, 1999). Using microlevel assessment, it was found that during triadic interactions, relational behavior in the mothering, fathering, and spousal systems tended to co-occur, for instance, the co-occurrence of social gaze and affectionate touch, and that such synchronous patterns predicted infant self-regulation in the toddler years (Feldman, Masalha, & Alony, 2006). Similarly, a microanalysis of family interactions between mother, father, and their 3-month-old premature infant showed that touch therapies during the neonatal period increased the level of touch and contact, social gaze, and positive affect in each of the three family subsystems: mothering, fathering, and spousal (Feldman, Weller, Eidelman, & Sirota, 2003). Finally, because coparenting emerges as an observational construct only after the birth of the first child, microlevel observational research that addresses the family system may be a useful way to assess the quality of the coparental union.

In light of the above, the present study utilized a microanalytic approach to examine synchrony in the family between parents and their 5-month-old firstborn child. The period of 4–6 months following the first childbirth is among the most stressful times during the transition to parenthood, when couples must deal with the stressful routines of balancing career, marriage, and parenting and marital satisfaction often declines (Cowan & Cowan, 1992; Feldman, Masalha, & Nadam, 2001). Triadic interactions were coded for infant social behaviors, mother and father social behaviors, and coparental behaviors. In assessing microlevel synchrony in the triad we focused on the two typical forms of synchrony, concurrent—assessing behaviors that tend to co-occur in the different family systems, and sequential—describing behaviors that follow each other within the various subsystems. The infant’s temperament and the parents’ marital satisfaction were examined as background determinants that may be related to family interactive behaviors. On the basis of previous work in triadic settings (Fivaz-Depeursinge & Corboz-Warnery, 1999), we hypothesized that concurrent and sequential relations would be observed between the mothering, fathering, and coparenting subsystems, indicating that already at the first stage of family formation synchronous patterns in the family triad may be observed. In addition, on the basis of the “determinants of parenting” model (Belsky, 1984), we hypothesized that more optimal determinants, such as higher marital satisfaction and lower infant difficult temperament, and more positive dyadic parent-child behaviors would each predict a more mutual and supportive coparental style during triadic interactions.

METHOD

Participants

The sample included 94 couples and their first-born child (49 boys and 45 girls). All families were of dual earner households and parents reported sharing child-care responsibilities. Mothers were on average 27.7 years old ($SD = 3.93$) and completed 15.25 years of education ($SD = 1.69$). Fathers were 30.37 years old ($SD = 4.99$), with an average education of 14.54 years ($SD = 1.64$). All parents had completed high school, were currently married and employed and were considered middle class (Harlap, Davis, Grower, & Prywes, 1977). Couples were recruited through well-baby stations in central urban areas. A total of 110 mothers with no medical complications were recruited and 10 families declined after consenting, due to father's refusal or scheduling difficulties. These families did not differ on demographic and infant variables from the participating families. Of the remaining 100 families, six triadic interactions could not be microcoded due to technical problems and these did not differ from the coded families. Infants were all born at full term in a singleton birth, with a birth weight of 2,700 g and above.

Procedure

Parents were contacted by phone and a time for a home visit was scheduled when both parents were home and the infant was expected to be fed and awake, to enable the assessment of family interactions in the natural ecology. Visits included three videotaped interactions: mother-infant, father-infant, and a family session. The triadic family interaction, the focus of this study, followed the two parent-child sessions. In order to assess the family's natural mode of relating, parents were instructed to play with their infant as they normally do for 5 minutes. Parents were asked to be situated in a way that the camera could capture all three participants, but no further instructions as to location were provided. Thus, there were variations in the family positions; some chose to put the infant in an infant seat, others on a couch, a sofa, or a carpet. An attempt was made to capture the faces of all participants and when this was not possible it was expressed in the coding. Toys were not offered, but some parents used their own toys. For all parents, playing jointly with their infant was a familiar experience which they tended to engage in routinely. Following play, parents completed self-report measures.

Measures

Marital Satisfaction

The Marital Adjustment Scale (MAT; Locke & Wallace, 1959) consists of 15 items, summed to create a global marital satisfaction score for each parent. The MAT is a widely used instrument in studying marital relationships, with well-demonstrated reliability, and validity (Gottman, Markman, & Notarius, 1977). Internal consistency (Cronbach's α) was 0.76.

Parent Perception of Infant Temperament

The Infant Characteristics Questionnaire (Bates, Freeland, & Lounsbury, 1979) was utilized to measure infant temperament difficulty as perceived by mothers and fathers. The instrument consists of 24 items rated on a 9-point scale. The

Unpredictability composite, which has been previously shown to predict marital dissatisfaction at the transition to parenthood (Belsky & Rovine, 1990), was used in this study. Internal consistency (Cronbach's α) was .79.

Coding

Triadic interactions were microcoded on a computerized system that allows for .01-second exactness using the following codes:

Infant. Infant gaze (to father's face, mother's face, to both, to neither), Infant Positive Affect—infant displays clear signs of joy and exuberance with a clear smile or laughter (on, off), Infant Object Manipulation—infant is touching a play object intentionally or exploring it (on, off), Infant Vocalization—infant emits nondistress sounds (on, off), Infant Cry (on, off), and Infant Main Interactive Focus—infant's social focus is toward father, toward mother, or infant is in nonsocial state and does not play with mother or father. Coding on the computerized system was conducted online, and changes from social to nonsocial episodes were coded at the moment of their occurrence. Because the system allows for a slow motion observation, whenever there was a question regarding phase change, the movie was rerun in slow motion to determine the exact timing of change. Coding of the infant's play with the parent was determined on the basis of the direction of the infant's social gaze and interactive orientation—whether it was directed toward mother or father. Nonsocial states were defined as the infant not showing active play that involves social focus toward either mother or father.

Parents: (coded separately for mother and father). Gaze—to infant's face or body, to partner's face or body, away from infant and partner, Positive Affect—coded on the basis of multiple channels, including facial expressions, vocalizations, muscle tone, and level of arousal (on, off), Object Manipulation—parent engages the infant using a toy (on, off), Vocalization to Infant—parent speaks to infant in soft, "motherese" vocalizations (on, off), and Affectionate Touch—parent touches the infant lovingly (hugs, kisses, etc.) with no functional purpose (on, off).

Coparental. Coparental behaviors were coded for each parent while the other parent was interacting with the infant. Three coparenting behaviors were coded: Mutual—parent actively supports the partner's interactive efforts with the child, for instance, gives partner a toy, shows positive facial expressions, displays overt interest, etc. Competitive—parent interferes with the partner's social attempts, for instance, redirects infant attention or shows infant toys while the partner is interacting with child. Passive-Neutral—parent does not display any signs of engagement, shows neutral or disinterested facial expression, no positive affect, and may gaze away or withdraw. In the present sample there were no episodes of a partner showing anger or overt negative affect toward spouse or child. For each channel of behavior, an "uncodable" option was added, to address frames in which the specific behavior could not be coded with certainty. The uncodable option was relatively rare and was applied <5% of the interaction for all codes. Coding was conducted by graduate students in psychology. Reliability was computed for 15 families and reliability in all modalities exceeded 85%. Reliability κ averaged .83 (range = .77–.91).

RESULTS

Results are reported in three sections. First, relational behavior of infant, mother, and father in the parent-child and coparental subsystems are analyzed. Second, synchrony in the triad is assessed in terms of concurrent behaviors and lag-sequential analysis. Finally, regression models were computed predicting coparental mutuality from individual and dyadic determinants and from parent and child's relational behaviors.

Relational Behaviors of Infant, Mother, and Father

For each individual and the coparental unit, behaviors are assessed in terms of proportions (proportion of times out of the entire interaction a specific behavior occurred), frequencies (how many times a specific behavior occurred), and mean durations (how long, on average, this behavior lasted in seconds). Latencies to specific relational behaviors (the time it took, in seconds, before the first appearance of a specific behavior) are reported when appropriate.

Infant Behaviors

In general, infants spent 26.87% of the interaction in social play with mother, 26.77% in social play with father, and 44.75% in nonsocial states (not actively interacting with either parent). The mean duration of interactions with mother was 12.81 seconds ($SD = 11.05$), with father 14.16 seconds ($SD = 14.4$), and in nonsocial states 17.35 seconds ($SD = 14.49$). No differences emerged between the proportions and mean durations of active social play with mother and father. On the other hand, infants spent more time in nonsocial states compared with social play, $F(df = 1, 93) = 56.34, p < .001$. The proportions, frequencies, and mean durations for infant relational behavior are presented in Table 1.

To examine whether infants' behavior differed as a function of episode (with mother, father, nonsocial states), a repeated measure MANOVA was conducted, with episode as the within-subject factor and infant gender as the between-subject factor. Results are presented in Table 2.

TABLE 1
Proportions, Frequencies and Mean Duration of Infant's Behaviors in Triadic Interaction

Infant behavior	Proportions ^a		Mean Durations ^b		Frequencies ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Positive affect	.07	.11	5.58	8.82	1.22	1.41
Object manipulation	.63	.28	41.24	42.17	3.18	1.67
Gaze at mother	.18	.17	8.77	9.11	2.65	1.97
Gaze at father	.18	.18	10.14	10.78	2.39	1.87
Gaze aversion	.58	.25	27.8	29.6	4.05	1.78
Vocalization	.08	.13	4.94	8.28	1.6	1.81
Cry	.10	.15	5.53	9.64	1.44	1.87

Note.

^aProportion was calculated as %total duration of the interaction duration in seconds.

^bMean duration for each behavior is presented in seconds.

^cFrequency was calculated as the total number of times each behavior appeared in the interaction.

TABLE 2
Infant Behavior During Mother-Infant, Father-Infant, and Nonsocial Episodes

	A		B		C		<i>F</i> (1, 80)
	Mother-infant Episodes		Father-infant Episodes		Nonsocial States		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Positive affect	.03	.07	.03	.07	.01	.03	7.761 ^{a, **} 8.976 ^{b, **}
Crying	.02	.05	.01	.03	.06	.10	14.407 ^{a, ***} 19.487 ^{b, ***}
Object Manipulation	.17	.13	.16	.15	.29	.18	18.907 ^{a, ***} 21.839 ^{b, ***}

Note.

** $p < .01$, *** $p < .001$.

^aComparison of A and C.

^bComparison of B and C.

As seen, infants tended to cry and manipulate objects more during nonsocial as compared with social states and displayed less positive affect during nonsocial moments. No differences were found between infants' behaviors during interactions with mother and father (in proportions, frequencies, or mean durations). No gender effects or gender by episode interactions were found.

Parental Behaviors

Paired-comparison *t* tests were performed to assess differences between mothers' and fathers' behaviors. Two differences were found. The latency to positive affect was longer for fathers, that is, it took fathers longer to begin displaying positive affect toward their infants ($M = 49.86$ seconds, $SD = 44.1$) than mothers ($M = 31.88$ seconds, $SD = 36.42$); $t(39) = -2.02$, $p < .05$. Second, during parent-infant episodes mothers tended to vocalize more ($M = 0.21$, $SD = 0.18$) than fathers ($M = 0.15$, $SD = 0.13$); $t(81) = -1.95$, $p < .05$.

Coparental Behaviors

Paired-comparison *t* tests examined differences between mothers' and fathers' coparental behaviors. Results indicated that mothers showed more coparental mutuality, in terms of frequencies, $M = 1.38$, $SD = 1.83$, and proportions ($M = 0.07$, $SD = 0.11$), compared with fathers (frequency: $M = 0.75$, $SD = 0.9$; and proportion: $M = 0.03$, $SD = 0.04$); $t(93) = -3.00$, $p < .001$ and $t(93) = -3.53$, $p < .001$, respectively. In addition, the latency to mothers' displaying a passive/neutral coparenting style was longer ($M = 43.23$ seconds, $SD = 40.75$) than fathers ($M = 28.8$ seconds, $SD = 35.1$); $t(70) = -2.1$, $p < .05$.

Synchrony in the Triad: Co-occurrences and Sequential Relations

Co-Occurrences

Co-occurrences between specific parental and coparental behaviors were examined with conditional probabilities. Conditional probabilities correct for the base-rate ap-

pearance of a behavior and were computed for the parent's relational behaviors (gaze, positive affect, touch, and vocalization) under each of the three coparental conditions (mutuality, competitiveness, passivity/neutrality). Consistent with previous research (Feldman et al., 2003, 2006), paired comparison *t* tests were used to examine differences between matched conditional probabilities. Results indicated that under the condition of maternal coparental mutuality, fathers spent more time displaying positive affect ($M = 0.06$, $SD = 0.06$) than mothers did under the condition of father coparental mutuality ($M = 0.03$, $SD = 0.03$); $t(27) = 2.26$, $p < .05$. Similarly, under the condition of maternal coparental mutuality fathers gazed at infants longer ($M = 0.11$, $SD = 0.08$) than mothers did under the condition of father's coparental mutuality ($M = 0.07$, $SD = 0.04$); $t(27) = 2.3$, $p < 0.05$, and touched their infants more frequently ($M = 0.82$, $SD = 0.94$) than mothers did under the condition of father's coparental mutuality ($M = 0.39$, $SD = 0.73$); $t(27) = 2.05$, $p < .05$. On the other hand, under the condition of father coparental passivity/neutrality, mothers tended to vocalize more ($M = 0.14$, $SD = 0.15$) than fathers did under the condition of maternal coparental passivity/neutrality ($M = 0.09$, $SD = 0.08$); $t(69) = -2.19$, $p < .05$. These findings indicate that coparental behavior elicits different parental behavior in mother and father. These findings appear in Figures 1a and 1b.

Lag-Sequential Analysis

Lag-sequential analyses were used to examine whether infants changed their social focus at random or whether the shift in social focus tended to follow change in spousal behavior. Lag sequential analysis examined whether change in coparental behavior (e.g., from mutuality to passivity), tended to occur within the immediate period (15 seconds) preceding the infant's change of focus between parents. Results showed that in 65.14% of the cases, a shift in infant social focus was preceded by change in coparental behavior, $\chi^2(56, N = 90) = 89.45$, $p < .05$. These findings demonstrate that infants are sensitive to microlevel signals between the parents.

Predicting Mothers' and Fathers' Coparental Mutuality

Two regression models were used to predict maternal and paternal coparental mutuality from observed and self-reported measures. Before regressions, the proportions of time each parent showed positive social behavior to the infant were summed (positive affect, gaze, touch, and vocalizing to infant) into a *parent relational behavior* composite. Predictors in the two regressions were similar and were entered in three blocks, consistent with models on the determinants of parenting (Belsky, 1981) and the development of family patterns (Feldman, 2007a). In the first block, the observed parent relational behavior score was entered, as relational behaviors in the family subsystems are the strongest predictors and most proximal contributors to the family interactive style (Feldman, 2007a). Consistent with the dynamic model of family influences (Davies & Cicchetti, 2004), the mother's relational behavior score was entered to predict father coparental mutuality and vice versa. In the second block, the parent's marital satisfaction was entered, and in the third, the parent's report of infant temperament, in line with the determinant of parenting model, which suggest that marital support and infant disposition shape parenting in that order. Results of the two regressions are presented in Table 3.

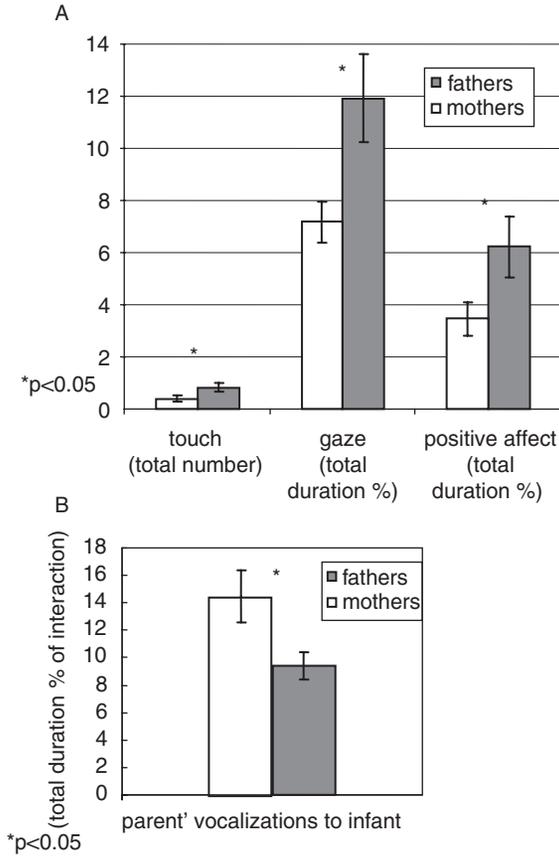


FIGURE 1. (A) Fathers' and Mothers' relational behaviors under condition of partner's coparental mutuality. (B) Fathers' and Mothers' relational behaviors under condition of partner's coparental passivity/neutrality.

TABLE 3
Predicting Parents' Mutual Behavior Toward Partner in Triadic Interactions

	Fathers			Mothers		
	β	R^2 Change	F Change	β	R^2 Change	F Change
Criterion: Parent mutual behavior						
Predictors:						
Partners relational composite	.37	.13	14.21***	.50	.25	31.136***
Parent satisfaction with marriage	-.19	.03	3.76 [†]	.58	.003	0.33
Infant unpredictability	-.22	.04	5.13**	.57	.000	0.000
R^2 total =		.20,			.253,	
		F(3, 87) = 8.139,			F(3, 87) = 10.304,	
		$p < .001$.			$p < .001$	

Note.

[†] $p = .056$, ** $p < .05$, *** $p < .001$.

Results for fathers showed that the mother's relational behavior and the father's marital satisfaction were each predictive of coparental mutuality and marginal negative relations emerged for infant unpredictable temperament. For mothers, the only significant predictor of coparental mutuality was the father's relational behavior.

DISCUSSION

This study provides a microlevel account of family interactions during the transition to parenthood. Relational behaviors were assessed in three subsystems, mother-infant, father-infant, and coparenting, in relation to each other and in reference to the parent's marital satisfaction and infant temperament. Synchrony between the relational behaviors of the interacting partners was examined both in terms of the coordination of behavior among the coparenting and parenting subsystems and with regards to sequential links between coparental and infant behaviors. Overall, no differences were found in the amount of time infants spend interacting with mother and father or in the infant's relational behavior toward the two parents during naturalistic family interactions. The way time is divided between the three participants during family sessions is considered a basic feature of the "coparental balance" (Feinberg, 2002), an important element of the coparenting construct. Our findings, therefore, mirror microanalytic studies of dyadic parent-infant interactions which indicate that mothers and fathers do not differ in the level of dyadic synchrony they create with the infant, although subtle differences are observed in the way synchrony is achieved (Feldman, 2003). Differences, however, were observed in the mother's and father's coparental support during the spouse's engagement with the infant. As such, the findings may contribute to our understanding of the dynamic ways the family process is formed by using a microlevel perspective not previously studied in depth. By studying triadic interactions between parents and their firstborn child, we were able to tap the evolution of the family process during the first months of family formation. Possibly, this process is modified and updated with each addition to the family while preserving the same general features formed during the transition to parenthood.

Although no differences emerged in the amount of time infants interacted with mother and father, infants spent more time in nonsocial, compared with active social, states during triadic interactions. During these nonsocial moments infants tended to manipulate objects, avert gaze from their parents, and typically display neutral affect and a passive muscle tone. At 5 months, infants develop grasping and reaching and their focus begins to shift from human faces and social exchanges to joint exploration of objects with their parents (Landry, 1986). Possibly, the high proportion of nonsocial states at this age reflects the shift from the social focus, which is typical of the 3–4 month stage, to the object focus that occupies parent-child interactions in the second 6 months of life. Another explanation for the high proportion of nonsocial states may relate to the high level of arousal and investment required of infants in order to participate in triadic sessions. Cohn and Tronick (1987) showed that during dyadic interactions, 3-month-olds spend approximately 30–40% of the time in gaze aversion, a period used for rest and reorganization. Triadic interactions are likely to be more developmentally challenging than dyadic sessions as infants need to attend not only to the partner's microlevel signals but also to the subtle social signals between their parents, and this coordination may overload the infant's information processing system. Keren, Feldman, Namdari-Weinbaum, Spitzer, and Tyano (2005)

reported that the complexity of toddlers' symbolic play during triadic interactions was lower than the level of symbolization reached during dyadic play with mother and father, and the present findings similarly show that 5-month-olds spent the same amount of time in gaze aversion during triadic play as 3-month-olds do in dyadic interactions. These findings, therefore, highlight the need to investigate the triadic setting as a unique social and developmental context that is distinct from the frequently-studied parent-child relationship, and assess it in relation to infant development, family functioning, cultural context, and developmental risk.

Subtle differences were found in the behaviors of mothers and fathers during the parent-child episodes. Mothers vocalized more than fathers, findings consistent with previous research on infant-mother and infant-father interactions (Clarke-Stewart, 1978). Mothers were also quicker to display positive affect, which is in line with research pointing to the higher level of maternal engagement during triadic interactions (Stoneman & Brody, 1981).

Findings related to coparental behavior showed that mothers displayed more mutuality while their partners interacted with the infant and it took mothers longer to become passive coparents. These findings may be in line with evolutionary perspectives on parenting, which suggest that mothering is a more biologically based phenomenon than fathering (Carter, 1998; Insel, 1997) and with the findings that mothers tend to support fathering to a greater extent than vice versa during the transition to parenthood (Feldman, 2000). At this stage, mothers become immersed in the physical and psychological aspects of being a parent (Cowan et al., 1985), and part of this process may involve taking on a facilitating role for the development of fathering. It is also possible that mothers, even in dual earner families, still take the primary caregiver role and are more familiar with the infant's behavior (McHale & Fivaz-Depeursinge, 1999). Our data show that fathers indeed benefit from such support. Under the condition of maternal coparental mutuality, fathers displayed more positive parenting in the triadic situation. Mothers, on the other hand, did not require their partners' mutuality to increase positive behavior. In fact, mothers vocally engaged infants more when fathers were under the condition of coparental neutrality.

Results of the regression models indicated that the father's coparental mutuality was independently predicted by the mother's relational behavior, by the father's marital satisfaction, and by the infant's difficult temperament. The mother's coparental mutuality, on the other hand, was predicted only by the father's relational behavior to the infant. It thus appears that fathers may rely on factors stemming from multiple levels of the family system to a greater extent in order to adjust to their new role, while mothers may be sensitive to the immediate ebb-and-flow of the interaction. The finding that fathers' marital satisfaction is more closely linked to their functioning as parents is consistent with previous theory and research on the evolution of mothering and fathering during the transition to parenthood (Belsky, Youngblade, Rovine, & Volling, 1991). The infant's temperament was found to be a more important factor in shaping fathering than mothering (Sirignano & Lachman, 1985). Possibly, the father's coparental role is more impacted by factors related to the infant and the marriage than the mother's, whereas the mother's coparental alliance is much more sensitive to the ongoing interactive situation. These findings are consistent with research showing that during the transition to parenthood the links between the various roles in the family are greater for fathers than for mothers (Hyssaelae, Hyttinen, Rautava, & Sillanpaae, 1993; Levy-Shiff & Israelashvili, 1988).

One of the most intriguing findings of the present study is the sequential link between change in the coparental unit and change in the infant's social focus. The data demonstrate in microanalysis and time-related techniques notions that have been previously suggested (Fivaz-Depeursinge, Favez, Lavanchy, de Noni, & Frascarolo, 2005)—that infants as young as a few months can navigate subtle social signals within a complex, multiperson social system. It appears that already at this stage infants can detect changes in the coparental alliance and adjust their behavior accordingly. These findings highlight the coparental relationship as a more proximal component of the parent-child relationship than the marital relationship (Feinberg, 2002). According to the microanalytic perspective on parenting, behavior is the main “substance” available to the infant, and parenting behavior moderates the effects of the infant's physiological processes and the parent's mental representations on child outcomes (Feldman, 2007b). Possibly, infants are innately disposed to detecting not only social behaviors directed to the self, but also behaviors exchanged between other participants in the social setting, and this capacity lays the foundation for the development of empathy and joint attention. This is the first report, to our knowledge, to demonstrate synchrony between parent-child and coparental behaviors using sequential analysis, and the findings, therefore, need further research and replication in normative and high risk samples.

Clinical Implications

Our findings show that the triadic setting is a unique family context, which can be observed and utilized to strengthen the coparental alliance and enhance family cohesiveness. By using observations and microanalyses of discrete social behaviors, clinicians can demonstrate to parents the different coparenting strategies and model more optimal coparental support and alliance. For instance, mothers can learn that mutuality toward their partners is central for enhancing paternal involvement with the infant, particularly during the first stages of parenting and family formation. In addition, it is important for clinicians working with the young family to understand that already at the first stages of family formation—indeed during its first months—families already form specific habitual modes of relatedness which can cohere into specific synchronized patterns. Such patterns are likely to provide the foundation for the family interaction style in the years to come. The period of 4–6 months following the first childbirth is among the most difficult times in the lives of young couples (Cowan & Cowan, 1992). After the initial euphoria from being parents had somewhat decreased, women often return to work, and the couple must deal with the tiring daily routine. This period also marks a time of high risk for divorce and separation as well as decline in marital satisfactions. Clinicians aware of a microanalytic perspective on the family process may observe triadic interactions for clinical information not otherwise available or conscious to couples, such as intrusive behavior by one partner or the other, lack of support among them, gaze patterns, or interactive avoidance, and make couples aware of their behavior and its relational implications. In our clinic, we often observe with couples their triadic interactions and note moments of high synchrony and episodes when interactive messages have been missed. We found that the parents' attention to maladaptive nonverbal interactive patterns leads to improvement in both parenting behaviors and child outcomes (Dollberg, Feldman, & Keren, 2006). Finally, it is important to show parents that already in the first

months of life infants are alert observers of the coparental alliance and actively respond to coparenting relational patterns. Strengthening the coparental alliance through behaviors such as mutuality, positive regard, and a decrease in intrusiveness or avoidance may provide a better foundation for the child's development within the family context and enhance a positive family atmosphere which is central for optimal social-emotional growth (Fincham, 1998).

Future studies may apply the microanalytic approach to study the family process at different stages, cultures, and risk conditions and in relation to physiological mechanisms supporting social engagement. Further research is required to follow the different patterns of family interactions over time in order to advance a more comprehensive understanding of the family system and its implication for infant development.

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