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## Maternal Representations and Mother-Infant Relational Behavior Following Parent-Infant Psychotherapy

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To examine how relational behavior and maternal representations are manifested before and after parent-infant psychotherapy, mothers' and infants' behaviors and maternal narratives were assessed in 45 clinic-referred dyads who participated in psychodynamically informed parent-infant psychotherapy. Pretreatment and posttreatment assessments included observations of mothers' and infants' behaviors (CIB; Feldman, 1998) and assessment of maternal representations (PDI; Aber, Slade, Berger, Bresgi, & Kaplan, 1985). Parent-infant psychotherapy consisted of weekly child-mother, child-father, and two parents' sessions. Following psychotherapy, maternal sensitivity and child engagement showed a significant increase. An increase was also evidenced in the richness of maternal narratives regarding the mother-infant relations. During the pretreatment assessment, maternal intrusiveness was associated with restricted narratives, lack of joyful descriptions, and reduced coherence and child engagement was associated with maternal narratives characterized by incoherence and reduced joy. Maternal reports of high psychological distress were associated with higher maternal intrusiveness and lower maternal sensitivity following psychotherapy. Discussion focuses on the unique opportunities for infants in parent-infant psychotherapy as well as the need for further understanding of the processes underpinning change following this treatment modality.

### INTRODUCTION

The term parent-infant psychotherapy describes a host of interventions that target the infant's socio-emotional symptoms as well as the parent-child relationship in order to enhance infant

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mental health. The underlying assumption guiding these interventions is based on transactional models (e.g., Sameroff, 2004), which suggest that early socio-emotional development occurs within the context of the parent-child relationship (Sander, 2000; Sroufe, Coffino, & Carlson, 2010). Therefore, parent-infant interventions seek to change the quality of early dyadic relationships by aligning the parents' perceptions and behaviors more closely to the child's developmental stage and emotional needs, thus fostering the infant's socio-emotional health and adaptation (Lieberman, Silverman, & Pawl, 2000; Paris, Spielman, & Bolton, 2009; Rosenblum, 2004; Sameroff, 2004; Stern, 2004). In this study, we assessed maternal representations and mother-infant relational behavior in a group of clinic-referred mother-infant dyads prior to the beginning of treatment and following its termination. Our goal was to assess the interactive patterns and representational schemas in these high-risk dyads as they were going through treatment.

### Parent-Infant Interventions

The last decade has witnessed a substantial growth in the field of parent-infant interventions. Starting with clinical reports that described the therapeutic working through of parental, especially maternal, unresolved conflicts in improving the infant's symptoms (e.g., Fraiberg, 1980; David, 1966; Lebovici, 1988; Cramer, 1993; Guedeney & Kreisler, 1987), theoretical accounts and clinical models have developed to provide interventions for young children and their parents (Lieberman et al., 2000). The interventions are rooted in psychoanalytic, attachment, and family system theories and emphasize the importance of the caregiving relationship and environment in influencing infant development and mental health (Tuters, Doulis, & Yabsley, 2011). The interventions can be grouped together based on their "port of entry" (Stern, 1995), that is, their chosen therapeutic goal and treatment strategy. Some use the parent-child observed interactions as their port of entry and work toward developing parental awareness of their interactive behaviors and the mutual impact parent and child have on each other (e.g., McDonough, 1995, 2004). Others use the parent's representation as a port of entry, stressing the importance of uncovering parental unconscious conflicts and relational trauma in fostering parental understanding of the child's emotional experiences and providing developmentally appropriate responses (e.g., Lieberman & Van Horn, 2008). Yet others use the child's behavior and representations as their port of entry, utilizing the parent-infant intervention as an opportunity for the child to work out developmental and relational struggles through play in the presence of the parent and increasing the parent's reflective understanding of the child's emotional needs and strives (e.g., Cohen, Lojkasek, Muir, Muir, & Parker, 2002; Harel, Kaplan, Avimeir-Patt, & Ben-Aaron, 2006). Despite different emphases, the aforementioned approaches share the basic proposition that a change is needed in maternal representations and narratives as well as in concrete relational behavior in order to improve children's emotional wellbeing (Jones, 2006; Lieberman et al., 2000; Stern, 1995).

### Parent-Infant Treatment Outcome Studies

The advance in parent-infant interventions has been accompanied by a body of research that assessed their effectiveness and lead to the conclusion that these interventions are overall effective, especially in enhancing maternal sensitivity and interactive patterns (for review, see Barlow et al., 2010; Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003; Bakermans-Kranenburg,

van IJzendoorn, & Juffer, 2005). However, the majority of research in this area has been conducted with community samples and was preventive in nature. For example, Ammaniti and his colleagues reported of a year-long home visiting intervention for community mothers identified to be at risk during pregnancy. Follow-up assessment six months posttreatment showed treatment efficacy in increasing sensitive maternal behavior; however, the intervention effects were relatively small, especially the 12-month assessment. Furthermore, the intervention was not effective in changing maternal representations. Svanberg, Mennet, and Spieker (2010) reported of a clinical program for community families based on the assessed level of mother-infant interaction impairment and showed that the intervention was effective in increasing maternal sensitivity and attachment security. Nevertheless, less is known about how parent-infant psychotherapy works with clinical samples. Unlike community samples, clinical samples are usually heterogeneous and consist of infants presenting with a variety of functional and behavioral difficulties such as sleeping, eating, behavior, and adjustment difficulties (e.g., see Hervé et al., 2010). The heterogeneity of the presenting problems, the fact that many parents are symptomatic themselves, and the need to get the child back onto a normative developmental track call for a flexible therapeutic approach (Emanuel, 2011; McDonough, 2004; Sameroff, 2004). A pioneering work by Cramer and colleagues (1990) comparing two methods of parent-infant psychotherapy reported infants' symptom relief, greater mother-infant interaction reciprocity, increased maternal sensitivity, lower intrusiveness, and limited changes in maternal representations following both treatments. Cohen and colleagues (1999, 2002) reported improvement in infants' symptoms, increased dyadic reciprocity, less maternal intrusiveness, and less mother-infant conflict among infants and mothers attending treatment in infant mental health clinic. Lieberman, Van Horn, and Ippen (2005), implementing parent-toddler psychotherapy for clinic population of toddlers exposed to domestic violence, reported positive changes in the children's emotional and behavioral functioning compared with a comparison case management and parent individual treatment conditions. Harvè and colleagues (2009) reported improvements in infants' symptoms and parents' psychological distress following parent-infant brief psychotherapy. It should be noted, however, that the aforementioned studies were more successful in capturing positive treatment outcome in observed relational behavior and infants' symptoms. However, changes in the parent's representational system, despite its hypothetical role in the change process, remained relatively difficult to capture and depict. Paris, Spielman, and Bolton (2009), using a qualitative research design, pointed to the development of narrative and reflective abilities as an important outcome of the parent-infant psychotherapy. To address this issue, the current study included repeated assessments of maternal representations in order to better understand the trajectories and correlates of changes in maternal representation throughout treatment.

### Treatment Model

The clinic offers a psychodynamically informed, relationship-focused parent-infant psychotherapy, inspired by the treatment models described above and adapted for use with the clinic's unique population (Keren, Feldman, & Tyano, 2003). The referring population consists of mostly first-time, inexperienced parents, highly stressed by their infants' symptoms, with limited economic resources (treatment is free of charge) and overburdened by daily stressors, who seek immediate assistance and guidance. The treatment addresses simultaneously several "ports of entry," that is,



the parent-child interaction, the child's behavior, and the parents' internal world and representations. The infant and his parents engage in a weekly, 50-minutes long, dyadic therapy session (mother-infant, father-infant, mother-father) during which dyad is encouraged to play together and discuss the parent's concerns with the therapist. Segments of the play sessions are videotaped and are used for developmental and interaction guidance. In addition, the parents' relational histories, current sources of support and stress, and interpersonal and intrapsychic conflicts related to their parenting practices are explored. Based on psychoanalytic understanding, attachment theory formulation, family system theory and developmental research, the treatment aims at enhancing parental understanding of their child emotional needs as reflected in his or her behavior, fostering parental acknowledgement and modulation of their own emotional reactions to the child needs, and encouraging mutual dyadic recognition and pleasure. Treatment protocol is flexible and individually tailored to meet each family's unique needs. Nevertheless, all cases are monitored and supervised by the clinic's head, a child psychiatrist who specializes in infancy and early childhood psychiatry, assuring relative uniformity among treatments. Therapy is not limited in time, however, similar to other reports in the literature (e.g., Emanuel, 2011; Tuters et al., 2011), treatment is relatively brief and most families stay in treatment for about 6 months and leave when the infant becomes asymptomatic and/or parental sense of competence improves.

Parental representations, defined as the parent's views, cognitions, attributions, and emotional experiences with a child, are also addressed within the treatment. It is well documented that parental representations play a significant role in guiding the parent's caregiving behavior (Aber et al., 1999; Jones, 2006; Slade et al., 1999). Furthermore, referred mothers tend to view the relationship with their children in a more constricted, less coherent and less joyful manner (Dollberg, Feldman, & Keren, 2010). Treatment provides an opportunity for the therapist to address the child's and parents' internal experiences and attributions and to narrate together a more benevolent and coherent relational understanding of each other (Harel et al., 2006; Jones, 2006; Paris et al., 2009). In the current study, we adopted Slade and her colleagues' (1999) operationalization of maternal representations as reflected by the mother's capacity to experience, explore and describe in a flexible, nondefensive, and coherent manner a wide range of her own and her child's affective experiences during joint interactions. The study examined whether maternal narratives regarding the quality of the mother-infant relationship changed over the course of treatment to include richer, more elaborated accounts of mutual, shared, satisfactory emotional mother-child encounters.

### The Current Study

To understand the changes in maternal representations and behavior and their inter-relationship before and after parent-infant psychotherapy, mother-infant interactions were observed and maternal narratives of the mother-child relationship were assessed at the beginning of parent-infant psychotherapy and following treatment completion. We hypothesized that positive changes would occur from pretreatment to the posttreatment assessment in observed mother-infant interaction patterns and in maternal representations. Specifically, we expected to see an increase in maternal sensitivity and child social engagement and a decrease in maternal intrusiveness and child withdrawal from pretreatment to posttreatment. Second, we expected a positive change in the mother's mental representations of the mother-infant relationship so that the narratives provided by the mothers at the posttreatment assessment would be richer, more coherent, and include

more joyful descriptions of the dyadic relationship compared with the pretreatment assessment. We also expected that maternal interactive behavior would be associated with the mother's representations so that more positive representations would correlate with more sensitive and less intrusive behavior, whereas negative representations would correlate with intrusive interactive behaviors. Finally, much research has been conducted on the effects of parental symptomatology on child socioemotional adjustment and on parental behavior (e.g., Risholm Mothander & Grette Moe, 2010; Seifer, Dickstein, Sameroff, Magee, & Hayden, 2001). Therefore, the current study included a measure of maternal symptomatology and examined associations between maternal symptomatology and maternal relational behavior and representations.

## METHOD

### Participants

Forty-five Israeli families with young children (age range 6–35 months,  $M = 21.21$ ,  $SD = 8.94$ ) referred to a community-based infant mental health clinic participated. The sample included 27 boys (60%) and 18 girls (40%). The clinic provides free-of-charge parent-infant psychotherapy to families with children aged 0–3 years. Reasons for referral included behavior problems ( $N = 15$ , 33.33%), sleeping ( $N = 13$ , 28.89%), eating-feeding difficulties ( $N = 8$ , 17.78%), communication problems ( $N = 3$ , 6.67%), excessive crying ( $N = 2$ , 4.44%), excessive fears ( $N = 1$ , 2.22%), head banging ( $N = 1$ , 2.22%), hair pulling ( $N = 1$ , 2.22%), toilet training difficulties ( $N = 1$ , 2.22%), as well as postpartum depression ( $N = 1$ , 2.22%), inadequate parenting skills ( $N = 1$ , 2.22%), and parental stress and anxiety ( $N = 1$ , 2.22%), with many families presenting multiple problems. Families were self-referred, often following the recommendations of pediatricians, Well Baby Care clinics, Child Developmental centers, day care staff, and adult mental health clinics. Those families who completed the intake process and decided to enroll in treatment in the clinic were approached and invited to participate in the study. Participation in the study was voluntary and treatment was not conditioned upon it. No payment was offered to participants; however, families were told that by participating in the study they will benefit from additional assessments that are not provided by the clinic regularly (e.g., the parent development interview [PDI]). Estimated refusal rate was 15%. Out of the 45 families recruited, 34 completed treatment and agreed to participate in the posttreatment assessment (24.44% dropout rate). The treatment completion and the dropout groups were compared in terms of child mean age, parental education, family income level, and the pretreatment measurements using the *t*-test for continuous variables and the  $\chi^2$  test for categorical ones. These comparisons revealed no significant differences between the two groups in terms of their demographics or interaction quality, representations, and maternal psychological symptomatology. Twenty of the children were firstborn (44.4%). Family size averaged 1.57 children per family. Nine of the households (20%) were single-mother headed. Maternal mean age at birth was 29.15 ( $SD = 5.06$ ), and paternal mean age at birth was 32.10 ( $SD = 5.58$ ). Majority of parents (53% of the mothers and 61% of the fathers) were Israeli born. Two fathers and one mother were born in Middle Eastern countries and raised in Israel and the rest of the parents were immigrants from the former Soviet Union. Maternal education consisted of 8 high school graduates (17.4%) and 19 post high-school education (41.4%) (19 mothers failed to provide this information). Paternal education consisted of 8 high school

graduates (22%) and 15 post high-school education (41.00%) (13 did not provide information). Families were either middle or low class in terms of income. Mean group income corresponded to the average family income in Israel with 4 families (14.8%) relying on social support services.

### Procedures

The design included pretreatment and posttreatment assessments. The study received the hospital's Institutional Review Board approval. Participants were recruited following a preliminary assessment and a decision by the clinic staff that families were suited for dyadic psychotherapy. Brief consultations and mandated treatment cases were excluded from the study. In the first assessment, infants were diagnosed using the DC: 0-3 classification system and specific treatment goals were formulated.

Dyadic psychotherapy was provided by six senior child therapists and consisted of roughly six months of weekly sessions ( $M = 22.53$ ,  $SD = 15.73$ ,  $Mode = 25$  weekly sessions), mostly involving the two parents and infant in alternating mother-child, father-child, and parents-only sessions. In 13 of 34 families (44%), fathers participated actively in the treatment. For the purpose of the present study, however, only the mother-infant data was used since about fifth of the sample (7 families) consisted of single-mother households and in about half of the two-parent families fathers were unavailable to participate in the research protocol. The pretreatment assessment consisted of two sessions, the first consisting of a 10-minute observation of mother-child free play interaction (see Feldman, 2007; Keren, Feldman, Namdari-Weinbaum, Spitzer, & Tyano, 2005), and mothers' completing a self-report measure of psychopathology symptoms. Following, a separate appointment was set for mothers without the child during which the PDI (Aber, Slade, Berger, Bresgi, & Kaplan, 1985) was administered by the therapist.

The second assessment was conducted at the time of treatment termination. Of the 34 families who completed treatment, 27 were available for posttreatment assessment. Two of the families refused to participate while the others were unavailable due to relocation or change in family circumstances (e.g., mother returning to full-time work or child entering day-care), which made participation impossible. The second assessment was conducted at the family home by a research assistant unfamiliar with the family's psychiatric history and consisted of videotaping mother-child free play interaction and re-administering of the PDI.

### Measures

#### *Demographic Questionnaire*

Mothers and fathers provided relevant background data including the child's age, health and developmental status, family composition, parents' age, marital and health status, education, and profession.

*Diagnostic Classification of Mental Health Disorders of Infancy and Early Childhood (DC: 0-3)* (Zero to three, 1994) is the most commonly used classification system for mental health and developmental disorders of infancy and early childhood. The classification system is aimed at children aged 0-3 years old and categorizes emotional and behavioral patterns that represent significant deviations from normative development in the early years. The DC: 0-3 and its revised



edition, DC: 0-3R (2005) have been used in numerous studies and have demonstrated adequate psychometric properties (e.g., Dollberg, Keren, Feldman, & Guedeney, 2006; Egger & Emde, 2011; Keren et al., 2003; Maldonado-Duran et al., 2003; Risholm Mothander & Grette Moe, 2010; Viaux-Savelon et al., 2010). Because data collection for this study was initiated before the revised DC: 0-3R was published, and in order to maintain standardization throughout the study, the DC: 0-3 version was used for the entire sample.

#### *Symptom Checklist 90-Revised (SCL-90-R, Derogatis, 1977, 1983)*

The SCL-90-R Hebrew version was used to assess maternal psychological symptomatology. The scale consists of 90 items, each having five-point scales from 0 (no problem) to 4 (severe). The items are aggregated into nine subscales: Somatization, Obsessive-compulsive, Interpersonal sensitivity, Depression, Anxiety, Anger-hostility, Phobic anxiety, Paranoid Ideation, and Psychoticism. A total score denoted as the Global Severity Index (GSI) is calculated by summing up all items. The SCL-90-R has been used with both general and psychiatric populations and has been shown to have an adequate validity, internal consistency and test-retest reliability (Derogatis, 1983). The mean internal reliability score (*alpha Cronbach*) of the symptom subscales for the current study was .62, and the GSI internal reliability score was .94.

#### *The Parent Development Interview*

The PDI is a 45-item interview (Aber et al., 1985) that assesses parents' representations of their relationships with the child. The interview requires about 1–1.5 hours to administer. The interviewer asks the mother to describe her child, herself as a parent, and her relationship with the child. Similar to the AAI, the mother is first asked to provide adjectives that describe her relationship with her child and then to give evidence that supports the choice of such adjectives. Mother is also asked to describe moments of dyadic harmony and dissension as well as what causes either joy or difficulty to the child and to herself. Specific questions concern the mother's emotional experiences as a parent, for example, whether, when, and how she handles emotions like joy and anger.

#### *Coding*

##### *Mother-Child Interactive Behavior*

Mother-infant interactions were coded using the Coding Interactive Behavior (CIB) Manual (Feldman, 1998). The CIB is a global rating system for adult-child interactions with versions for newborns, infants, children, and adolescents. It consists of 42 adult, child, and dyadic codes each rated on a scale of 1 (a little) to 5 (a lot) that are aggregated into parent and child dyadic composites. The CIB has been used in multiple studies and has shown sensitivity to infant age, interacting partner, cultural variations, biological and social-emotional risk conditions, and the effects of interventions (Feldman, Eidelman, & Rotenberg, 2004; Feldman & Klein, 2003; Feldman, Weller, Eidelman, & Sirota, 2003). The system has shown adequate predictive and construct validity and test-retest reliability. Relational constructs assessed with the CIB have shown stability in repeated



assessments (Feldman & Masalha, 2010), and to predict cognitive and social-emotional outcomes across childhood and up to adolescence (Feldman, 2010).

The following composites were used in the present study:

- *Maternal Sensitivity* (average  $\alpha$  across measures = .91): Consisted of the mother's acknowledgement of child communications, vocal clarity, positive affect, gaze, appropriate range of affect, affectionate touch, resourcefulness, adaptation to child signals, and supportive presence.
- *Maternal Intrusiveness* (average  $\alpha$  = .80): Mother's physical manipulation of infant's body, interruption of child's activities, disregarding child signals, and high frequency of mother-led interactions compared to child-leading.
- *Child Engagement* (average  $\alpha$  = .84): Child alertness and enthusiasm, negative emotionality (negative), social initiation, vocalizations, gaze to mother or to object of joint attention, expression of positive affect, competent use of the environment, and the level of symbolic-creative play.
- *Child Withdrawal* (average  $\alpha$  = .75): Child's affect is withdrawn, child avoids engagement with toys, and avoidance toward the mother's presence or the maternal social bids. Inter-rater reliability was conducted on 20 mother-infant interactions and averaged .91 (range .87-.96). Kappa averaged .81 (range .73-.87).

#### *Parent Development Interview Coding*

Maternal representations were assessed using the Parent Development Interview Coding System (Slade et al., 1993). Previous studies using this coding system have demonstrated adequate psychometric properties (Aber, Belsky, Slade, & Crnic, 1999; Slade, Belsky, Aber, & Phelps, 1999). Interviews were transcribed verbatim and coded globally along two dimensions: maternal affective experience and state-of-mind. Mothers were asked about various affective experiences such as joy, anger, guilt, and separation anxiety. Maternal affective experiences were scored along a 9-point scale on the basis of their frequency, intensity, and self-awareness. The two extremes, either low scores or high scores indicated imbalanced, defensive and ill-modulated levels of the referred emotion via avoidance and denial (low scores) or intense, unmodulated expression (high scores). Middle scores indicated a well-balanced awareness and modulation of the referred emotion. To simplify statistical analysis the scales were transformed so that high scores indicated better modulated affect. The state-of-mind subscales included coherence and richness of experiences. Coherence level was determined by assessing the mother's ability to maintain a sense of clarity, consistency, and organization throughout the narrative and avoid major contradictions and confusions. Richness of experiences was rated based on the diversity and richness of the descriptions provided by the mother. The state-of-mind subscales were rated on a 5-point scale with higher scores indicating a higher level of coherence and richness. Previous studies using the PDI identified the joy-coherence factor which combines the joy, coherence, and richness scales (Aber et al., 1999; Slade et al., 1999). However, in the present study this factor yielded low internal consistency (.53). Therefore, and in the interest of examining both changes in reported emotional experiences and maternal state of mind, the three dimensions were tested separately. Coding was carried out by two raters, trained to reliability by a former member of the coding developing team. Fifteen randomly-selected transcribed interviews were double coded

and showed adequate inter-rater reliability (ICC ranged .74 - .86.) Disagreement was resolved by discussion. Raters were blind to the assessment stage (pretreatment or posttreatment).

## RESULTS

Prior to presenting the results, we present the diagnostic composition of the sample, using the DC: 0-3 system. Results indicated that 28 of the children (62.2%) met criteria for Axis I diagnosis, denoting a psychiatric disorder. These included the following diagnoses (DC: 0-3 or DSM-IV-TR, where applicable): Sleeping Behavior Disorder ( $N = 7$ , 25%), Feeding Behavior Disorder ( $N = 4$ , 14.29%), Regulatory Disorder ( $N = 4$ , 14.29%), Mixed Disorder of Emotional Expressiveness ( $N = 4$ , 14.29%), Anxiety Disorder ( $N = 3$ , 10.71%), Reactive Attachment Disorder ( $N = 2$ , 7.14%), Traumatic Stress Disorder ( $N = 1$ , 3.57%), Multisystem Developmental Disorder ( $N = 1$ , 3.57%), Trichotillomania ( $N = 1$ , 3.57%), and Attention Deficit Hyperactivity Disorder ( $N = 1$ , 3.57%).

Nineteen of the dyads (42.19%) met criteria for Axis II Primary Caregiver Relationship disturbance, indicating a disturbed parent-child relationship and scoring within the Significantly Perturbed range (PIR GAS less than 60) and 15 (33.3%) scored within the Disturbed range (PIR GAS 40 and below). Twenty one (46.7%) of cases met criteria for both Axis I and Axis II diagnoses (using both the perturbed and the disturbed levels). Relational Diagnoses included anxious-tense ( $N = 10$ , 23.3%), overinvolved ( $N = 8$ , 18.6%), mixed ( $N = 7$ , 16.3%), underinvolved ( $N = 5$ , 11.6%) and angry-hostile ( $N = 3$ , 7.0%).

In order to examine the hypothesis regarding positive changes in observed mother-infant relational patterns from the pretreatment (Time 1) to the posttreatment (Time 2) assessments, a Multivariate Analysis of Variance with repeated measures analysis was conducted on the four interactive composites: Maternal Sensitivity, Maternal Intrusiveness, Child Engagement, and Child Withdrawal with assessment as the within-subject measure, child gender as the between-subject measure and child age as a covariate variable in order to control for differences related to the children's age. Table 1 presents the means and SD of the dependent variables on the two assessments.

Results indicated a marginally significant overall main effect for time (Wilks'  $F(df = 4, 20) = 2.657$ ,  $p = .06$ ,  $partial \eta^2 = .35$ ). Univariate analysis indicated a significant increase in Maternal Sensitivity and Child Engagement from Time 1 to Time 2. No significant changes were found for Maternal Intrusiveness or Child Withdrawal.

A second repeated-measure MANOVA was used to assess changes in the three maternal representation variables (Joy, Richness of Experience, and Coherence) with assessment as the within-subject measure, child gender as the between-subject measure and child age as the covariate variable. A significant overall main effect was found for assessment (Wilks'  $F(df = 3, 37) = 3.73$ ,  $p < .05$ ,  $partial \eta^2 = .23$ ). Univariate analysis (see Table 1) indicated a significant increase in Richness of Experience. No significant changes were found for the Joy or the Coherence measures.

To test the hypothesis regarding an association between mothers' interactive patterns and their representation of the dyadic relationship, Pearson correlations among the maternal CIB composite scores and the PDI scores across the two assessments were tested. The results are presented in Table 2. As seen, at Time 1 the Maternal Intrusiveness factor correlated negatively with the

TABLE 1  
Comparison of Means and Standard Deviations of outcome measures across the two evaluations

	<i>Pretreatment (T1)</i>		<i>Posttreatment (T2)</i>		<i>F</i>	$\eta^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<b>CIB</b>						
Maternal Sensitivity	3.24	.78	3.62	.68	7.27**	.24
Maternal Intrusiveness	1.44	.65	1.45	.54	.00	.00
Child Engagement	2.68	.68	3.10	.69	4.91*	.18
Child Withdrawal	1.50	.76	1.26	.37	.30	.01
<b>PDI</b>						
Joy	5.03	1.27	5.32	1.02	1.26	.03
Richness	2.81	.59	3.06	.52	6.83**	.15
Coherence	3.00	.71	2.86	.44	1.11	.03

\* $p < .05$ ; \*\* $p = .01$ .

Joy and Richness of Experience and marginally significantly with the Coherence representational factors so that higher maternal intrusiveness was associated with lower joy, more restricted experiential richness and lower coherence in the mothers' narratives regarding the mother-infant relationship. Contrary to prediction, Maternal Sensitivity and Child Withdrawal did not correlate with the PDI scores. Child Engagement at Time 1 correlated significantly and negatively with the PDI Coherence score and marginally significantly with the PDI joy score so that narrative of mothers whose children displayed more social engagement during free play were characterized by less coherence and less joyful descriptions. At Time 2, no significant correlations emerged between any of the representational variables and the interactive patterns. Finally, the maternal SCL-90-R GSI score correlated significantly with Maternal Intrusiveness at Time 2 and marginally significantly with Maternal Sensitivity at Time 2 so that mothers who reported many psychological distress symptoms were more intrusive and less sensitive following therapy.

## DISCUSSION

The current study is among a handful of studies that examined the relational matrix of mothers and their symptomatic infants who underwent parent-child psychotherapy following a referral to an infant mental health clinic due to infant's symptoms. The study compared pretreatment and posttreatment interaction patterns and maternal narratives. Due to the clinic's ethically driven policy of not holding a waiting list, the study did not include a matched control group of no-treatment. Therefore, the study cannot be considered a treatment outcome study. Nevertheless, the study illustrates differences between pretreatment and posttreatment mother-child relational patterns and maternal representations and sheds light on the interactive mother-child patterns and maternal perceptions of the parent-child relationship among mothers who seek treatment for the infant's behavioral and functional symptoms. Given the limited empirical and clinical data in



TABLE 2  
Intercorrelations between relational behavior, maternal representations, and maternal psychopathology

actor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Maternal Sensitivity T1	—	-.52**	.62**	-.142	.07	.17	-.13	.33*	-.37*	.46**	-.14	.12	.23	.08	.03
2. Maternal Intrusiveness T1		—	-.04	-.02	-.44**	-.34*	-.26†	-.17	.21	-.06	.17	-.34*	-.41**	-.08	.03
3. Child Engagement T1			—	-.53**	-.24†	-.07	-.33*	.23	-.26	-.39*	.17	-.10	.02	-.14	.25
4. Child Withdrawal T1				—	.00	-.02	.12	.06	.11	-.06	.05	-.09	-.11	-.06	-.07
5. PDI Joy T1					—	.66**	.45**	-.20	.06	-.22	-.00	.12	.18	.15	.12
6. PDI Richness of experience T1						—	.43**	-.10	-.04	.01	-.02	.35*	.43**	-.11	.01
7. PDI Coherence T1							—	-.21	.12	-.13	-.26	.17	.22	.04	.07
8. Maternal Sensitivity T2								—	-.81**	.76**	-.40*	.00	.07	-.17	-.30†
9. Maternal Intrusiveness T2									—	-.74**	.37**	.02	.01	-.06	.52**
10. Child Engagement T2										—	-.49**	-.12	.07	.05	-.27
11. Child Withdrawal T2											—	-.06	-.00	-.12	.06
12. PDI Joy T2												—	.82**	.11	-.11
13. PDI Richness of experience T2													—	.12	-.08
14. PDI Coherence T2														—	-.14
15. GSI- T1															—

†  $p \leq .07$ ; \*  $p \leq .05$ ; \*\*  $p < .01$ .

T1 = Time 1 (Pre-treatment); T2 = Time 2 (Post-treatment); GSI = Maternal Psychopathology.



this area we hope that these findings can enhance understanding of how the parent-child system responds to dyadic psychotherapy.

We expected to see positive changes in dyadic behavioral patterns and in maternal representations from the pretreatment phase to the posttreatment assessment, as well as associations between maternal behavioral patterns and representations at each assessment. Analyses of the data provided partial support for these hypotheses. Differences in the quality of the mother-child interaction were evidenced between the two assessments so that maternal sensitivity and child engagement were higher in the second assessment. Also, the mothers' ability to provide rich narratives of the relationship with the child at the end of treatment was higher compared with the pretreatment assessment. Maternal intrusive behavior at the time of treatment onset was, as expected, associated with incoherent, lacking in joy and restricted maternal narratives. Interestingly, the narratives of mothers whose children were rated by blind observers as more engaged during mother-infant free play interaction were characterized by less joy and less coherence. None of these associations were evidenced at the posttreatment evaluation. Finally, mothers who reported high levels of psychological distress at the time of treatment onset displayed more intrusive and less sensitive relational behavior during the post-treatment evaluation. Taken together, these findings suggest that the negative relational cycle that characterizes symptomatic infants and their parents is still flexible and amenable for change under certain conditions, that is, early dyadic therapy. It is clear that without a no-treatment comparison group it is impossible to tease apart the treatment effects from naturally occurring maturational effects. However, in light of the rich literature on the negative developmental trajectory of early untreated parent-infant disturbances and the reported effectiveness of parent-infant interventions in randomized controlled studies, these findings add support to the accumulating data regarding the beneficial impact of parent-infant psychotherapy on the relational matrix of referred infants and their mothers, both in terms of behavioral patterns and parental perceptions.

The failure to obtain more significant changes in the mother-infant relational patterns and in mothers' representations may be due to the relatively small sample size, high attrition rate, and high heterogeneity of the sample (in terms of children's age, referral questions, duration of treatment etc.) that characterized this study and limited our ability to detect significant changes. Nevertheless, the positive change in the child's social engagement with the mother is noteworthy because changes in children's observable patterns are less frequently detected in parent-child treatment outcome studies (see Ammaniti et al., 2006; Beebe, 2003; Cohen et al., 2002). The change points to the possible benefits of engaging the infant in the therapeutic process, which is unique to parent-child psychotherapy. The active presence of the infant in the therapy sessions allows him to experience and accumulate corrective, therapist-mediated interactions with his parents as well as with the therapist and to hear the therapist's reflections and interpretations of dyadic misunderstandings and misperceptions when they occur. These in turn, may help to free the child of his parents' conflicts and projections and foster his or her emotional well-being. Furthermore, the data shows more marked differences from the pretreatment to posttreatment in dyadic relational patterns compared with only minor changes in maternal representations. This may suggest that parent-infant psychotherapy works faster on creating a behavioral change while representational change takes longer to occur. This may be because for parents, representational change requires the disentangling of past experiences from present relationship with the child. As a group, parents who apply for mental health treatment early on in their infants' development may have a long history of multiple relational traumas and insecurities, may be significantly

impaired in their parenting skills and developmental knowledge, and/or may have youngsters who are hard to manage due to temperamental and regulatory difficulties, which make changes in parental perceptions and representations harder to achieve. Longitudinal studies are needed in order to confirm this speculation.

The results of the current study indicated an enhancement in mothers' ability to elaborate on their relationship with their infants and to narrate a richer account of their dyadic encounters at the end of therapy, thus pointing to a more flexible and non-defensive access to emotional experiences (Slade et al., 1999) following treatment. Furthermore, as predicted, associations were found between maternal initial intrusive behavior and negative maternal representations so that at the intervention onset stage, maternal intrusive behavior was associated with less joyful, more restricted, and less coherent maternal representation of the mother-child relationship, pointing to a possible link between the mother's negative perception of the relationship, her limited reflective understanding of the child's mental life and an intrusive parental behavior that may have contributed to the relational difficulties and the resulting referral. Further support for this hypothesis can be derived from the finding that mothers whose children were rated by observer to be more engaged during mother-infant free play interactions tended to provide less coherent narratives and portrayed the parent-child relationship as less joyful, suggesting that these mothers may have tended to misinterpret and misunderstand their children's behaviors and developmental and relational needs prior to the intervention. While it is impossible to draw conclusions on the basis of insignificant results, it is interesting that the above mentioned associations between the mothers' and children's behavior and maternal representations were not evidenced at the post-treatment evaluation. Given the improvement in maternal and child interactive behavior and the relatively richer maternal narratives that emerged at the end of treatment, one may cautiously speculate that the lack of association between negative behavioral patterns and pathological representations may point to an increase in parental reflection (that was not measured in this study) that may lead to better parental behavioral modulation in reactions to the child (e.g., Slade, 2005).

Looking at the characteristics of the present sample, it appears that many of the infants who participated in the study met criteria for a relational disturbance as their primary diagnosis or in tandem with an infant psychiatric diagnosis. The high rate of relational disturbance among infants referred for treatment supports the view held by infant mental health theoreticians and clinicians that early infant psychopathology occurs in the context of disturbed parent-infant relationship, thus confirming the concept of a "relationship disturbance" and supporting the recommendation for a treatment strategy that focuses on the relationship itself (Sameroff & Emde, 1989).

Limitations of the current study are consistent with those reported in other studies of parent-infant psychotherapy. These include a small sample size due to relatively high refusal and attrition rates and the lack of a no-treatment comparison group. The small sample size may account for the relatively limited findings of our study. The decision not to create a no-treatment control group was based on ethical reasons similar to those presented by other studies involving clinical samples (e.g., Harvè et al., 2010; Cohen et al., 2002; Osofsky, 2007), yet this decision limits our ability to interpret the findings conclusively. The exclusive focus on mothers limits generalizability of the finding to fathers. Future research should attempt to recruit larger samples including fathers. Future studies can also examine whether the improvement evidenced in the present study in infants' social engagement generalizes to other social contexts such as the relationship with the other parent or with day-care staff. Because of the relatively small size of the current sample, it was impossible to differentiate between the disturbed and the non-disturbed dyads as well as

between different diagnostic categories (e.g., functional, behavioral) in terms of treatment outcome. Yet, despite these limitations, we believe that the study provides a significant contribution to the field of parent-infant psychotherapy. This includes the use of a clinical population that is the first and most important consumer of parent-infant psychotherapy. Also, examination of the behavioral as well as the representational changes that accompany parent-infant psychotherapy expanded our understanding of the mechanisms that are involved in this treatment modality.

## CONCLUSIONS

The present study described changes in the relational and representational patterns that characterized mother-child dyads undergoing parent-infant psychotherapy, a relatively new yet rapidly spreading form of psychotherapy designed to treat relational disturbances in young children. The results of the study showed that at the time of treatment completion, these dyads, as a group, showed better relational patterns, richer maternal narratives of the relationship and a decrease in the association between negative maternal perceptions and behavior. Given the study's design it is impossible to conclude whether these changes were due to intervention effect or some other factor. In a way, one can view this study as a "feasibility study" given the limited body of similar studies, small sample size, and the use of an individually-tailored treatment protocol. These limited our ability to set and test specific hypotheses regarding the factors involved in the prepost treatment change. However, given the relative scarcity of studies addressing the processes underlying parent-infant psychotherapy with clinical samples, the current study may provide a first step to specifying the changes that accompany dyadic psychotherapy at this age and the findings can serve as a basis for larger scale, manualized treatment outcome studies.

## Clinical Implications

Parent-infant psychotherapy is a unique treatment modality in which both parent and infant actively participate in the therapeutic process. Because both the infant and the parent are present and interact together in the treatment room, the therapist has the opportunity to address both partners' behaviors, emotions, intentions and needs, as they occur during the dyadic session and connect them to the partners' developmental needs and underlying intersubjective processes. The simultaneous focus on parent and child and the emphasis on observed behaviors and mental states can foster change in the mother and child relational behaviors as well as in the mother's (and possibly the child's) mental representations. Furthermore, the different pattern of associations between maternal interactive behaviors and representations observed at the times of treatment onset and treatment termination suggests that interactive behaviors and maternal representations change at different pace, timing and possibly due to different factors. The advantage of parent-child psychotherapy is that it treats the dyadic relationship from several "ports of entry," addressing different aspects of the relationship. The findings also indicate the importance of addressing and treating maternal symptomatology alongside the parent-infant intervention as it may interfere with the parent-child treatment progress. Finally, the findings suggest that the decision as to when to terminate treatment should include not only the infant's symptomatic status but



also an assessment of the parent-infant relationship (both in terms of observed patterns and narratives), parental symptoms' status, as well as the parents' sense of competence and satisfaction with the parenting role.

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