MATERNAL SELF-CRITICAL AND DEPENDENT PERSONALITY STYLES AND MOTHER-INFANT COMMUNICATION

This study investigated mother-infant communication in relation to Blatt's measures of adult personality organization, namely, interpersonal relatedness and self-definition, defining the higher ends of these two measures as *dependency* and *self-criticism,* respectively. A nonclinical sample of 126 mother-infant dyads provided the data. An evaluation of maternal self-criticism and dependency was made six weeks postpartum; four months postpartum, mother-infant self- and interactive contingencies during face-to-face play were studied and analyzed in conjunction with the earlier evaluation. Self- and interactive contingencies were defined by the predictability within, and between, the behaviors of each partner. This approach assesses the *process of relating* from moment to moment within a dyad. Self-contingency measures the degree of stability/variability of one person's ongoing rhythms of behavior; interactive contingency measures the likelihood that one person's behavior is influenced by the behavior of the partner. Infant and mother facial affect, gaze, and touch, and infant vocal affect, were coded second by second from split-screen videotape. Maternal self-criticism and dependency had strikingly different effects on mother-infant communication. Self-critical mothers showed lowered attention and emotion coordination, staying more "separate" from infants in these realms, compromising infant interactive efficacy. This finding is consistent with Blatt and colleagues' descriptions of self-critical individuals as preoccupied with self-definition, compromising relatedness. Dependent mothers and their infants showed reciprocal emotional vigilance, consistent with Blatt and colleague's description of dependent individuals as "empty" and "needy" of emotional supplies from their partner. The study documents that the influence of the mother's personality organization

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operates through both infant and maternal contributions, a co-created process rather than a direct unilateral transmission from mother to infant.

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Sidney Blatt's lifelong research program investigated two fundamental psychological dimensions of adult personality organization: interpersonal relatedness and self-definition. Blatt and colleagues proposed that together these dimensions provide an integrated theoretical matrix that identifies basic continuities among constructs central in personality development, variations in normal personality organization, concepts of psychopathology, and modes of therapeutic action (Auerbach 2016; Blatt 2004; Blatt and Blass 1996; Luyten and Blatt 2015).

Our goal here is to bring to the attention of a clinical audience an empirical study of maternal personality and mother-infant communication. Beebe and colleagues (Beebe et al. 2007) assessed mothers for interpersonal relatedness and self-definition, to investigate whether differences in mother-infant communication patterns could be identified as a function of these two personality dimensions.

When the infants were six weeks old, these two dimensions were assessed in primiparous mothers. The higher ends of the interpersonal relatedness and self-definition scales were termed *dependency* and *self-criticism,* respectively. When the infants were four months old, mother-infant communication was assessed in the domains of attention, emotion, and touch. Detailed second-by-second microanalysis of videotaped interactions revealed striking differences in intra- and interpersonal patterns of mother-infant communication depending on whether the mother was preoccupied with self-criticism or with dependency (Beebe et al. 2007). Because we examined a nonclinical rather than clinical sample, the findings have general relevance. This work identifies a heretofore unexplored influence of dimensions of maternal personality organization on mother-infant communication patterns of attention, emotion, and touch. Thus, dimensions of the mother's personality are seen to affect the behaviors of mothers and infants as they communicate during face-to-face play at four months.

Recent work has also documented other ways in which maternal self-criticism and dependency affect mother-infant interaction. The content of

mothers' speech to infants at four months is affected by dependent and self-critical experiences: mothers who are more dependent use a greater amount of infant-focused speech, whereas mothers tending to the self-critical pole use a greater amount of critical, less positive speech (Kaminer et al. 2007). Infant and mother facial patterns during face-to-face play at twelve months are differentiated by dependent and self-critical maternal experiences (Bromberg et al. 2016; Reale et al. 2012).

We will first briefly review the two personality dimensions of relatedness and self-definition in personality development, after which we will describe the patterns of mother and infant self- and interactive contingency of attention, emotion, and touch at four months that were associated with these two dimensions of maternal personality organization. We will then briefly comment on some implications of our findings for a psychoanalytic perspective on development.

RELATEDNESS AND SELF-DEFINITION IN PERSONALITY DEVELOPMENT

In Blatt's view, personality development progresses through a synergistic transaction in two fundamental dimensions: interpersonal relatedness and self-definition (Blatt 2004; Blatt and Blass 1990, 1996; Blatt and Shichman 1983). The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, and Quinlan 1976, 1979) operationalizes these two personality dimensions. Extensive research using this scale documents that moderate emphasis on one or the other of these two dimensions distinguishes two groups of individuals who, within the nonclinical range, experience and engage life in fundamentally different ways (Blatt 2004; Blatt and Zuroff 1992).

Individuals with greater interpersonal concerns, or with greater concerns about self-definition, are differentially sensitive to various life experiences, have different appraisal patterns regarding conflict and life stresses, and use different coping styles in response to these stressors. More interpersonally oriented individuals are more responsive to disruptions in interpersonal relations and respond to these disruptions by seeking compromise and avoiding conflict and confrontation. They value emotional closeness and seek to maintain interpersonal relatedness, and they can become apprehensive about loss and abandonment. Individuals with greater concerns about self-definition respond primarily to disruptions of self-esteem, and may react with either resignation or heightened

counteractive responses to prove themselves (Blatt 2004). Their interpersonal relations are relatively conflicted and often marred by anger, resentment, and maladaptive conflict resolution. They are often aloof, distant, socially isolated, and vulnerable to considering themselves a personal and social failure.

Many types of psychopathology involve intense preoccupation with either relatedness or self-definition, to the neglect or defensive avoidance of the other dimension (Blatt 1995; Blatt and Shichman 1983). For example, Blatt and colleagues (Blatt, D'Afflitti, and Quinlan 1976, 1982) and Beck (1983) identified two types of depression: (1) an anaclitic (dependent or sociotropic) depression in which themes of helplessness, loneliness, and dependency predominate; and (2) an introjective depression in which concerns about self-definition and self-worth are expressed in intense feelings of self-criticism, failure, and guilt. Extensive research (see summaries in Blatt 2004; Blatt and Zuroff 1992; Luyten and Blatt 2015) indicates that these two types of depressed individuals have different early experience with their parents (Blatt and Homann 1992) and have different types of precipitating events. Similar descriptions of these two types of depression can be found in earlier work. Abraham (1924) and Freud (1917) described a form of depression in which aggression is turned against the self, similar to the introjective depression of self-critical individuals. Kohut and Wolf (1978) described an empty depression, similar to aspects of anaclitic depression, characteristic of dependent individuals.

The two types of depression derive from different types of early experience that create differential vulnerabilities to depressive experience. These vulnerabilities are focused on either disruptions of interpersonal relatedness or issues of self-definition and self-worth. Some types of early negative life experience (such as neglect) can predispose some people to be especially vulnerable to feelings of abandonment, loss, and emptiness. Other types of early negative life experience (e.g., the imposition of harsh, punitive, judgmental standards) can create vulnerabilities to feelings of failure and of being criticized (Blatt 2004).

Research using these two personality dimensions has focused on their implications for adult functioning, or to a lesser degree on the developmental antecedents of the dimensions. By contrast, our research focuses on the consequences for mother-infant self- and interactive contingency during four-month face-to-face communication when mothers endorse the higher ends of these two personality dimensions.

THE MEANING OF HIGHER AND LOWER DEGREES OF SELF- AND INTERACTIVE CONTINGENCY

Our focus is the dyadic temporal process, contingency analyses of the moment-to-moment sequence of behaviors. Contingency is defined as a predictable temporal association between behaviors (Tarabulsy, Tessier, and Kappas 1996). This approach assesses the *process of relating* within a dyad. For mother and infant attention, emotion, and touch, we evaluate two dimensions of contingencies within the dyadic encounter: (1) within each individual's behavioral stream, *self-contingency;* and (2) between the two partners' streams, *interactive contingency*. Interactive contingency is often termed *interactive regulation* (see Beebe and Lachmann 2002; Tronick 1989)

Infants have remarkable capacities to detect regularities in events, to perceive temporal sequences and contingencies, and to predict when events will occur (DeCasper and Carstens 1981; Haith, Hazan, and Goodman 1988; Watson 1985). They perceive temporal relations between environmental events, and between their own behavior and environmental consequences. Infants are sensitive to how their behavior is contingently responded to, and they differentiate the relative degree of partner-contingent coordination (Bigelow 1998; DeCasper and Carstens 1981; Hains and Muir 1996; Haith, Hazan, and Goodman 1988; Murray and Trevarthen 1985; Millar 1988; Tarabulsy, Tessier, and Kappas 1996; Watson 1985).

Self-contingency taps one specific dimension of self-regulation, that is, the procedural anticipation of where one's own behavior is tending in the next moments. It generates expectancies of the degree to which one can anticipate the rhythm of one's own behavior: how predictable, how stable, how variable one's behaviors are, from moment to moment. Varying degrees of self-contingency generate expectancies regarding the predictability of one's own behavior. Lowered self-contingency is translated into the metaphor of "self-destabilization." Lowered infant self-contingency, for example, may make it harder for mothers to anticipate the infant's ongoing behavioral stream, and for infants to anticipate their own behavior. Heightened self-contingency indicates behavior tending toward an overly steady, nonvarying process, translated into the metaphor of "self-stabilization" (see Beebe et al. 2016).

Interactive contingency generates expectancies of whether, and how closely, each partner coordinates with the other; expectancies of "how I affect you" and "how you affect me." In earlier work we interpreted high interactive

contingency as an effort to create greater predictability in contexts of novelty, challenge, or threat, translated into "activation" or "vigilance"; and low coordination as "inhibition" or "withdrawal" (Jaffe et al. 2001). Vigilance for social signals is an important aspect of social intelligence, likely an evolutionary advantage when facing uncertainty or threat (Ohman 2002). The partner's lowered interactive contingency compromises the individual's ability to anticipate the consequences of his own actions for the partner: the individual has lowered interactive agency.

APPROACH

Our sample was a low-risk, nonclinical group of mothers (average age twenty-nine) who had just undergone their first pregnancy. Ethnically diverse (53% Caucasian, 28% Hispanic, 17.5% Black, 1.5% Asian), they were well-educated (59.1% had at least a bachelor's degree). Of the 126 healthy first-born infants in the study, 54 were female.

When their infants were approximately six weeks old, the mothers were asked to complete the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, and Quinlan 1979). This instrument measured maternal self-criticism and dependency at this early stage and allowed us to determine whether this maternal vulnerability would be associated with interactions two and a half months later, when the infants would be four months old. The DEQ is a 66-item, 7-point self-report scale tapping vulnerability to depressive experience rather than symptoms. Self-criticism and dependency factor loadings for a female sample were used. Internal consistency (coefficient alpha) is .81 for dependency, .80 for self-criticism (Blatt et al. 1982).

When the infants were four months old, mothers and infants were invited to the lab to participate in a filming of face-to-face interaction. Mothers were instructed to play with their infants as they would at home, but without toys. Two cameras, one on the mother and one on the infant, generated a split-screen view of each person's face and upper torso.

The first two and a half minutes of uninterrupted continuous mother-infant play interaction were chosen for microanalysis. A 2.5-minute sample of behavior is standard in the literature (Beebe et al. 2010; Tronick 1989). Mother-infant face-to-face interaction has a relatively stable structure with robust session-to-session reliability (Cohn and Tronick 1988; Moore, Cohn, and Campbell 1997; Weinberg and Tronick 1991). In past work, 2.5 minutes of mother–infant interaction at second months, coded on a 1-second time-base, was sufficient to identify communication disturbances

associated with maternal depression (Beebe et al. 2008) and anxiety (Beebe et al. 2011), as well as 12-month insecure infant attachment patterns (Beebe et al. 2010). Ambady and Rosenthal's meta-analysis (1992) showed that accuracy in predicting interpersonal consequences from nonverbal communication did not differ among observations varying from 30 seconds to 5 minutes; samples under 5 minutes did not differ from longer samples.

We coded mother and infant videotaped behaviors separately on a 1-second time base and created ordinal scales of these behaviors. We used these ordinal scales to define separate communication modalities of mother and infant *attention* (gaze on/off partner's face), *facial affect* (positive to negative facial expressions), *infant vocal affect* (infant positive to negative vocal contours), and mother and infant *touch* (mother touch from affectionate to intrusive; infant touch self, touch mother, touch object: ordinalized by frequency of touch, from no-touch, to one type of touch, to two or more types of touch, per second.). Reliability estimates of ordinalized scales were assessed in thirty randomly selected dyads (tested in three waves to prevent coder "drift"). The mean Cohen's Kappa on infant and mother ordinalized scales was .80 (range per scale was .68–.90). (For definitions of the behavioral codes for the ordinalized scales, see Beebe et al. 2007.) The ordinalized ratings of these behaviors were used to create five mother-infant modality pairings: (1) infant gaze / mother gaze; (2) infant facial affect / mother facial affect; (3) infant vocal affect / mother face; (4) infant vocal affect / mother touch; (5) infant touch / mother touch.

Multilevel time-series models evaluated the course of behavior second by second either within the individual (self-contingency) or between mother and infant (interactive contingency) across the group. (For details of statistical models, see Chen and Cohen 2006.) A conditional effects model then examined the effect of maternal self-criticism and dependency on self- and interactive contingency, for each modality pairing (e.g., mother gaze / infant gaze). (For further details of method and data analysis, see Beebe et al. 2007.)

RESULTS AND DISCUSSION

Maternal personality dimensions of heightened self-criticism and dependency altered infant and maternal contingent patterns of relating through attention, emotion, and touch. Because contingent patterns of relating generate expectancies of what will happen next, both in the self and in the

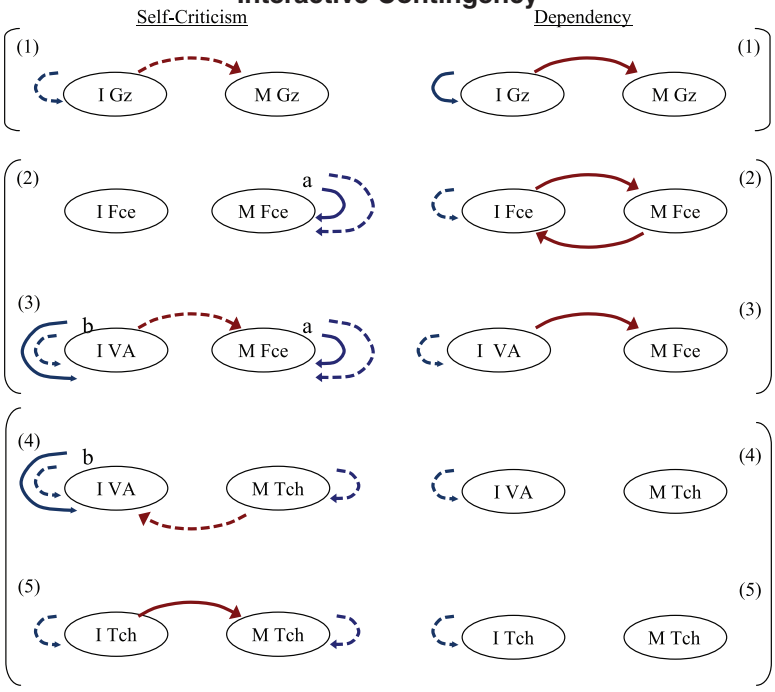
partner, these altered expectancies may influence the infant's trajectory of development. We first present the picture of the effects of higher (vs. lower) maternal self-criticism on mother-infant communication; followed by the picture of the effects of higher (vs. lower) maternal dependency on mother-infant communication.

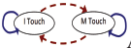
The Picture of Higher (vs. Lower) Maternal Self-Criticism

Gaze. The more self-critical mothers lowered their gaze coordination with their infant's gaze (see Figure 1, pairing 1), an attentional withdrawal. They were less likely to join their infants in mutual gaze as the infants looked at their mother's face; and they were less likely to follow their infant's gaze when the infant looked away. Thus, the more self-critical mothers did not pay as much attention to their infant's visual availability as mothers with lower self-criticism. Attention to the partner's direction of gaze is a critical foundation of the mother-infant face-to-face encounter (Brazelton, Koslowski, and Main 1974; Tronick 1989). Self-critical mothers may misinterpret their infant's gaze aversion as rejection, as a failure in their mothering, or they may be preoccupied with feelings of inadequacy. Any of these feelings might disturb their monitoring of infant visual availability (Kaminer et al. 2007). Additionally, lowered infant gaze self-contingency was associated with higher maternal self-criticism. In this finding, the infant's pattern of looking and looking away is less predictable, which may make it harder for mothers to anticipate and coordinate with infant looking patterns, contributing to lowered maternal gaze coordination.

Facial and vocal affect. The more self-critical mothers lowered their facial coordination with infant vocal affect shifts (pairing 3), an emotional withdrawal. These mothers were less likely to become facially positive as their infants became more vocally positive; and they were less likely to show facial concern (such as woe-face) as infants became vocally more distressed. Clinically this manifests as a disturbance in maternal ability to share positive moments, and a disturbance in maternal facial empathy with infant vocal distress. This maternal pattern lowers infant interactive efficacy. Infants are less able to expect that their behavior (more positive and more negative vocal affect) leads to predictable maternal "following" of their affect, joining them, acknowledging their state. These mothers may be too preoccupied with their own concerns about self-definition and self-worth, or they may feel too inadequate, to

Figure 1. Effects of Higher Maternal Self-Criticism and Dependency on Mother and Infant Self- and Interactive Contingency





Arrows which curve from infant to mother represent maternal interactive contingency (lagged infant behavior in the prior 3 seconds predicts maternal behavior in the current second; vice versa for infant); Arrows which curve back into one partner's behavior represent self-contingency. *Unbroken* arrows indicate *increased* contingency as mother DEQ increases. *Broken* arrows indicate *decreased* contingency as mother DEQ increases. *Absence* of arrows represents *no effects* of DEQ on contingency. Gz = gaze, Fce = facial affect, VA = vocal affect, Tch = touch.

[a]With increasing self-criticism, most mothers showed lowered facial self-contingency. However, for the *most* self-critical mothers, facial self-contingency began to increase.

[b]With increasing maternal self-criticism, most infants showed heightened vocal affect self-contingency. However, for infants of the *most* self-critical mothers, infant vocal affect self-contingency was lowered.

engage in this emotional arena, similar to the lowered empathy of self-critical adults (Zuroff and Mongrain 1987).

Mothers also showed complex facial self-contingency findings (pairings 2, 3). With increasing self-criticism, most mothers showed

lowered facial self-contingency, a destabilization. However, for the *most* self-critical mothers, facial self-contingency began to increase. These mothers began to be more facially stable, a mode of "closing up one's face," which carries an inscrutable quality. Moreover, the pattern of the most self-critical mothers is one of imbalance between self- and interactive regulation: as self-contingency increases, interactive contingency decreases. In this pattern the most self-critical mothers resemble Tronick's description (1989) of infants of depressed mothers as withdrawing from engagement into preoccupation with self-regulation.

With higher maternal self-criticism, infants showed complex vocal affect self-contingency findings. These findings may be related to maternal emotional withdrawal. As maternal self-criticism increased, most infants increased their vocal affect self-contingency, interpreted as a self-stabilizing coping effort. However, for the infants of the most self-critical mothers, infant self-contingency began to decrease, a self-*de*stabilization. We conjecture that infants of mothers at this highest end of the range of self-criticism begin to have more difficulty. Reciprocally, lowered infant vocal affect self-contingency may make it even harder for these most self-critical mothers to anticipate and coordinate emotionally with their infants. This is a co-created pattern.

Touch. The more self-critical mothers *increased* their contingent touch coordination with infant touch (pairing 5). Across the group, the positive correlation indicated that as infants touched more, maternal touch patterns were more affectionate, and vice versa: as infants touched less, mothers were more likely to use less affectionate patterns. This association was heightened for self-critical mothers, indicating that they are more sensitive or reactive in the realm of touch.

At the same time, the more self-critical mothers showed lowered touch self-contingency, a more variable, less predictable pattern. Moreover, they showed a self- vs. interactive regulation imbalance. Thus, mothers were overly coordinated with infants, at the expense of self-stability, in the touch realm. Self-critical mothers may "overcompensate" through heightened touch coordination for their withdrawal through facial and visual coordination (see Moreno, Posada, and Goldyn 2006). They have difficulty tuning in to the facial-visual (emotional) sphere but can relate on the more concrete level of touch.

Infants of more self-critical mothers showed lowered touch self-contingency, a more variable, less predictable pattern, which may make it

harder for mothers to anticipate and coordinate with them. Nevertheless, the more self-critical mothers heightened their touch coordination with infant touch shifts, despite the lowered infant touch self-contingency. Thus, self-critical mothers seemed to be working hard to coordinate their touch patterns with their infant's touch.

Infants of self-critical mothers lowered their vocal affect coordination with maternal touch (pairing 4), precisely the modality in which mothers were overresponsive (pairing 5). This infant finding is interpreted with caution because of a small, albeit significant, association. Whereas infants of less self-critical mothers were more likely to become vocally positive as their mother became affectionate in touch patterns (and vice versa), infants of more self-critical mothers were less likely to do so. Combining the findings of pairing 4 and pairing 5, the mothers "approach," that is, coordinate with their infants carefully through touch, while the infants "withdraw," that is, show lower vocal affect coordination with maternal touch patterns.

Infant vocal affect self-contingency findings (pairing 4) were complex. With increasing maternal self-criticism, most infants heightened their vocal affect self-contingency, interpreted as a coping effort to self-stabilize. However, for infants of the most self-critical mothers, infant vocal affect self-contingency was lowered, a "self-destabilization."

We summarize the picture of higher maternal self-criticism as follows. More self-critical mothers lowered their gaze coordination with their infant's gaze patterns, lowered their facial affect coordination with the infant's vocal affect patterns, and heightened their touch coordination with the infant's touch patterns. We interpret these findings in the following ways. Self-critical mothers have difficulty joining their infant's attention patterns, and difficulty entering their infant's emotional ups and downs. They compensate by becoming overly involved with touch, a more concrete modality than facial affect, vocal affect, or gaze. Together these mothers and infants generated a pattern of mother "approach" through touch, but infant "withdraw" from maternal touch. Every measure of self-contingency was altered by maternal self-criticism (except facial affect for infants and gaze for mothers).

These findings are consistent with Blatt and colleagues' descriptions of self-critical individuals as preoccupied by self-definition, compromising relatedness (Blatt et al. 1992). These mothers stay "separate" from their infants in attentional and emotional realms, compromising infant

interactive efficacy. Where mothers may compensate through heightened touch coordination, infants withdraw, lowering their vocal affect coordination with their mother's touch. Thus, like their mothers, infants seem to stay "too separate."

The Picture of Higher (vs. Lower) Maternal Dependency

Gaze. The more dependent mothers *heightened* their gaze coordination with their infant's on/off gaze patterns, which indicates an attentional vigilance. This finding is opposite the withdrawn gaze coordination of self-critical mothers (see pairing 1, Figure 1). Maternal gaze vigilance may reflect excessive maternal concern with infant visual availability. Infants of more dependent mothers heightened their gaze self-contingency. This finding indicates that infants were more likely to stay in the same gaze state. That is, once looking, these infants were more likely to continue looking; once looking away, they were more likely to remain looking away. This is a more slowly moving process between infant gaze-on and -off, with which mothers closely coordinated. However there were no differences in the amount of gaze-on or -off in these infants. Longer gaze at their mothers is likely to be more arousing for these infants; longer gaze-off gives them more time to down-regulate arousal (Field 1981). We infer a social vigilance, likely accompanied by emotional activation (Ohman 2002). Infants seem to be working hard at arousal regulation through stabilizing gaze self-contingency.

Facial and vocal affect. The more dependent mothers heightened their facial coordination with infant facial affect and vocal affect (pairings 2, 3), which indicates a maternal emotional vigilance. This finding is opposite the emotional withdrawal of self-critical mothers. Heightened maternal facial coordination indicates that mothers are more likely to follow the direction of infant affective change: as infants become more positive in facial or vocal affect, mothers similarly become more positive; as infants become less positive, mothers become less positive. Infants of more dependent mothers reciprocally heightened their facial coordination with maternal facial affect shifts (pairing 2), a mutual facial vigilance. Thus, both partners were overreactive to the other's affective shifts. Symmetrical facial vigilance may become a dyadic "state" of its own, sensed and known by both partners, as a particular mode of heightened engagement (Tronick1998).

These infants also showed lowered facial affect self-contingency, a more variable, less predictable process. Lowered infant facial affect

self-contingency, together with heightened infant facial affect *interactive* contingency, indicates a more interpersonally oriented style, in which interpersonal facial vigilance is accentuated. Whereas lowered infant facial and vocal affect self-contingency may make it harder for mothers to anticipate and coordinate with their infants, dependent mothers nevertheless heightened their contingent coordination with their infant's facial and vocal affect shifts. Thus, dependent mothers seemed to be working hard to coordinate with their infant's affective shifts.

Maternal vigilant facial coordination can be described as emotional "hovering." Mothers may be overly "thrilled" as their infant becomes positive, and overly disappointed as the infant becomes negative. We suggest that dependent mothers may overuse their infant's affective states to regulate their own, perhaps to see if they are loved. What might the infants of more dependent mothers be experiencing during this process of maternal vigilant facial coordination with their own facial and vocal affect shifts? Infants sense a greater impact of their own facial and vocal affect on their mother. Thus, infants may sense a heightened "efficacy," which may set the stage for the child's eventual feeling of having "too great" an impact on the mother's emotional states.

We summarize the picture of higher maternal dependency as follows. All interactive contingency findings were heightened, a striking pattern. This pattern held even more for mothers than for infants. This dyadic social vigilance is likely accompanied by emotional activation/arousal (Ohman 2002). Maternal heightened gaze and facial coordination indicate excessive maternal concern about the infant's visual and emotional availability, and excessive involvement in the infant's emotional (facial/vocal) ups and downs. Mothers and infants together generated mutual facial vigilance, in which both were overreactive to the other's affective shifts. Infants showed robustly lowered self-contingency in facial affect, vocal affect, and touch, which we interpreted as a self-destabilization. There was one exception, overstabilized infant gaze self-contingency, which we interpreted as an infant effort to down-regulate arousal. Whereas every infant measure of self-contingency was altered by maternal dependency, maternal self-contingency findings were strikingly absent.

The picture of reciprocal emotional vigilance in more dependent mothers and their infants is consistent with Blatt's description (2004) of dependent individuals as "empty" and "needy" of emotional supplies from their partners. The striking absence of maternal self-contingency findings

is consistent with Blatt and colleagues' theory that the disturbance in dependent individuals is specifically interpersonal. It is remarkable that infants also show the vigilant facial pattern, a dyadic symmetry. Dependent mothers' preoccupation with maintaining attentional as well as emotional engagement is a picture of "hovering" that may interfere with the infant's own "room to grow" (see Bergman and Fahey 1999). The symmetrical infant preoccupation with facial coordination, at the expense of facial self-contingency, may be consistent with Blatt's findings (2004) that children of more dependent mothers have greater difficulty with individuation.

Significance of Maternal Personal Dimensions for Infant Development

In summary, maternal self-criticism and dependency generated strikingly different pictures of four-month mother-infant communication difficulties in face-to-face play, consistent with Blatt's theories. This level of specificity is remarkable.

This work provides empirical documentation of heretofore unexplored influences of dimensions of maternal personality organization, that is, preoccupation with issues of relatedness (dependency) and self-definition (self-criticism), on mother-infant communication patterns of attention, emotion, and touch. Dimensions of the mother's personality affect the behavior of both infants and mothers as they communicate during face-to-face play.

The usual approach to studying the influence of maternal personality on child development is an effort to understand how maternal personal/interpersonal qualities are transmitted from mother to child. We disagree with this model of direct transmission; we do not use the term "transmission" of maternal self-criticism and dependency personality dimensions to the infant. Instead, our work documents that the influence of the mother's personality operates through both infant and maternal contributions, a "co-created" process, consistent with the work of Sameroff (2010). Thus, the way the mother's personality affects the infant is partly constructed by the infant's own self- and interactive patterns. And these infant patterns reciprocally influence the mother's own self- and interactive patterns, and vice versa.

We conjecture that these early mother-infant patterns bias the trajectory of development, altering eventual procedural representations of self and other. However, longitudinal follow-up of these dyads would be required to generate any implications of these early mother-infant

communication patterns for the infant's eventual personality organization as a child and an adult. Such a longitudinal follow-up is under way.

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