Father- and Mother-Infant Face-to-Face Interactions:
Differences in Mind-Related Comments and Infant Attachment?
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Abstract

The present research explored the relations among fathers’ and mothers’ appropriate mind-related comments during interactions with their six-month-old infants, and subsequent infant attachment security. More frequent occurrences of mind-related comments were expected to predict frequency of synchrony which, in turn, was expected to predict attachment security. For both mothers and fathers, frequency of interactional synchrony was found to mediate the relation between mind-related comments and attachment security. Results are discussed in terms of children’s future perspective-taking skills, friendships and social adaptation.
Father- and Mother-Infant Face-to-Face interactions: Differences in Mind-Related Comments and Infant Attachment?

The positive outcomes associated with secure attachments during infancy (Arend, Gove, & Sroufe, 1979; Bohlin, Hagekull & Rydell, 2000; Booth, Rose-Krasnor, & Rubin, 1991; Frankel & Bates, 1990; Matas, Arend, & Sroufe, 1978; Slade, 1987; Sroufe, 1983) have resulted in numerous investigations into potential antecedents of attachment formation. Maternal sensitivity, for example, has been explored extensively in relation to the formation of attachments (see De Wolff & van IJzendoorn, 1997, for a recent meta-analysis). Infants with more sensitive mothers are more likely to develop secure attachments to their mothers (De Wolff & van IJzendoorn, 1997). Even so, the strength of this relationship has been questioned since the results of a meta-analysis revealed only a modest effect size of .24 (De Wolff & van IJzendoorn, 1997; Seifer, Schiller, Sameroff, Resnick, & Riordan, 1996). Furthermore, researchers have challenged the conclusion that sensitivity is the primary determinant of infant-mother attachments, and have proposed that other factors, in addition to sensitivity, be explored as promoting or impeding attachment formation (De Wolff & van IJzendoorn, 1997). Much of the confusion regarding the relationship between sensitivity and attachment may be attributed to the fact that sensitivity has been operationalized in various ways by different investigators.

As a result of the confusion some investigators have called for a re-examination of the maternal sensitivity construct (Fonagy, Steele, Steele, Higgitt, & Target, 1994; Meins, 1997). Meins (1997), for example, has argued that sensitivity to children’s physical and emotional needs should be distinguished from sensitivity to their mental processes. Meins (1997) coined the term “mind-mindedness” to refer to a mother’s propensity “to treat her infant as an individual with a
Mind-Related Comments

mind rather than merely as a creature with needs that must be satisfied” (Meins, Fernyghough, Fradley & Tuckey, 2001, p.638). Meins et al. (2001) established several measures of ‘mind-mindedness’, and each was proposed to be distinctly associated with the ‘reading’ of infants’ mental processes. Meins et al.’s (2001) ‘mind-minded’ measures included: responsiveness to infants’ direction of gaze, responsiveness to infants’ object-directed action, imitation of infants’ behaviors, encouragement of autonomy, and appropriate mind-related comments. While each of these measures was positively associated with levels of maternal sensitivity only one, appropriate mind-related comments, was found to be a significant predictor of attachment security. Furthermore, Meins, et al. (2001) reported that the frequency of appropriate mind-related comments was actually a stronger predictor of attachment security than was maternal sensitivity. Meins et al. (2001) suggested that this may be attributed to the way in which the maternal sensitivity construct has been operationalized, rather than to the definition of the construct per se.

Ainsworth, Bell, and Stayton (1971) defined maternal sensitivity in terms of a mother’s ability to recognize her infant’s signals, to accurately interpret her infant’s perceptions, and to use this information to engage in appropriate and well-coordinated interactions. In addition, maternal sensitivity is based on the assumption that the mother avoids interfering with her infant’s ongoing activity. In contrast to sensitive mothers, those who are less sensitive tend to misinterpret their infant’s behaviors, often attempting to “socialize with the baby when he is hungry, play with him when he is tired, and feed him when he is trying to initiate social interaction” (Ainsworth et al., 1974; p. 129). Thus, the appropriateness of maternal responses is an important aspect of the maternal sensitivity concept (Ainsworth, et al., 1971, 1974; Meins, 2001).

Even so, most measures of sensitivity, including Ainsworth et al.’s (1971) original
maternal sensitivity scale, fail to distinguish between mothers’ recognition of infants’ needs and appropriate responses to those needs (Meins, et al., 2001). However, differences in mothers’ abilities to recognize and accurately interpret infants’ perceptions, and in their ability to engage in appropriate and well-coordinated interactions can be assessed when measured in terms of interactional synchrony (Lundy, 2002). Interactional synchrony, or the “extent to which an interaction appears to be reciprocal and mutually rewarding” (Isabella, Belsky & von Eye, 1989, p. 13) is based on the assumption that mothers respond appropriately to their infants’ signals (e.g., infant vocalizes, the mother vocalizes in response to the infant, infant vocalizes in response to the mother’s vocalization) (Isabella, et al., 1989, Lundy, 2002). By contrast, asynchronous interactions do not appear to be mutually rewarding or appropriately “connected” (e.g., mother stimulates infant when infant fusses and cries) (Isabella et al., 1989; Lundy, 2002).

Although much research has been conducted with mothers, relatively little research has explored the formation attachments to fathers. Recently, however, frequency of interactional synchrony has been found to significantly predict infant-father (Lundy, 2002), as well as, infant-mother attachment security (Isabella, et al., 1989; Lundy, 2002). Individual differences in the frequency of synchrony may be associated with differences in general perspective-taking skills. Better perspective-taking skills may enable mothers and fathers to engage in more frequent synchronized interactions compared to parents who are less perceptive of their infants’ mental processes. The present research explored the relations among parents’ mind-related comments, frequency of interactional synchrony, and security of infant attachment. Because fathers’ comments have not been explored previously, parental gender differences were examined in the frequency of various types of mind-related comments. Second, fathers’ and mothers’ comments
were explored in relation to infant attachment security, and then, also in relation to parent-infant synchrony. Mind-related comments were expected to predict frequency of parent-infant synchrony. Furthermore, because synchrony has already been found to predict attachment security (Isabella, et al., 1989; Lundy, 2002), it was expected that synchrony would mediate the relation between mind-related comments and attachment security for both mothers and fathers.

Finally, depressive symptoms in mothers and lower marital satisfaction in fathers have been found to predict reductions in the frequency of parent-infant synchrony (Lundy, 2002). It is plausible that such factors may also be associated with reduced numbers of appropriate mind-related comments. Maternal depression has previously been associated with distorted perceptions of children’s behaviors (Estroff, Herrera, Gaines, Shaffer, Gould, & Green, 1984; Fergusson, Horwood, Gretten, & Shannon, 1985; Field, 1992). Thus, maternal depressive symptoms may also be associated with reductions in mothers’ ability to accurately perceive their infants’ perspectives.

Lower levels of marital satisfaction in fathers has been associated with fewer positive thoughts and feelings toward their infants (Belsky et al., 1984; Corwyn & Bradley, 1999). In addition, some researchers have proposed that fathers may view marriage and fatherhood as one and the same (Corwyn & Bradley, 1999; Furstenberg & Cherlin, 1991). Thus, lower levels of marital satisfaction in fathers was expected to be associated with fewer appropriate mind-related comments during interactions with their infants, compared to fathers who report higher levels of satisfaction.

Method

Participants

Participants were twenty-four sets of parents (24 fathers, $M = 29.92$, years, $SD = 6.49$;
24 mothers, \( M = 26.79 \text{ years}, \text{SD} = 4.63 \) and their infants (\( M = 6.0 \text{ months}, \text{SD} = 1.60 \); 13 males, 11 females). Participants were recruited through the assistance of local pediatricians, daycare facilities, newspaper advertisements, and the psychology department parent/infant subject pool. The sample was predominately white (96%), lower-middle socioeconomic status (\( M = 3.25, \text{SD} = 0.99 \) on the Hollingshead, 1975), and diverse in terms of education level (4% some highschool, 21% highschool graduate, 40% some college, 29% college graduate, 4% some graduate school, and 2% Masters degree). With the exception of three families, all infants resided with both parents, who were married (\( M = 3.89 \text{ years}, \text{SD} = 2.95 \)). The average number of siblings was 0.87 (\( \text{SD} = 1.02 \)).

**Procedures and Measures**

Parents were asked to participate during times when their infants were typically alert but relaxed. Each parent independently completed a demographic questionnaire and the *Center for Epidemiological Studies-Depression Scale* (CES-D) (Radloff, 1977), and then participated in a 6-minute face-to-face interaction with his/her infant, the coding of 3-minute of face-to-face interactions has been used sufficiently in previous research (Feldman, Greenbaum, & Yirmiya, 1999; Field, 1978; Field, Estroff, Yando, del Valle, Malphurs, Hart, 1996; Field, Hossain, & Malphurs, 1999). Since infants were videotaped with each parent, order of participation was counterbalanced for parent gender, such that father-infant interactions were first for 50% of the sample.

**Socio-demographic Questionnaire.** The demographic questionnaire included items regarding parental age, educational background, occupation, marital status, infants’ age, gender, number of siblings, and duration of marriage. Each parent also rated their degree of marital
satisfaction on a 7-point scale ranging from (1 = extremely dissatisfied to 7 = extremely satisfied).

Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20 item self-report scale designed to measure depression symptoms in the general population. The items include depressed mood, feelings of guilt, worthlessness, helplessness and hopelessness, loss of energy and sleep and appetite disturbances (Radloff & Teri, 1986). Respondents rate the frequency (over the past two months) of 20 symptoms ranging from “rarely or none of the time” to “most or all of the time.” A total score that ranges from 0 to 60 is calculated by summing all items. Reliability and validity have been acceptable across a variety of demographic characteristics including age, education, geographic area, and racial, ethnic, and language groups (Radloff & Teri, 1986).

Videotaped Interactions. Parents were instructed to engage in a six-minute face-to-face interaction with their infants as they normally would at home. Infants who became fussy for more than 30 seconds were removed from the infant seat momentarily to comfort. This occurred in only 4 of the interactions, which were evenly distributed across parent gender. During the interaction, the infant was placed in an infant seat on a table facing the parent. Two video cameras, situated behind the one-way mirror of the observation room, simultaneously recorded the procedure. One camera recorded the infant’s behavior while the other camera captured the parent’s behavior, and both images were fed through a split-screen generator so the that the recordings were combined into one picture.

Coding of Videotaped Interactions for Mind-Related Comments. A modified version of Meins, et al.’s (2001) system for coding mind-related comments was used in the present research. Parents’ mind-related comments were categorized into one of several different categories
including, comments regarding infants’: 1) general thought processes, knowledge or desires (e.g., “Are you concentrating on something?” “You know what this is-- mommy’s nose”, “I know, you want Daddy’s glasses”, 2) mental processes relevant to problem-solving or to the completion of a task (e.g., “Have you figured it out yet?”, “There, you got that figured out!”, “What are you trying to do with that?”, and “Is that the plan?”), 3) emotional engagement (e.g., “You’re really fascinated by that”, “I know, you’re bored with that already”), 4) attempts to manipulate others’ thoughts (e.g., “Oh now I get it, you’re playing that game-- throw all your toys on the floor and mommy picks them up”, “Get out of town!”, “Are you sure about that?”), 5) and comments that involved speaking from the infants’ perspective (e.g., “Mommy, get me out of here”). Any comment that could not be categorized into any of the above categories were not coded as mind-related.

Each mind-related comment was subsequently classified as appropriate and inappropriate (Meins et al., 2001), and only the former was of interest in the present research. The criteria for coding comments as appropriate was based on a modification of Meins et al.’s (2001) procedure, and included comments that were: 1) consistent with the infant’s psychological state (e.g., parent asks infant if she wants a particular toy after infant expresses interest in that toy, 2) appropriately linked to similar activities or events (e.g., “Do you remember having one like this at home?”, and 3) suggestive of activities or objects to engage the infant with after she had not been focused on anything in particular for at least 5 seconds. Comments considered inappropriate were those in which:1) the parent appeared to misinterpret the infant’s psychological state, (e.g., parent asks infant if she wants a particular toy after infant had previously expressed no interest in the toy), 2) the parent referred to an event that had no obvious connection to the current activity (e.g, “what
do you think your kitty cats are doing at home?”), and 3) the parent asks the infant if she wanted a different toy when infant was actively engaged in another activity.

Two independent coders, blind to all other measures, coded the videotapes for both mind-related and teaching-related comments. Inter-rater reliability conducted across all of the videotaped interactions, were computed with Pearson product-moment correlations. Reliability coefficients ranged between .77 and .83 across the mind-related categories, and .79 for appropriateness of mind-related comments.

Coding of Videotaped Interactions for Interactional Synchrony. The videotaped interactions had been coded previously for frequency of synchronous parent-infant exchanges over 24 successive 15 second intervals. Exchanges were considered synchronous if they involved at least three contingent steps between the parents and their infants (a modification of Belsky, Taylor & Rovine’s, 1984 procedure). Synchrony scores were analyzed previously in relation to attachment security, and results are reported in Lundy (2002). Inter-rater reliability across one-third of the videotaped interactions was .91.

Attachment Q-sort (AQS). Infant-parent attachment was assessed using the Attachment Q-set (AQS) (Waters, 1987). Both parents of sixteen infants who participated in the videotaped interaction returned to the laboratory when their infants were approximately thirteen-months-old ($M = 13.30, SD = 1.83$) to participate in the Attachment Q-set. The AQS consists of 90 items describing different types of infant behaviors. After receiving careful instructions, each parent independently sorted the items equally into nine piles based on how descriptive he or she felt each item was of his/her own infant’s behaviors. Items were sorted based on each parent’s perspective of the infant’s behaviors in relation to oneself. Each item was then assigned a score ranging from
Security scores were then derived for each infant-mother and infant-father relationship by computing a correlation between the sort and a standard criterion sort of a prototypically secure infant (see Waters, 1987). Security scores for the entire sample \( (N = 32) \) averaged .33 ranging from .08 to .64 \( (SD = .13) \), with no significant difference in security scores based on parent gender.

**Results**

Results are presented in five sections. First, results of a MANOVA conducted to explore parental gender differences in types of mind-related comments are presented. The next two sections report correlations among mind-related comments and infant attachment security, and then, among mind-related comments and interactional synchrony. The results of regression and mediational analyses, conducted to explore the predictive relations among mind-related comments, synchrony, and infant attachment are presented next. Finally, correlations among socio-psychological factors and mind-related comments are reported.

**Parental Gender Differences in Mind-Related Comments**

A MANOVA performed on the five types of mind-related comments revealed a significant Parental Gender effect \( (F(1, 44)=2.40, p<.05) \). Subsequent ANOVAs revealed that fathers exhibited significantly more comments related to problem-solving compared to the mothers \( (F(1,44)=7.22, p<.01) \), while mothers exhibited more comments in which they were speaking for the infants, compared to fathers \( (F(1,44)=5.22, p<.05) \) (see Table 1).
Mind-Related Comments and Attachment Security

Overall frequency of mind-related comments was positively correlated with increased levels of attachment scores ($r=.30$, $p<.05$). For mothers, more comments related to infants’ general thought processes (i.e., thoughts, knowledge, and desires) were significantly correlated with higher infant attachment scores ($r=.58$, $p<.01$) (see Table 2). A stepwise regression analysis was computed to determine how much of the variance on the infant-mother attachment scores could be explained by the frequency of mind-related comments. The mind-related variables entered into the analysis as predictor variables included mothers’ comments regarding infants’: 1) general thought processes, knowledge or desires, 2) mental processes relevant to problem-solving, 3) emotional engagement, 4) attempts to manipulate others’ thoughts and 5) comments that involved speaking from the infants’ perspective. This analysis revealed that only comments related to infants’ general thought processes, knowledge or desires, significantly predicted higher infant-mother attachment scores ($R^2=.33$, $p<.05$).

For fathers, more comments related to infants’ general thought processes (i.e., thoughts, knowledge, and desires) were significantly correlated with higher infant attachment scores ($r=.64$, $p<.005$). In addition, more comments related to infants’ emotional engagement were marginally
correlated with infant attachment ($r=.41$, $p=.06$). A stepwise regression analysis was also performed on the fathers data with the five types of mind-related comments entered as predictor variables. Similar to mothers, this analysis revealed that only comments related to infants’ general thought processes significantly predicted higher infant-father attachment scores ($R^2=.41$, $p<.01$).

**Mind-Related Comments in Relation to Synchrony**

Correlational analyses were conducted to determine the relation among mind-related comments and frequency of interactional synchrony. For mothers, more comments related to infants’ general thought processes were correlated with more frequent occurrences of synchronized interactions ($r=.61$, $p<.01$). For fathers, both more general thought and emotional-engagement related questions were associated with more frequent occurrences of synchrony ($r=.54$, $p<.05$; $r=.50$, $p<.05$; respectively) (see Table 3).

Mind-Related Comments vs. Synchrony as Predictors of Attachment

**Stepwise Regression Analyses.** Frequency of general thought-related comments and interactional synchrony were entered into a stepwise regression analysis to determine the amount of variance each predicts on the infant-parent attachment scores. Results revealed that, for both mothers and fathers, infant attachment was significantly predicted by only frequency of interactional synchrony, accounting for 40% and 47% of the variance, respectively.

**Mediation Analyses.** The possibility that synchrony mediates the relation between parents’ thought-related comments and infant attachment security was tested separately for
mothers and fathers in regression mediation analyses. Empirical support for mediation requires a series of four regression equations (Baron & Kenny, 1986). In the first equation, the possible mediator (i.e., frequency of synchronized interactions) regressed on the independent variable (i.e., frequency of thought-related comments) should demonstrate that the independent variable significantly predicts the mediator. In the second equation, the dependent variable (i.e., attachment security) regressed on the independent variable should demonstrate that the independent variable significantly predicts the dependent variable. In the third equation, the dependent variable regressed on the mediator should demonstrate that the mediator significantly predicts the dependent variable. Finally, the dependent variable regressed on the independent variable, along with the mediator, should demonstrate that the mediator significantly predicts the dependent variable, while the influence of the independent variable is no longer significant.

Paternal thought-related comments, synchrony, and infant attachment. As indicated in Figure 1, fathers’ thought-related comments had a standardized beta weight of .54 (p = .03) with father-infant synchrony (F(1,14)=5.66, p < .05). Fathers who exhibited more thought-related comments also demonstrated more synchrony during their interactions with their infants compared to fathers with fewer thought-related comments. Thought-related comments also significantly predicted attachment scores (beta = .64, p = .007; F(1,14) = 9.76, p < .01). Fathers with more thought-related comments scored higher on the AQS compared to fathers who had fewer thought-related comments. Frequency of synchronous exchanges also predicted infant-father attachment scores (beta = .69, p = .003; F(1,14)= 12.53, p < .005). Fathers who engaged in more frequent synchronous interactions with their infants scored higher on the AQS, compared to fathers who exhibited less frequent synchronous exchanges. In the final equation of this analysis, when
synchrony was entered into the regression equation with thought-related comments, the relation between thought-related comments and attachment was no longer significant (beta = .38, p = .10). Therefore, synchrony mediates the relation between fathers’ thought-related comments and infant-father attachment. More thought-related comments are associated with more synchrony which, in turn, is predictive of higher infant-father attachment scores.

Maternal thought-related comments, synchrony and infant attachment. As indicated in Figure 2, thought-related comments had a standardized beta weight of .61 (p = .01) with mother-infant synchrony $F(1,14)= 8.47, p<.01)$. Mothers with more thought-related comments exhibited more synchronous exchanges with their infants. Frequency of thought-related comments also significantly predicted infant attachment (beta = .58, p = .02; $F(1,14)=7.00, p<.05$). Mothers with more thought-related comments scored higher on the AQS, compared to mothers with fewer thought-related comments. Frequency of synchronous interactions was also found to predict infant attachment scores (beta = .63, p = .009; $F(1,14)=9.14, p<.01$). Mothers who exhibited more synchronous interactions scored higher on the AQS., compared to mothers who demonstrated less frequent synchronous exchanges with their infants. In the final equation, when synchrony was entered into the regression equation with thought-related comments, the relation between thought-related comments and attachment was no longer significant (beta = .31, p = .26). Therefore, synchrony mediates the relation between mothers’ thought-related comments and infant attachment scores. More thought-related comments are predictive of more synchrony which, in
Socio-Psychological Factors in Relation to Frequency of Mind-Related Comments

Mothers with more depressive symptoms, and lower marital satisfaction commented less frequently on infants’ general thought processes ($r = -.41, p = .057$; $r = .44, p < .05$, respectively), and exhibited more comments related to infant-manipulation ($r = .60, p < .01$; $r = -.50, p < .05$, respectively) (see Table 3). These socio-psychological factors were not significantly correlated with the frequency of fathers’ mind-related comments.

Discussion

A mother’s propensity to perceive her infant as having an independent mind significantly predicts infant-mother attachment security (Meins et al., 2001). It was proposed in the present research that greater perspective-taking tendencies (i.e., ‘mind-mindedness’) would predict increases in the occurrence of mother-infant and father-infant synchrony. Increases in synchrony were expected to account for the relation between mind-mindedness and attachment security for fathers, as well as for mothers. In general, the predictions received empirical confirmation. One category of mind-related comments, however, accounted for the majority of the significant findings.

The contents of fathers’ mind-related comments had not previously been explored in relation to mothers’ comments to their infants. Thus, parental gender differences were explored in the frequency of various types of ‘mind-related’ comments. While no difference was observed in the overall frequency of mind-related comments, parental gender differences were found for two types of comments. First, fathers rendered more comments related to problem-solving (e.g., “Are you trying to figure this out?”) compared to mothers. This finding may reflect earlier research in
which paternal involvement was found to be associated with children’s problem-solving behaviors (Easterbrooks & Goldberg, 1984). Second, mothers demonstrated more comments in which they were speaking from their infants’ perspectives, possibly reflecting mothers’ desires to foster their children’s interpersonal and conversational development.

Across both parental genders the overall frequency of appropriate mind-related comments significantly predicted infant-parent attachment scores. Subsequent analyses explored the relation between each of the five different types of comments and attachment security separately for mothers and fathers. Only one category of comments, those related to infants’ general thought processes (i.e., thoughts, knowledge and desires) significantly predicted both infant-mother and infant-father attachment scores.

In addition, parents’ general thought-related comments significantly predicted frequency of parent-infant interactional synchrony. Frequency of synchrony, in turn, predicted infants’ attachment security (as previously reported in Lundy, 2001). Further analyses revealed that synchrony mediated the relation between parents’ general thought-related comments and infant attachment security. Thus, parents who demonstrate a tendency to consider their infants’ perspectives more frequently appear to be inclined to engage in more frequent parent-infant synchrony. More frequent occurrences of synchrony, in turn, predicts higher infant-parent attachment security scores.

Because maternal depression has been associated with distorted perceptions of children’s behaviors (Estroff, et al., 1984; Fergusson, et al., 1985; Field, 1992), it was proposed that depressive symptoms would also be associated with fewer appropriate mind-related comments. Consistent with this hypothesis, depressive symptoms and appropriate thought-related comments
were negatively correlated. Interestingly, depressive symptoms were positively correlated with infant-manipulation comments, and these in turn, were negatively correlated with synchrony. For fathers, depressive symptom were unrelated to the frequency of mind-related comments.

Lower levels of marital satisfaction in fathers has been associated with fewer positive thoughts and feelings toward infants (Belsky et al., 1984; Corwyn & Bradley, 1999). Thus, less marital satisfaction was expected to be associated with fewer appropriate mind-related comments. However, marital satisfaction was not associated with the frequency of mind-related comments in fathers. By contrast, in mothers lower marital satisfaction was correlated with fewer appropriate thought-related and more infant-manipulation comments. Perhaps mothers’ perceptions of their infants’ thoughts become more distorted or negative as marital quality decreases.

Based on the present findings, ‘mind-mindedness’ appears to be an important construct related to the formation of secure attachments to fathers, as well as to mothers. The formation of secure attachments has been linked to a broad range of positive developmental outcomes (Arend, et al., 1979; Bohlin, et al., 2000; Booth, et al., 1991; Matas, et al., 1978; Sroufe, 1983). According to Meins (1997), when parents treat their children as individuals with minds, parents may “actually be encouraging their children to understand themselves and others as mental agents” (p.140). Children of more ‘mind-minded’ parents tend to have better perspective-taking abilities compared to children whose parents are less ‘mind-minded’ (Meins, Fernyhough, Russell, Clark-Carter, 1998). Furthermore, perspective-taking skills play an important role in young children’s ability to establish and maintain friendships, which are important for children’s social adaptation (Hartup, 1992; Katz & McClellan, 1997). An inability to establish friendships during early childhood has been found to forecast potential problems related to self-esteem, academic
motivation and mental health (Hartup, 1992)
References


Acknowledgments

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Table 1
Means for Mothers’ and Fathers’ Appropriate Mind-Related Comments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mothers(^a)</th>
<th></th>
<th>Fathers(^b)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Type of mind-related comment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoughts, knowledge, desires</td>
<td>0.30</td>
<td>0.56</td>
<td>0.09</td>
<td>0.29</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>0.04</td>
<td>0.21</td>
<td>0.70</td>
<td>1.14**</td>
</tr>
<tr>
<td>Emotional engagement</td>
<td>0.39</td>
<td>0.78</td>
<td>0.26</td>
<td>0.54</td>
</tr>
<tr>
<td>Manipulation</td>
<td>0.08</td>
<td>0.42</td>
<td>0.26</td>
<td>0.92</td>
</tr>
<tr>
<td>Speaking for the infant</td>
<td>0.65</td>
<td>1.37</td>
<td>0.00</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

\(^a\)n = 24. \(^b\)n = 24.

*p<.05, **p<.01
Table 2
Correlations Between Types of Mind-Related Comments and Attachment Security

<table>
<thead>
<tr>
<th>Variable</th>
<th>Attachment Security</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mothers&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>1. Thoughts, knowledge, desires</td>
<td>.58**</td>
</tr>
<tr>
<td>2. Problem-solving</td>
<td>----</td>
</tr>
<tr>
<td>3. Emotional engagement</td>
<td>.32</td>
</tr>
<tr>
<td>4. Manipulation</td>
<td>-.37</td>
</tr>
<tr>
<td>5. Speaking for the infant</td>
<td>.22</td>
</tr>
</tbody>
</table>

<sup>a</sup>n = 16. <sup>b</sup>n = 16.

<sup>*</sup>p < .10, <sup>**</sup>p < .05, <sup>***</sup>p < .01, <sup>****</sup>p < .005
Table 3
Correlations Among Mind-Related Comments, Synchrony and Socio-Psychological Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Synchrony</th>
<th>Depressive Symptoms</th>
<th>Marital Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mothers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Thoughts, knowledge, desires</td>
<td>.61**</td>
<td>-.41*</td>
<td>.44*</td>
</tr>
<tr>
<td>2. Problem-solving</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>3. Emotional engagement</td>
<td>.22</td>
<td>-.23</td>
<td>.34</td>
</tr>
<tr>
<td>4. Manipulation</td>
<td>-.38</td>
<td>.60**</td>
<td>-.50*</td>
</tr>
<tr>
<td>5. Speaking for the infant</td>
<td>.20</td>
<td>-.14</td>
<td>.30</td>
</tr>
</tbody>
</table>

| **Fathers**                     |           |                     |                      |
| 1. Thoughts, knowledge, desires | .54*      | -.02                | .20                  |
| 2. Problem-solving              | -.11      | -.15                | -.12                 |
| 3. Emotional engagement         | .50*      | .10                 | .33                  |
| 4. Manipulation                 | ----      | ----                | ----                 |
| 5. Speaking for the infant      | ----      | ----                | ----                 |

*n = 16. *p < .05, **p < .01, ***p < .005
Figure Captions

Figure 1. Mediation model for paternal thought-related comments, synchronized interactions, and infant-father attachment security.

Note. Bottom portion of Figure 1 represents findings previously reported in “Paternal Socio-Psychological Factors and Infant Attachment: The Mediating Role of Synchrony in Father-Infant Interactions,” by B. L. Lundy, 2002, Infant Behavior and Development.

Figure 2. Mediation model for maternal thought-related comments, synchronized interactions, and infant-mother attachment security.

Note. Bottom portion of Figure 2 represents findings previously reported in “Paternal Socio-Psychological Factors and Infant Attachment: The Mediating Role of Synchrony in Father-Infant Interactions,” by B. L. Lundy, 2002, Infant Behavior and Development.