Freud (1930/1957) identified a fundamental polarity in personality development when he noted that "the development of the individual seems . . . to be a product of the interaction between two urges, the urge toward happiness, which we usually call 'egoistic,' and the urge toward union with others in the community, which we call 'altruistic'" (p. 140). He also observed, "The man who is predominantly erotic will give the first preference to his emotional relationship to other people; the narcissistic man, who inclines to be self-sufficient, will seek his main satisfactions in his internal mental processes" (p. 140).

In contrasting the urge toward egoism with the urge toward union with others in the community, Freud (1930/1957) noted that these "two processes of individual and of cultural development must stand in hostile opposition to each other and mutually dispute the ground" (p. 141). He extended this polarity by distinguishing anxiety and guilt.
due to aggression and to the internalization of authority in the super-ego—both of which are related to the ego instincts and issues of mastery—from social anxiety that involves primarily the fear of the loss of love and contact with others. Freud (1914/1957, 1926/1959) also distinguished between object and ego libido and between libidinal instincts in the service of attachment and relatedness and aggressive instincts necessary for autonomy, mastery, and self-definition. Although there is no known citation for the comment, Freud also made the distinction between relatedness and self-definition in his often-quoted statement that the two major tasks of life are "to love and to work." Loewald (1962) was impressed with Freud's extensive use of this polarity and noted that Freud's exploration of

these various modes of separation and union . . . [identify a] polarity inherent in individual existence of individuation and "primary narcissistic union"—a polarity that Freud attempted to conceptualize by various approaches but that he recognized and insisted upon from beginning to end by his dualistic conception of instincts, of human nature, and of life itself. (p. 490)

This chapter presents theoretical formulations that extend this fundamental psychoanalytic polarity between object and ego libido, between libidinal instinctual forces in the service of attachment (or relatedness) and aggressive instinctual forces in the source of self-definition. We discuss aspects of this polarity and how it defines the dimensions of a complex, fundamental, dialectic developmental process that is central to understanding normal personality development as well as a wide range of psychopathology.

The first half of this chapter summarizes a theoretical model of personality development and psychopathology that focuses on the complex intertwining of these two major dimensions (Blatt, 1991, 1995; Blatt & Blass, 1990, 1996; Blatt & Shichman, 1983). These theoretical formulations based primarily on adults guided us in further exploration of a data set that had been established to evaluate aspects of mother–infant interaction at 3 and 9 months and the relationship of aspects of the children's functioning at 2 years of age. Thus, the second half of this chapter presents further analyses of these data gathered on mother–infant interaction in an attempt to identify early precursors of relatedness and self-definition that appear to be central to personality development and psychopathology in adults.
A Model of Personality Development and Psychopathology

Personality development involves the evolution of (a) the capacity for reciprocal, mutually satisfying, intimate interpersonal relationships and (b) an essentially positive, realistic, well-differentiated, and integrated sense of self. These two dimensions, also referred to as communion and agency or relatedness and identity, are established in interpersonal interactions throughout the life cycle, beginning with the earliest experiences of the infant in the caring relationship with the mother. This development involves cognitive–affective schemas (or representations) of self and others and of their actual and potential interactions, established as the child matures and experiences various developmental demands. When developmental perturbations are age-appropriate and not severe, the child’s existing cognitive schemas accommodate the experienced perturbations, thereby leading to the development of more comprehensive and mature representations of self and others.

Concepts of self and of others develop in a reciprocal or dialectic interaction so that further differentiation occurs in the representation of both self and others as well as the representation of the relationship between them. The emerging sense of self facilitates the development of more mature levels of interpersonal relatedness, and, conversely, new forms of relatedness facilitate the development of new levels in the sense of self. In normal development, these two lines of self-definition and relatedness emerge in a mutually facilitating and synergistic fashion throughout the life cycle, from infancy to senescence. This process usually unfolds in a natural, well-defined dialectical process: The consolidation of identity is contingent on establishing satisfying relationships, and the formation of increasingly mature interpersonal experiences depends on the formation of a more differentiated sense of self (Blatt, 1991, 1995; Blatt & Blass, 1990, 1996; Blatt & Shichman, 1983).

Psychoanalytic theorists other than Freud also have addressed this polarity. Bowlby (1969, 1973), from an ethological viewpoint, explored the two groups of instincts—libido and aggression—and how they create the emotional substrate for human personality as expressed in strivings for attachment and separation. Adler (1951) discussed social interest and self-perfection. He viewed neurosis as the consequence of
a distorted overemphasis on self-enhancement in the absence of sufficient social interest. Pampering (overprotection, overindulgence, and overdomination) or rejection leads to feelings of inadequacy and selfishness and a lack of independence. Rank (1929) also discussed self- and other-directedness and their relationship to creative and adaptive personality styles. Horney (1945, 1950) characterized personality as moving toward, moving against, or moving away from interpersonal contact. Balint (1959), from an object relations perspective, also discussed the centrality of these two dimensions: a clinging or connectedness (an ocnophilic tendency) as opposed to self-sufficiency (a philobatic tendency). Shor and Sanville (1978), based on Balint's formulations, discussed psychological development as involving a fundamental oscillation between "necessary connectedness" and "inevitable separations," or between "intimacy and autonomy."

A number of nonpsychoanalytic personality theorists, using a variety of different terms, have also discussed relatedness and self-definition as central processes. Angyal (1941, 1951), for example, discussed surrender and autonomy as two basic personality dispositions. Surrender for Angyal (1951) is the desire to seek a home, to become part of something greater than oneself, whereas autonomy represents a "striving basically to assert and to expand . . . self-determination, [to be] an autonomous being, a self-governing entity that asserts itself actively instead of reacting passively. . . . This tendency . . . expresses itself in spontaneity, self-assertiveness, striving for freedom and for mastery" (pp. 131–132). Bakan (1966), similar to Angyal, defined communion and agency as basic aspects of personality development. Communion for Bakan (1966) is a loss of self and self-consciousness in a merging and blending with others and the world. It involves feeling a part of and participating in a larger social entity; being at one with others; feeling in contact or union; and experiencing a sense of openness, cooperation, love, and eros. Agency, in contrast, is a pressure toward individuation that Bakan believed permeates all living matter; it emphasizes being a separate individual and being able to tolerate isolation, alienation, and aloneness. The predominant themes in agency are self-protection, self-assertion, self-expansion, and an urge to master the environment and make it one's own. The basic issues are separation and mastery.

Bakan's communion and Angyal's surrender both define a profound desire for union in which the person seeks to merge or join with other people and with the inanimate environment in order to achieve a
greater sense of participation and belonging. Communion and surrender refer to a stable dimension of personality organization directed toward interdependent relationships with others. Themes of dependency, mutuality, and unity characterize this element of life.

Agency (Bakan) and autonomy (Angyal) both define a basic striving toward individuation—a seeking of separation from others and from an attachment to the physical environment, as well as a fuller differentiation within oneself. Agency and autonomy both refer to a stable dimension of functioning that emphasizes separation, individuation, control, self-definition, and autonomous achievement—the striving for uniqueness and the expression of one's own capacities and interests (Friedman & Booth-Kewley, 1987). Communion (or surrender)—the emphasis on connectedness, attachment, and a movement toward a sense of belongingness to and sharing with others (another person, group, or society)—serves as a counterforce to experiences of loneliness and alienation that can occur in agency and autonomy. Conversely, uniqueness and self-definition serve as a counterforce to experiences of a loss of individuality that can occur in surrender and communion.

Research investigators of personality development also have discussed similar phenomena. Gilligan (1982), for example, stressed the importance of including interpersonal responsibility as well as investment in individual rights and principles of justice as two dimensions of moral development. McAdams (1980) discussed motives for affiliation (or intimacy) and achievement (e.g., McClelland, 1986; McClelland, Atkinson, Clark, & Sowell, 1953) or power (Winter, 1973) as central dimensions of personality organization. In a series of studies of life narratives, McAdams (1985) identified two central themes or dominant clusters: (a) themes of intimacy (e.g., feeling close, warm, and in communication with others) and (b) themes of power (e.g., feeling strong and influential in one's environment). Individuals rated high on intimacy motivation spoke frequently of reciprocal, harmonious, interpersonal interactions and participation in social groups and express a "recurrent preference or readiness for experiences of warmth, closeness and communicative exchange" (McAdams, 1985, p. 76). He defined this intimacy motive as a "recurrent preference or readiness for experiences of warmth, closeness and communicative exchange" (p. 76). Individuals rated high on this motive often portrayed themselves as a helper, lover, counselor, caregiver, and friend. In contrast, people related high on power motivation spoke frequently of self-protection, self-assertion, and self-expansion. They sepa-
rated themselves from the social context and expressed needs for mastery, achievement, movement, force, and action. McAdams (1985) defined this power motive as “a recurrent preference or readiness for experiences of having impact and feeling strong and potent vis-à-vis the environment” (p. 84). Individuals rated high on the power motive often spoke of themselves as a traveler, master, father, authority, or sage.

Wiggins (1991), an empirically based personality investigator, argued that agency and communion should serve as primary conceptual coordinates for the measurement of interpersonal behavior and as the fundamental coordinates of a trait language for describing personality functioning. Wiggins (1991) noted that the circumflex and five-factor models of personality that have been useful in the conceptualization and measurement of interpersonal acts, traits, affects, problems, and personality disorders are “derived from the metaconcepts of agency and communion” (p. 107). Although agency and communion may not by themselves capture the broad spectrum of individual differences that characterize human transactions, Wiggins (1991) concluded that they “are propaedeutic to the study of [the] . . . determinants of interpersonal behavior” (p. 109). Spiegel and Spiegel (1978) also discussed the importance of these two dimensions of intimacy and power (McAdams), communion and agency (Bakan), or surrender and autonomy (Angyal), and drew a parallel between these two personality dimensions and two fundamental natural forces—fusion and fission or integration and differentiation.

The Synergistic Developmental Dialectic Between Relatedness and Self-Definition

Consensus, from a number of theoretical positions, concludes that normal personality development involves the evaluation of two basic dimensions: a capacity for interpersonal relatedness and the development of self-definition (Stewart & Malley, 1987). However, personality development also involves an integration of these dimensions. Both Angyal and Bakan emphasized the simultaneous need for differentiation as well as integration and the need to establish a constructive resolution of these opposing polarities. Angyal (1951, pp. 135–136), like Bakan, stressed that the major task in life is to achieve a compromise and balance between these two forces so that both are represented fully in one’s experiences. Increased autonomy, mastery, and a capacity to govern one’s life and environment is best done not by force or
violence but by understanding and respect for laws and rules of the social matrix—attitudes toward society similar to those involved in forming loving relationships. Similarly, a loving relationship requires not only a capacity for relinquishing one's autonomy and agency to some degree; it also requires a capacity for mastery of one's environment, resourcefulness, and self-reliance, without which a relationship is in danger of deteriorating into helpless dependency, exploitation, and possessiveness. Bakan (1966) discussed the importance of the individual's being able to maintain a dynamic tension between agency and communion, between surrender and autonomy. Kobasa, Maddi, and Kahn (1982) also discussed the blend of communion and agency, of intimacy and power needs, as central to the development of psychological well-being and hardiness. McClelland (1986) discussed the most mature form of power motive as being based on an essential integration of autonomy and affiliation. McAdams (1985) found that an integration of power and intimacy motivation in stories given to cards of the Thematic Apperception Test was correlated with a capacity to portray constructive action scripts that are future oriented and high on generativity. Power and intimacy are integrated by establishing a clear agential sense of self and also dedicating and devoting oneself to establishing intimate exchange with others. A mature identity according to McAdams (1985) is based on a sense of "sameness and continuity which provides unity and purpose" (p. 28). It requires both individuation and connectedness, an integration of identity formation and interdependence, and a continuity and a separation from one's past and one's environment, as well as a sense of the future and the capacity to establish new connections. According to Erikson (1982), "a mature sense of identity means a sense of being at one with oneself as one grows and develops; and it means, at the same time, a sense of affinity with a community's sense of being at one with its future as well as its history—or mythology" (pp. 27–28).

Shor and Sanville (1978) similarly discussed personality development as "oscillating between necessary connectedness and inevitable separateness . . . as a dialectical spiral or helix which interweaves the two dimensions of development, intimacy and autonomy. The pace and style of oscillation and the transitions between these two axes will vary for each person and map out his particular life history, his individual pattern of growth" (p. 121). They viewed the capacity for adult intimacy and love as a product "of an intense search to formulate
one's individual identity and, once having formed it, to risk to suspend concern with oneself while focusing on the qualities of a potential mate" (Shor & Sanville, 1978, p. 121).

The importance of the interplay of interpersonal relatedness and self-definition in normal development is also seen in the developmental psychoanalytic formulations of Mahler and her colleagues and in the work of Stern. Stern (1985) presented a theory of the development of a sense of self but did so through describing children's emerging relatedness with the caring agent(s) with whom they develop a sense of empathic relatedness and intersubjectivity. The development of object relations (e.g., object constancy) was described by Mahler, Pine, and Bergman (1975) through the process of separation-individuation in periods of separation, practicing, and rapprochement. Both Mahler and Stern demonstrated how the sense of self and interpersonal relatedness develop as a complex dialectic process and are basic dimensions essential for psychological maturity. Thus, although these dimensions constitute two fundamental lines in personality development, the relationship between them goes well beyond parallel processes or a simple interaction or integration. Rather, the relationship involves a complex dialectical process throughout the life cycle in which progress along each line is essential for progress in the other (Blatt & Blass, 1990, 1992, 1996; Blatt & Shichman, 1983). Both of these developmental processes are expressed in unique ways at various points throughout the developmental process.

The dialectic synergistic development of the concept of the self and of the relationship with others can probably best be illustrated by an elaboration of Erikson's (1950) epigenetic model of psychosocial development. Erikson's model, although presented basically as a linear developmental process, implicitly indicates that normal personality development involves the mutually facilitating development of self-definition and interpersonal relatedness. If one includes in Erikson's model an additional stage of cooperation versus isolation (occurring around the time of the development of peer play and the initial resolution of oedipal crisis at about ages 4 to 6 years) and places this stage at the appropriate point in the developmental sequence between "initiative versus guilt" and "industry versus inferiority" (Blatt & Shichman, 1983), then Erikson's epigenetic model of psychosocial development illustrates the complex transaction between interpersonal relatedness and self-definition throughout the life cycle. Erikson initially emphasized interpersonal relatedness in his discussion of
trust versus mistrust, followed by two stages of self-definition, autonomy versus shame and initiative versus guilt. This was followed by another stage of interpersonal relatedness, cooperation versus isolation, followed by two stages of self-definition, industry versus inferiority and identity versus role diffusion. The following stage, intimacy versus alienation, was again clearly a stage of interpersonal relatedness, followed by two more stages of self-definition, generativity versus stagnation and integrity versus despair (Blatt & Shichman, 1983).

This reformulation of Erikson's model (Blatt, 1991, 1995; Blatt & Blass, 1990, 1996; Blatt & Shichman, 1983) corrects the deficiency noted by a number of theorists (e.g., Franz & White, 1985) that Erikson's model tends to neglect the development of interpersonal attachment. The inclusion of a relational dimension as an integral aspect of personality development to complement the more usual emphasis on individuation and self-definition is consistent with the call by feminist theorists (e.g., Chodorow, 1978; Gilligan, 1982; Miller, 1976, 1984), who point out the failure to give equal status to the development of interpersonal relatedness in most theories of personality development. It is also consistent with the extensive research and theory of the past two decades that demonstrate the importance of attachment (e.g., Ainsworth, 1969; Bowlby, 1969, 1973), the processes of separation-individuation (e.g., Mahler et al., 1975), and the growth of the capacity for mutuality and empathy (e.g., Stern, 1985) in personality development.

The articulation of an attachment developmental line broadens Erikson's model and more clearly demonstrates the dialectic developmental transaction between relatedness and self-definition implicit in Erikson's model. Relatedness and individuality (attachment and separation) both evolve through a complex interactive process. The evolving capacities for autonomy, initiative, and industry in the individuality line develop parallel to a capacity for relatedness—to engage with and trust another; to cooperate and collaborate in activities with peers (e.g., play); to develop a close friendship with a same-sex chum; and eventually to experience and express feelings of mutuality, intimacy, and reciprocity in a mature, intimate relationship. Normal development involves a coordination between the evolving capacities along these two lines. For example, one needs a sense of basic trust to venture in opposition to the need-gratifying other in asserting one's autonomy and independence, and later one needs a sense of autonomy and initiative to establish cooperative and collaborative relation-
ships with others. Although these two developmental lines interact throughout the life cycle, they remain relatively independent of each other through the early developmental years.

**Relatedness and Self-Definition in Normal Personality Styles**

Although normality can be defined ideally as an integration of interpersonal relatedness and self-definition, within normal limits most individuals place a relatively greater emphasis on one of these over the other. This relative emphasis on one versus the other delineates two basic personality configurations, each with particular experiential modes and preferred modes of cognition, defense, and adaptation (Blatt, 1974, 1990; Blatt & Shichman, 1983). As Bakan (1966) noted, individual differences in personality style and motivational disposition can be understood in part according to which of these two tendencies an individual gives priority (Maddi, 1980).

Based on these formulations of personality development, Blatt and his colleagues (Blatt, 1974, 1990, 1995; Blatt & Blass, 1990; Blatt & Shichman, 1983) proposed two broad, multidimensional personality styles: (a) an anaclitic or relational personality style in which the individual is primarily concerned about interpersonal relations and affectionate ties; is particularly vulnerable to feelings of abandonment, rejection, and loss; and uses primarily avoidant defenses (e.g., denial and repression) to cope with conflicts and difficulties; and (b) an introjective or self-definitional personality style in which the individual is primarily concerned about autonomy, power, self-control, self-worth, and identity; is particularly vulnerable to feelings of loss of control and of autonomy and to feelings of failure; and uses primarily counteractive defenses (e.g., reaction formation, intellectualization, and overcompensation) to cope with conflicts and difficulties.

Individuals with a relational as opposed to a self-definitional personality style not only are vulnerable to different types of stressors to which they respond with different types of coping strategies, but they also structure their environments in different ways. They select different environments in which to participate, they evoke different types of responses from others, and they interpret and transform their environments in unique ways (Buss, 1987). Individuals who are oriented toward relatedness are generally more figurative in their thinking and focus primarily on affects and visual images. Their
thinking is usually characterized more by simultaneous rather than by sequential processing; it is much more intuitive and determined by feelings, affects, and personal reactions than by facts, figures, and other details. The emphasis is on reconciliation, synthesis, and integration of elements into a cohesive unity rather than on a critical analysis of separate elements and details (Szumotalska, 1992). In terms of cognitive style, these individuals tend to be repressors and levelers (Gardner, Holzman, Klein, Lipton, & Spence, 1959; Gardner, Jackson, & Messick, 1960), and their predominant tendency is to seek fusion, harmony, integration, and synthesis. They are primarily field dependent and are very aware of and influenced by environmental factors (Witkin, 1965). Their chief goal is to seek harmony, peace, and satisfaction in interpersonal relationships (Luthar & Blatt, 1995). Their principal instinctual mode is more libidinal than aggressive, and they value affectionate feelings and the establishment of close, intimate relationships (Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Blatt & Zuroff, 1992).

In individuals focused mainly on self-definition, thinking is much more literal, sequential, linguistic, and critical. They attend to issues of action, overt behavior, manifest form, logic, consistency, and causality rather than feelings and relationships. Emphasis is on analysis rather than synthesis, on the critical dissection of details and part properties rather than on achieving an integration and synthesis (Szumotalska, 1992). These individuals tend to be sensitizers or sharpeners and to be field independent (Witkin, 1965; Witkin, Dyk, Faterson, Goodenough, & Karp, 1962). Their experiences and judgment are determined primarily by internal appraisal rather than by environmental events. Their chief goals are self-assertion, control, autonomy, power, and prestige rather than relatedness. Their primary instinctual mode involves assertion and aggression in the service of differentiation and self-definition rather than affection and intimacy (Blatt & Blass, 1990, 1992; Blatt, Cornell, & Eshkol, 1993; Blatt & Shichman, 1983; Blatt & Zuroff, 1992).

Different types of psychological defenses or coping styles are also integral to these two basic personality types. Defenses can be discussed as specific mechanisms (e.g., denial, repression, isolation, intellectualization, reaction formation, and overcompensation), or individual defenses can be considered as specific examples of a more generic classification of avoidant versus counteractive defenses (Blatt & Shichman, 1983) or repression versus sensitization (Byrne, Barry, &
Nelson, 1963). Both avoidant and counteractive defenses attempt to keep aspects of painful and conflict-laden issues out of awareness, but in very different ways. Denial and repression are avoidant defenses; they seek to avoid recognizing and acknowledging the existence of conflict. In contrast, counteractive defenses (e.g., projection, intellectualization, reaction formation, and overcompensation) do not avoid conflicts; rather, they transform them into alternative, more acceptable form. Reaction formation or overcompensation are examples of counteractive defenses in which an impulse, often an aggressive one, is transformed into its opposite, thereby achieving partial expression or discharge of the underlying wish or impulse (Blatt & Shichman, 1983). Research by Byrne and his colleagues (e.g., Byrne et al., 1963) on repression and sensitization is an approximation of the distinction between avoidant and counteractive defenses.

The cognitive-affective processes inherent in the psychological defenses used to deal with psychological conflict are often the very same cognitive-affective styles that individuals use in general adaptation. People rely on the same basic cognitive-affective processes to cope with important situations, whether they are relatively neutral and impersonal or difficult, conflict-laden, personal situations. These two broad generic types of defense processes, avoidant and counteractive defenses, express particular modes of thinking, feeling, and behaving, and each is an integral part of an individual's personality or character style (Shapiro, 1965). Avoidant defenses, such as denial and repression, are typical of the character style that emphasizes interpersonal relatedness, whereas counteractive defenses, such as intellectualization, reaction formation, and overcompensation, are typical of the character style that emphasizes self-definition and identity.

The research of Byrne et al. (1963) on repression-sensitization offers support for the distinction between these two types of defenses and their relationship to two primary personality configurations. Repressors tend to be more concerned with interpersonal relations and tend to maintain a more positive and optimistic outlook about themselves and others. They tend to have a more global cognitive approach (Hamilton, 1983) and avoid contradiction and controversy. They have difficulty expressing anger and personal conflicts. Although they try to avoid conflict and interpersonal difficulties, they have more conflictual relationships (Graziano, Brothen, & Berscheid, 1980) and are less aware of feelings about themselves and others that might disrupt
their relationships. They avoid conflictual themes and report few negative childhood experiences (Davis & Schwartz, 1987), but their speech has a greater frequency of disruptions than does speech of other groups. Although they report little awareness of contradiction and conflict (Beutler, Johnson, Morris, & Neville, 1977; Byrne et al., 1963; Rofe & Lewin, 1979; Tempone & Lamb, 1967), they are physiologically responsive to emotionally stressful situations (Epstein & Fenz, 1967; White & Wilkins, 1973). Thus, repressors have a marked discordance between their subjective experiences and their physiological responses. Although repressors report low levels of anxiety (Slough, Kleinknecht, & Thorndike, 1984; Sullivan & Roberts, 1969), they have high levels of physiological arousal (Weinberger, Schwartz, & Davidson 1979). Sensitizers, in contrast, are preoccupied with issues of self-worth, self-control, and identity, and are overly critical of themselves and others. They have more negative views of themselves and are more aware of contradiction and conflict. They are ruminate, autonomous, independent, less influenced by the judgment of others (Zanna & Aziza, 1976), introspective, and self-critical.

Spiegel and Spiegel (1978) presented a distinction similar to the anaclitic and introjective personality styles (Blatt & Shichman, 1983) in their discussion—deriving in part from Friedrich Nietzsche—of Dionysian and Apollonian personality styles. They describe Dionysians as sensitive to interpersonal issues, more distractable, intuitive, passive and dependent, emotional, naive and trusting, and focused more on feelings than on ideas. They are open to and easily influenced by new ideas and others, place greater value on tactile and kinesthetic experiences, and are more action oriented. They tend to suspend critical judgment, live primarily in the present rather than in the past and the future, and value interpersonal affiliation and relationships.

Apollonians, in contrast, are described as very cognitive, organized, and critical; they value control and reason over emotions. They are very steady, responsible and reliable, unemotional, highly organized individuals who use critical reason to plan for the future. Apollonians value their own ideas, use them as a primary reference point, and seek to have others accept and confirm their ideas. They dominate interpersonal relationships, seeking to be in control, and are often very critical about the ideas of others. They are very cautious and methodical, comparing and contrasting alternatives and evaluating ideas and situations piece by piece before they arrive at a final decision and take
action. They often pride themselves on being extremely responsible and are hesitant about making commitments; once they make them, they feel obligated by them. They are highly reliable and steadfast, often able to stick by a decision, and relatively uninfluenced by others. They seek to make sure that things are carried out correctly, and they plan logically and systematically. Spiegel and Spiegel (1978) succinctly summarized the differences between these two personality or character styles by noting that Dionysians are oriented to and influenced by the heart, whereas Apollonians are organized and influenced by the head.

A similar, but more limited, distinction was made by Jung (1923) about extroverted and introverted personality styles. Extroverts seek contact with others and derive gratification and meaning from relationships, whereas introverts give priority to their own thoughts and experiences and maintain a clear sense of self-definition, identity, and uniqueness. Jung (1923), like Spiegel and Spiegel (1978), Blatt (1974), and Blatt and Shichman (1983), viewed these character types as independent of, but related to, concepts of psychopathology (e.g., hysteric and obsessive; Shapiro, 1965). Eysenck (1960a) extended the Jungian topology to discuss neuroticism in terms of both the hysteric and the obsessive. Research with the Myers-Briggs Type Indicator (e.g., McCaully, 1981; Myers, 1962) and Eysenck Neuroticism Scale (Eysenck, 1960b) provides empirical support for the importance of this differentiation of two basic character types and their relationships to neurotic psychopathology.

Relatedness and Self-Definition in Psychopathology

The modes of relatedness and self-definition (communion and autonomy, or anaclitic and introjective) evolve in normal development in an integrated form so that the individual develops both an active commitment to interpersonal relatedness and a viable sense of self. Biological predispositions and disruptive environmental events, however, can disturb this integrated developmental process in complex ways and lead to exaggerated emphasis on one mode at the expense of the other. As discussed above, mild deviations result in unique character styles that are within the normal range. More extensive deviations, that is, markedly exaggerated emphasis on one developmental line at the expense of the other, however, occur in psychopathology as a
response to severe developmental disruptions. Thus, the differentiation of anaclitic and introjective personality configurations provides a basis for defining different types of psychopathology and for considering the relationships among them (Blatt & Shichman, 1983).

On occasion, severe and repeated untoward events disrupt the complex, normal, dialectic developmental process. Some individuals—depending on biological predispositions, cultural factors, gender, basic capacities and vulnerabilities, and cultural and family patterns—attempt to compensate for these serious developmental disruptions by exaggerating one developmental line, fixating either on relatedness or on the sense of self. The normal dialectic developmental process is disrupted somewhere in the life cycle, and, if no subsequent ameliorating circumstances and experiences occur, these patterns are continually repeated and become consolidated as distorted modes of adaptation. The earlier in the developmental process these disruptions occur and the more extreme the distortions, the more severe the psychopathology.

As a consequence of major disruption of the normal, dialectic developmental processes of relatedness and self-definition, some individuals, most often women, become excessively preoccupied with relatedness at the expense of development of the sense of self. If this developmental disruption occurs early in the life cycle, it can lead to the development of an infantile character, manifested as excessive concern for need gratification, such as constantly wanting to be held, cared for, fed, and attended to. If this disruption of the dialectic developmental process occurs somewhat later in the life cycle, a more organized kind of hysterical disorder can develop in which the person is concerned not only with being held, cared for, and loved, but also with being able to express as well as receive love. Some patients more often function at the infantile level, using denial as their primary defense; their concerns are primarily dyadic in structure, and they strive to be accepted and cared for, like the young child with his or her mother. Other patients are at the developmentally higher hysterical level, using repression as their primary avoidant defense; their primary concerns involve triadic configurations and oedipal themes—striving for the attention and love of one parent in competition with the other. At both the infantile level and the developmentally more advanced hysterical level, the issues relate primarily to libidinal attachment—concerns about being loved, intimate, and close. Infantile and hysterical disorders can occur in relatively pure
form, but they are not isolated disorders or diseases. Rather, they represent relative end points on a continuum of anaclitic psychopathology (Blatt, 1991, 1995; Blatt & Shichman, 1983).

Some individuals, more often men, deal with severe disruption of the normal, dialectic developmental process by exaggerated attempts to consolidate a sense of self. In the extreme, this is expressed in disorders of paranoia, obsession–compulsion, guilt-ridden (introjective) depression, and phallic narcissism. These disorders all express preoccupations with the self ranging from primitive concerns in paranoia to more integrated concerns about the self in introjective depression and phallic narcissism. The paranoid patient is preoccupied with maintaining a rigid definition of self as distinct and separate from others. Paranoid patients struggle to prove that they exist as a separate entity and that they are not merged and fused in a symbiotic relationship with another (Blatt & Wild, 1976; Blatt, Wild, & Ritzler, 1975). They struggle to maintain a sense of self in a primitive form. All bad is placed onto the other, all good is attributed to the self, and an isolated and embattled distance is maintained from others. Obsessive–compulsive disorders express somewhat higher concerns about the self: concerns about mastery, autonomy, control, prerogatives, and possessions. At a still higher developmental level, individuals are more concerned about self-worth than about mastery. In introjective depression, the predominant concerns are about one’s intent and one’s value in comparison to an idealized value system, with the belief and feeling that one is a failure or that one has transgressed. Phallic narcissism is the reversal of introjective depression in which, through counteraction and overcompensation, the individual seeks to exhibit himself or herself and win endless accolades and approval to defend against intense feelings of guilt and shame, worthlessness, and humiliation.

The dynamics, conflicts, defenses, and cognitive–affective and interpersonal style of the various forms of psychopathology of the introjective configuration share a fundamental similarity. Paranoia, obsession–compulsion, introjective depression, and phallic narcissism all involve issues of self-reproach; guilt; and preoccupations with self-definition, self-control, and self-worth. Interest is directed primarily to things rather than to people, and there is a heightened emphasis on thoughts and accomplishments (deeds) rather than on feelings and interpersonal relations. In all the forms of psychopathology of the introjective configuration, defenses are essentially counteractive rather
than avoidant. Projection, reversal, intellectualization, doing and undoing, reaction formation, introjection (or identification with the aggressor), and overcompensation all attempt, with varying degrees of effectiveness, to alter or transform impulses and conflicts rather than to avoid (deny or repress) them. Although each of the disorders in the introjective configuration can be viewed as independent and separate, they are interrelated disorders, and, most often, individual patients present a complex admixture of these various disorders (Blatt & Shichman, 1983).

Thus, two primary configurations of psychopathology are each defined primarily by exaggerations of the tasks of each of the two fundamental developmental lines. Exaggerated and distorted preoccupation about satisfying interpersonal relations, to the neglect of the development of concepts of self, defines the psychopathologies of the anaclitic configuration—the infantile and hysterical syndromes. Exaggerated and distorted concerns about the definition of the self, at the expense of establishing meaningful interpersonal relations, defines the psychopathologies of the introjective configuration—paranoid, obsessive-compulsive, introjective depressive, and phallic narcissistic disorders.

Each of these two configurations of psychopathology has several evolving levels of organization ranging from more primitive to more integrated attempts to establish meaningful interpersonal relations and a consolidated self-concept. The various levels of psychopathology within the anaclitic and the introjective configurations also define lines along which patients progress or regress. Thus, an individual’s difficulties can be specified as being predominantly in one or the other personality configuration, at a particular developmental level, and with a differential potential to regress or progress to other developmental levels within the configuration. In this conceptualization, the various forms of psychopathology are no longer considered as isolated, independent disease entities but rather as interrelated modes of adaptation, organized at different developmental levels within two basic configurations.

Psychopathologies within the anaclitic configuration share a basic preoccupation with libidinal issues such as closeness and intimacy. There is a greater capacity for affective bonding and a greater potential for the development of meaningful interpersonal relations. Psychopathologies within the anaclitic configuration also have a similar defensive style with a predominant use of avoidant defenses such as
denial, repression, and displacement. Psychopathologies in the introjective configuration share a basic focus on anger; aggression; and themes of self-definition, self-control, and self-worth. They also share a similarity in defensive style with the use of counteractive defenses such as isolation, doing and undoing, intellectualization, reaction formation, introjection, identification with the aggressor, and overcompensation. Cognitive processes are more fully developed, and there is greater potential for the development of logical, abstract thought. Although most forms of psychopathology are organized primarily around one configuration or the other, some patients may also have features from both the anaclitic and introjective dimensions, and their psychopathology derives from both configurations (Blatt & Shichman, 1983).

The Precursors of Relatedness and Self-Definition

The theoretical formulations about personality development and psychopathology presented above alerted us to the possibility that further analyses of data gathered in a detailed longitudinal study of mother-infant play should enable us to explore systematically some of the early developmental precursors or antecedents of relatedness and self-definition in the early mother-infant, face-to-face play patterns. Our analyses of these data are based on several assumptions: (a) The precursors of relatedness and self-definition would each be uniquely associated with a distinct set of behavior in early mother-infant play; (b) a longitudinal sequential relationship would exist between relatedness and self-definition as a consequence of their dialectical development; and (c) specific expressions of relatedness and individuation in the early months of mother-infant play, at 3 and 9 months, would be differentially related to socioemotional adjustment and cognitive functioning at 2 years of age.

1Portions of these data were gathered by Ruth Feldman as part of her doctoral dissertation at the Hebrew University of Jerusalem. This research was supported in part by fellowships from the Smolin Foundation through the Sigmund Freud Center and from the Levin and Rothschild Foundations at the Hebrew University of Jerusalem. We wish to acknowledge the contributions of Professor Charles W. Greenbaum to the design and implementation of this study and of Dr. Nurit Yirmiya for her participation.
Before presenting the details of the research procedures and the results, we shall review briefly some of the literature on infant development that provided the basis for these assumptions and our further analyses of these data.

**Indications of Relatedness and Self-Definition in Mother–Infant Interaction**

Theory and developmental research suggest that relatedness and self-definition can be identified as two distinct developmental dimensions in infancy. Emde (1984, 1988) discussed two basic developmental tendencies in the emergence of the prerepresentational self: self-regulation and social fittedness. Self-regulation marks the first expression of the infant's autonomous self (Connell, 1990), whereas social fittedness develops in the security of the mother–infant dyad, which is later extended to include peers, intimate relationships, colleagues, and general social adaptability (Blatt & Blass, 1992, 1996). Stern (1985) proposed that early experiences of "self with other" (interpersonal feelings of intersubjectivity, mutuality, and harmony) and experiences of "self versus other" (experiences of self as a differentiated entity vis-à-vis the other) are two fundamental configurations that contribute to the establishment of the sense of self. These mechanisms of connectedness and separateness interact to form internal models of self and other and of their relationship (Behrends & Blatt, 1985; Pipp, 1990).

Development is a process of continuous transactions between the individual and his or her ever-changing environment. The individual and the environment constitute a unitary system whose inner structure is hierarchically organized. The complexity of this organization expresses the nature of the relationship between the individual and the surround and serves as an index of the system's maturity and competence. Thus, a dialectical relationship exists between self-defining and interactive interpersonal aspects of development: The self develops within, as well as is constrained by, interpersonal relationships (Emde, 1994; Fogel, 1993; Fogel & Thelen, 1987; Thelen & Smith, 1994).

Sander (1975, 1984, 1987), based on extensive home observations of early parent–child interactions, proposed that the adaptive integration of polarities accounts for developmental change. Autonomy and connectedness defines a central polarity that infants must integrate during the first 2 years of life. Sander delineated several phases in this integration during the early development, alternating between stages
of self-definition and of relatedness: (a) the stage of "basic regulation" at 3 months, (b) "coordinated interaction" at 3 to 6 months, (c) "initiative infant" activity at 6 to 9 months, and (d) "dyadic emotional regulation" from 9 months to 1 year, which leads to "autonomous action" at 1 year and self-constancy at 18 months.

Investigations of early mother–infant face-to-face interaction often view the mother–infant face-to-face exchange as a unitary social system. The intersystemic transactions between caregiver and infant during this intense social process become the primary focus of investigation. Thus, systemic concepts such as mutuality (Symons & Moran, 1987), reciprocity (Belsky, Rovine, & Taylor, 1984), bidirectional influence (Cohn & Tronick, 1988), interpersonal timing (Feldstein et al., 1994), or synchrony (Isabella & Belsky, 1991) become central constructs in the study of face-to-face interactions. The associations between levels of dyadic synchrony or maternal responsiveness in infancy and the child's later attachment security (Isabella, 1993; Smith & Pederson, 1988) and the relations between attachment security and social adaptability during the toddler's years (Sroufe, 1983) suggest that these systemic constructs assess a relatedness dimension in infancy and early childhood (Ainsworth, Blehar, Waters, & Wall, 1978).

Sensitive caregiving relationships also provide the basis for the emergence of self and affect regulation, antecedents of self-definition (Bretherton, 1987; Cassidy, 1994; Pipp & Harmon, 1987). Research on the infant's growing capacities as a separate entity emphasizes that cognitive development begins with the early ability to attend and perceive various properties of the environment. These abilities provide the basis for the development of higher cognitive functions such as symbolic thought, comprehension, and memory (e.g., Meltzoff, 1985, 1990). Infants' attention in early infancy has been shown to be a relatively stable quality (Rutter & Durkin, 1987) that predicts later cognition (Bornstein & Sigman, 1986; McCall & Carriger, 1993). Interactive patterns, including maternal regulation of stimulus intake (Gable & Isabella, 1992), maternal scaffolding (Findji, 1993), and verbal stimulation (Belsky, Goode, & Most, 1980) promote infant attention, encourage exploratory behavior, and facilitate cognitive development.

Mother–infant face-to-face interaction, emerging around the 3rd month of life, signifies the infant's first participation in a purely social interchange (Stern, 1974). Specific maternal and infant play patterns as well as the overall guiding principles of face-to-face interaction provide the foundation for the development of both self-definition
and secure relatedness. Research has linked the typical face-to-face play patterns, such as mutual synchrony of gaze (Kaye & Fogel, 1980), simultaneous vocalizations (Feldstein et al., 1994), maternal acknowledgment of the infant's social communication (Mayes & Carter, 1990), and imitation and variations of the infant's movement and vocalization (Field, Goldstein, Vega-Lahr, & Porter, 1986) with affective (Malatesta, 1988; Stern, 1985) as well as with cognitive and linguistic development (Jasnow & Feldstein, 1986; Stern & Gibbon, 1978). The second-by-second match between mother's and infant's attentive-affective states during face-to-face interaction promotes the development of synchrony and intersubjectivity on the one hand and structures the interaction to facilitate the emergence of self-regulation and state control on the other (Cohn & Tronick, 1987, 1988; Lester, Hoffman, & Brazelton, 1985).

The early face-to-face play patterns advance the development of dyadic reciprocity and socioemotional adjustment but also contribute to the development of self-definition and cognitive growth. Predictable rhythmic oscillation between states of attention and nonattention enables mothers to adapt the level of stimulus input to infants' information-processing capacities (Lester et al., 1985). Repetition allows infants to develop expectations—the first expression of analytic and analogic thinking (Stern & Gibbon, 1978). Moreover, repetition, regulation, and rhythmicity, the guiding principles of the face-to-face interaction, facilitate the formation of rudimentary cognitive-affective structures, variously discussed as sensorimotor schemas (Piaget, 1954/1970), internal working models (Bowlby, 1969), or repeated interactions that have been generalized (Stern, 1985). These schemas not only promote information-processing subfunctions (e.g., attention, encoding, and retrieval) but also the sense of security and predictability in relationships, thus emphasizing the close tie between cognitive and affiliative systems in early infancy.

During the second half of the first year, both the relatedness and self-definitional dimensions of mother–infant face-to-face play undergo major transformations (Lamb, Morrison, & Malkin, 1987). The maternal eliciting style, which provides the foundation for secure relatedness through gaze synchrony, imitation, and elaboration of the infant's expressions, gives way to reciprocal affective sharing (e.g., intersubjectivity [Stern, 1985] or dyadic emotion regulation [Sander, 1975]). This development of dyadic reciprocity follows a major leap in affective development that occurs between 6 and 8 months of age, after
which infants become capable of transmitting and sharing intentions and affects (Emde, 1984). At the same time, the self-definitional aspects—infant alertness, organized emotional expression, and focused attention—become organized around the infant’s emerging capacity for initiation (Hoffmann, 1994). Both dyadic reciprocity and infant initiation develop within the context of a sensitive and responsive maternal style that facilitates curiosity and exploration and promotes affective sharing and the ability to engage in intimate relatedness. A lack of consistent maternal emotional availability may lead to a reduction in both interpersonal relatedness and exploratory behavior. Intrusive or unavailable maternal style, particularly at around 9 months of age, when initiation and reciprocity emerge, has been associated with later insecure attachment (Isabella & Belsky, 1991), increased dyadic asynchrony (Field, 1994), and diminished exploratory behavior (Belsky et al., 1980).

Research evidence suggests that distinct sets of face-to-face patterns are differentially related to interpersonal or exploratory modes of interaction. Bornstein and Tamis-LeMonda (1990) distinguished two prototypes of early interactive styles—"social," in which mother and infant are directed toward each other, and "didactic," in which mothers direct infant attention to the environment. These maternal interactive styles were found to be stable at 2 to 5 months. And the dyadic exploratory, directing maternal style at 5 months predicted the complexity of the child’s symbolic play at 13 months (Tamis-LeMonda & Bornstein, 1989). Infants’ social attention and object attention have been associated with distinct sets of facial, visual, vocal, and gestural configurations. These two configurations are associated with different emotional expression, that is, with joy and interest, respectively (Weinberg & Tronick, 1994). Thus, specific aspects of early mother and infant play behavior appears to be uniquely related to the development of mutuality and exploration, of relatedness and self-definition. Infant attention and exploratory orientation are linked to the development of cognitive capacities, whereas maternal responsiveness and dyadic reciprocity are related to attachment security and socioemotional adaptation.

On the basis of these theoretical formulations and research findings, we reexamined the data of the mother–infant interaction study to assess the relationships among maternal, infant, and dyadic interactive patterns at 3 and 9 months and their relationship to cognitive and socioemotional functioning at 2 years. Assessment at both 3 and 9
months had included evaluation of aspects of relatedness (the degree of maternal responsivity, acknowledgment, imitation and elaboration, constant gaze, and positive affect) and aspects of infant attentiveness to the environment (e.g., alertness and initiative) that are viewed as precursors to cognitive development and self-definition. We expected that at both 3 and 9 months, patterns of relatedness and self-definition would emerge as distinct and independent factors in mother–infant play and there would also be sequential relationships between dimensions of relatedness and self-definition. We expected a lagged correlation both between early expressions of relatedness and later infant attention and involvement and vice versa, because infant temperamental tendencies shape the nature of the maternal interactive style (van den Boom & Hoeksma, 1994). Finally, we expected that measures of infant alertness, attention, and initiative would be associated primarily with cognitive development, whereas maternal responsivity—in particular, the dimension of dyadic reciprocity at 9 months—would be associated with reduced socioemotional externalizing and internalizing symptomatology at 2 years.

Research Design

Mother–infant dyads, selected at random through well-baby clinics in Jerusalem, were screened for pre- and postnatal health complications, premature birth, or underweight (under 2,700 g). Mothers of infants without birth complications were recruited by phone to participate in a study of mother–infant play. Of 55 mothers approached, 41 agreed to participate, and 5 of these composed a pilot sample. The families who participated and those who declined did not differ significantly in paternal and maternal education, age, and income, or on child’s birth order, birth weight, or Apgar score.

The infants were healthy, full-term gestation, first- and second-born boys and girls (the sample was equally divided for gender and birth order). They were between 12 and 14 weeks old ($M = 90$ days) at the first session, between 36 and 39 weeks old ($M = 264$ days) at the second session, and between 24 and 25 months ($M = 24.3$ months) at the third session.

Mothers were between 26 and 36 years of age ($M = 28.7$ years, $SD = 2.5$ years), had completed on average 14.2 years of education ($SD = 1.1$), and were currently married to the child’s father, all of whom were employed in skilled or semiskilled positions. All families were considered middle class by Israeli standards (Harlap, Davis, Grower,
According to the records of the well-baby clinic, none of the mothers had suffered serious illness, psychopathology, or serious pregnancy complications.

Thirty-two infants were observed at 24 months. Two families had moved abroad, one could not be located, and one cited returning to work as the reason for not participating. No significant differences in demographic variables were found between those who returned for the 2-year assessment and those who did not. The final sample included 15 girls and 17 boys, 16 firstborn and 16 second-born children.

Participants were tested in a laboratory with two adjoining rooms. The studio was equipped with an infant seat mounted on a table, an adjustable stool for the mother, two video cameras, and a microphone. One camera was focused on the infant's face and another on the mother's. Both pictures were transmitted through a split-screen generator into a video recorder placed in the adjoining room that showed the infant's face on the left side of each frame and the mother's on the right.

On the first and second visits, mothers were greeted by an experimenter and interviewed regarding their personal adjustment, social support systems, and their child's early development, and they completed a variety of self-report measures. Thereafter, mother and infant entered the studio, and the baby was situated in the infant chair. The mother sat next to the infant on the stool and was instructed to play freely with her child for 10 min. At 9 months of age, an additional 10-min play episode was videotaped when mother and infant were playing on a carpeted floor with age-appropriate toys. At 24 months, mother and infant were filmed in a variety of play contexts. Verbal and visual IQ were assessed by the Stanford-Binet Intelligence Scale—Fourth Edition (Thorndike, Hagen, & Sattler, 1986) administered by psychology graduate students. Externalizing and internalizing disruptive behavior were assessed with the Child Behavior Checklist completed by the mother (Achenbach, 1992; Achenbach & Edelbrock, 1984).

Videotapes of the 3- and 9-month play sessions were rated for 12 global measures of maternal, infant, and dyadic play behaviors. Seven of these measures were adapted from the Rating Scale of Interactional Style (Clark & Seifer, 1983), a scoring system for dyadic interactions rated on a 5-step Likert scale. These were the maternal measures of Acknowledging, Imitating, Elaborating, Affect, Gaze, the infant mea-
sure of Gaze Aversion, and the dyadic measure of Reciprocity. Five measures were added to the present study and were scored in a similar way. These included the maternal measures of Adaptation and the infant measures of Alertness, Fatigue, Initiation, and Fussiness. The measures are described in the Appendix to this chapter.

Two coders scored each variable after viewing the entire interaction. At 9 months of age, separate coding was performed for the face-to-face and the toy interaction, and the two scores for each measure were averaged into a single score (Cronbach's $\alpha > .50$). Coders were trained for reliability on the pilot sample until 80% agreement was reached and disagreement did not exceed one scale point. Interrater reliability was estimated periodically on a random sample of 12 dyads at each age and play context. Mean reliability percentages were 94% for play ratings at 3 months and 91% for play ratings at 9 months.

**Results**

The first step in the data analysis was to examine mean-level changes between 3 and 9 months in maternal and infant play patterns. As suggested by Block (1971), the central tendency in the group provides the basis for understanding individual stability and change as it points to the direction of the developmental process during the period of observation. Table 1 presents the means, standard deviations, and $F$ values of the repeated measure multivariate analysis of variance ($dfs = 1, 34$) with infant sex and birth order as the between-subjects variables.

The data reported in Table 1 indicate that the maternal play patterns of Imitating and Elaborating were significantly reduced between 3 and 9 months. Maternal Affect, Gaze, Adaptation, and Acknowledging of the infant communication remained unchanged. At the same time, infants' Alertness and Initiation increased, whereas their Fussiness, Gaze Aversion, and Fatigue decreased. Thus, infants' involvement and active participation in the interaction increased in concordance with the mothers' reduction of her eliciting play behavior. The level of Dyadic Reciprocity similarly increased between 3 and 9 months. Mothers seemed to reduce their active involvement to allow the child to take a more active role in the interaction, thereby facilitating a more balanced and reciprocal interaction between the participants. On the other hand, the maternal behaviors that provided the framework for the interaction—Positive Affect, constant Visual Attention, and Acknowl-
Table 1

Means and Standard Deviations of Maternal, Infant, and Dyadic Play Behaviors at 3 and 9 Months

<table>
<thead>
<tr>
<th>Variable</th>
<th>3 Months</th>
<th></th>
<th>9 Months</th>
<th></th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Maternal play behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledging</td>
<td>2.75</td>
<td>1.25</td>
<td>3.06</td>
<td>1.19</td>
<td>ns</td>
</tr>
<tr>
<td>Imitating</td>
<td>2.81</td>
<td>1.23</td>
<td>1.51</td>
<td>0.78</td>
<td>36.08***</td>
</tr>
<tr>
<td>Elaboration</td>
<td>2.73</td>
<td>1.28</td>
<td>1.81</td>
<td>0.77</td>
<td>29.28***</td>
</tr>
<tr>
<td>Gaze</td>
<td>4.64</td>
<td>0.59</td>
<td>4.57</td>
<td>0.88</td>
<td>ns</td>
</tr>
<tr>
<td>Adaptation</td>
<td>3.14</td>
<td>1.36</td>
<td>3.40</td>
<td>1.39</td>
<td>ns</td>
</tr>
<tr>
<td>Affect</td>
<td>4.08</td>
<td>1.01</td>
<td>4.62</td>
<td>0.80</td>
<td>ns</td>
</tr>
<tr>
<td>Infant play behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaze Aversion</td>
<td>2.92</td>
<td>1.05</td>
<td>1.77</td>
<td>0.73</td>
<td>23.64***</td>
</tr>
<tr>
<td>Alert</td>
<td>2.56</td>
<td>1.46</td>
<td>3.87</td>
<td>0.92</td>
<td>24.74***</td>
</tr>
<tr>
<td>Fussy</td>
<td>2.31</td>
<td>1.35</td>
<td>1.11</td>
<td>0.52</td>
<td>38.14***</td>
</tr>
<tr>
<td>Initiation</td>
<td>1.72</td>
<td>1.72</td>
<td>2.72</td>
<td>1.04</td>
<td>26.85***</td>
</tr>
<tr>
<td>Fatigue</td>
<td>2.54</td>
<td>1.52</td>
<td>1.13</td>
<td>0.49</td>
<td>45.19***</td>
</tr>
<tr>
<td>Dyadic play behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reciprocity</td>
<td>2.14</td>
<td>1.25</td>
<td>2.76</td>
<td>1.39</td>
<td>10.88**</td>
</tr>
</tbody>
</table>

**p < .01.  ***p < .001.

...gment of the infant’s social communication—remained equally high at 3 and 9 months.

Next we examined the factor structure of the 12 global measures of mother–infant interaction. A principal-components factor analysis with varimax rotation was applied separately to the 12 play behavior scales at 3 and at 9 months, and four factors were identified at each age with eigenvalues greater than 1.00.

As indicated in Table 2, the four factors cumulatively accounted for most of the variance at 3 and at 9 months (73.2% and 73.7%, respectively). The results confirm the initial hypothesis: At both 3 and 9 months, maternal and infant behavior each formed distinct factors. The first two factors at 3 months reflected maternal behavior and were termed (a) Maternal Responsiveness, with high loadings on Acknowledging, Imitating, Elaborating, and Dyadic Reciprocity; and (b) Maternal Attentiveness, with loadings on Maternal Adaptation, Maternal Gaze, and Maternal Affect. Two factors also emerged that
Table 2
Factor Loadings for Play Behaviors at 3 and 9 Months

<table>
<thead>
<tr>
<th>Factor</th>
<th>3 Months</th>
<th>9 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Maternal Responsiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledging</td>
<td>.90 .08</td>
<td>.90 .05</td>
</tr>
<tr>
<td>Imitating</td>
<td>.87 .17</td>
<td>.75 .23</td>
</tr>
<tr>
<td>Elaborating</td>
<td>.85 .15</td>
<td>.92 .07</td>
</tr>
<tr>
<td>Dyadic Reciprocity</td>
<td>.80 .39</td>
<td>.78 .05</td>
</tr>
<tr>
<td>Maternal Adaptation</td>
<td>.47 .58</td>
<td>.53 .16</td>
</tr>
<tr>
<td>Maternal Affect</td>
<td>.26 .67</td>
<td>.54 .15</td>
</tr>
<tr>
<td>Maternal Gaze</td>
<td>.14 .82</td>
<td>.06 .07</td>
</tr>
<tr>
<td>Infant Involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant Alertness</td>
<td>.06 .07</td>
<td>.00 .84</td>
</tr>
<tr>
<td>Infant Fatigue</td>
<td>.27 .10</td>
<td>.02 .78</td>
</tr>
<tr>
<td>Infant Initiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant Initiation</td>
<td>.03 .05</td>
<td>.05 .77</td>
</tr>
<tr>
<td>Infant Fussiness</td>
<td>-.44 .04</td>
<td>-.34 .02</td>
</tr>
<tr>
<td>Gaze Aversion</td>
<td>.03 -.62</td>
<td>-.06 .00</td>
</tr>
<tr>
<td>% variance</td>
<td>32.80 16.70 12.70 11.00</td>
<td>36.10 17.20 11.00 9.40</td>
</tr>
</tbody>
</table>

pertained to the behavior of the infant and were labeled Infant Involvement and Infant Initiation. At 3 months, Infant Gaze Aversion had a moderate loading (−.62) on the second maternal factor (Maternal Attentiveness), which included Maternal Gaze and Affect. Infant gaze aversion in a social context at 3 months may be influenced more by the maternal interactive style (e.g., engaged or disengaged) than by the infant’s own attentive capacities. For this reason, Infant Gaze Aversion may not have been associated with the two infant factors (Factors 3 and 4).

At 9 months, the first factor, Maternal Responsiveness, still had substantial loadings on Acknowledging, Imitating, Elaborating, and Dyadic Reciprocity but also medium loadings on Maternal Adaptation and Maternal Affect. The second factor concerns the infant’s behavior, with high loadings on Alertness and Fatigue, but, unlike the factor at 3-months, infant Involvement at 9 months also included Infant Initiation. The third factor, Maternal Attentiveness, contained loadings on
Table 3
Cross-Age Correlations Between Play Factors at 3 and 9 Months

<table>
<thead>
<tr>
<th>Factor at 3 months</th>
<th>Maternal Responsiveness</th>
<th>Maternal Attentiveness</th>
<th>Infant Involvement</th>
<th>Infant Initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Responsiveness</td>
<td>.47**</td>
<td>.17</td>
<td>.15</td>
<td>-.12</td>
</tr>
<tr>
<td>Maternal Attentiveness</td>
<td>.32*</td>
<td>.11</td>
<td>.36*</td>
<td>.33*</td>
</tr>
<tr>
<td>Infant Involvement</td>
<td>.33*</td>
<td>.13</td>
<td>.15</td>
<td>.07</td>
</tr>
<tr>
<td>Infant Gaze Aversion</td>
<td>-.13</td>
<td>-.12</td>
<td>.05</td>
<td>.00</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01.

Maternal Gaze, Affect, and Adaptation, similar to the loadings at 3 months. The fourth factor loaded highly only on Infant Gaze Aversion. Weighted factor scores for each participant at 3 and 9 months were computed by summing the play measures with a loading of .50 or above on each factor according to their relative weight.

Table 3 presents cross-age correlations among the four factors at 3 and at 9 months. As expected, Maternal Responsiveness and Infant Involvement were independent dimensions at both 3 and 9 months and were relatively stable at these two ages. Significant cross-age correlations were found between the maternal and infant measures. Maternal Responsiveness at 3 months correlated with Infant Involvement at 9 months, and Infant Initiation and Infant Involvement at 3 months each correlated with Maternal Attentiveness at 9 months. These findings suggest a possible dialectic sequential relationship between the development of relatedness and self-definition.

Finally, we examined the contribution of measures of relatedness and self-definition at 3 and 9 months to the prediction of cognitive and socioemotional development at 2 years. The four factors at 3 and 9 months were entered into hierarchical multiple regressions as predictors of intelligence (Verbal and Visual IQ on the Stanford-Binet) and socioemotional adaptation (Externalizing and Internalizing symptoms on the Achenbach). Because of the assumed importance of Dyadic Reciprocity at 9 months in the emergence of intersubjectivity and affective sharing, this measure was entered as a predictor of the relat-
Table 4
Hierarchical Regression of Play Factors at 3 and 9 Months in Relation to Cognitive and Socioemotional Functioning at 2 Years

<table>
<thead>
<tr>
<th>Predictor factor</th>
<th>Verbal IQ</th>
<th>Visual IQ</th>
<th>Externalizing symptoms</th>
<th>Internalizing symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 3 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal Responsiveness</td>
<td>.01</td>
<td>.05</td>
<td>.13</td>
<td>.21</td>
</tr>
<tr>
<td>Maternal Attentiveness</td>
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<td>.28</td>
<td>.00</td>
<td>-.39*</td>
</tr>
<tr>
<td>Infant Involvement</td>
<td>.47*</td>
<td>.48*</td>
<td>-.20</td>
<td>.00</td>
</tr>
<tr>
<td>Infant Initiation</td>
<td>.24</td>
<td>.20</td>
<td>.32</td>
<td>.11</td>
</tr>
<tr>
<td>At 9 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyadic Reciprocity</td>
<td>.49*</td>
<td>.18</td>
<td>-.45*</td>
<td>-.47*</td>
</tr>
<tr>
<td>Infant Involvement</td>
<td>.09</td>
<td>.39*</td>
<td>.08</td>
<td>.09</td>
</tr>
<tr>
<td>Maternal Attentiveness</td>
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<tr>
<td>Infant Gaze Aversion</td>
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<tr>
<td>Total R²</td>
<td>.49*</td>
<td>.38*</td>
<td>.29</td>
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</table>

Note. The coefficients in the table are standardized betas (dfs = 8, 24).
*p < .10.  *p < .05.

edness dimension at 9 months instead of the global construct of Maternal Responsiveness.² Standardized beta coefficients of the 3- and 9-month predictors are presented in Table 4.

As indicated in Table 4, Verbal and Visual IQ were related to infant positive engagement in the interaction at 3 months. Visual IQ was also related to Infant Involvement at 9 months. In contrast, externalizing and internalizing symptoms, indices of socioemotional adaptation, were related to the degree of dyadic reciprocity at 9 months. Thus,

²At 9 months, the mother–infant exchange is characterized by the emergence of intersubjectivity, affect sharing, and the ability to engage in a truly reciprocal exchange. In contrast, play at 3 months is characterized by active maternal involvement, which diminishes at 9 months. We therefore examined two regression models, once using the entire composite of Maternal Responsiveness as the predictor and again with Dyadic Reciprocity as representative of the relatedness dimension at 9 months. Beta coefficients of the hierarchical regression equation predicting Externalizing and Internalizing symptoms from Maternal Responsiveness at 9 months were .33 and .35, respectively (p < .10).
measures of infant attention and initiation predicted cognitive development, whereas the level of dyadic reciprocity at 9 months predicted diminished externalizing and internalizing symptoms.

The salience of infant attention at 3 months and of dyadic reciprocity at 9 months in the prediction of developmental outcomes is consistent with theory and research on the early development of the self. During the first 6 months, the developmental tasks of self-regulation, attention organization, and state control are central to the early consolidation of the self (Cassidy, 1994; Sander, 1975; Sroufe, 1990). At 9 months, a major leap in affective development (Emde, 1984) introduces a stage of affective sharing (Stern, 1985) and infant-initiated activity (Hoffmann, 1994). When coordinated with maternal support, these emerging capacities serve as the foundation for the "self-in-relationship," the development of positive interpersonal relatedness and adaptive socioemotional adaptive capacity.

These findings suggest that infant initiative and alert social behavior and mother–child reciprocal exchange are independent developmental processes during infancy and are related to different types of developmental outcomes in toddlerhood. Factors of infant and mother play patterns were orthogonal at each age and were relatively stable between 3 and 9 months of age. Thus, it appears that mother and infant play patterns represent two distinct lines of infant development that evolve from the early matrix of mother–infant interaction. One developmental line defines the individual capacities of the infant as separate, autonomous, and alert and appears to lead to the development of mastery, verbal capacity, and cognitive skills. The other developmental line defining the quality of relatedness (e.g., maternal availability and reciprocity) contributes to socioemotional development.

The relationship between the two developmental lines of relatedness and self-definition may be interactive, at least in the early months of life. The quality of mother–infant relatedness at 3 months (Maternal Responsiveness) appears to lead to the emergence of self-definition as measured by the infant’s alertness, focused interest, and initiatory play at 9 months. At the same time, early patterns of infant alert involvement were related to maternal attention, positive affect, and sensitive adaptation at 9 months (Maternal Attentiveness). These results are consistent with the transactional perspectives on development (e.g., Sameroff & Fiese, 1991), which suggest that mother and infant reciprocally shape each other’s style over the course of early interactions. Not only does the level of maternal responsiveness affect
the degree of infant's participation at play, but also a more active, socially involved infant is more adept at attracting and maintaining the mother's attention and joy in the shared activity.

The relationship found between infant alertness at 3 months and cognitive abilities at 2 years is consistent with reports of the relation between early infant attention in nonsocial settings and intelligence in toddlerhood and early childhood (Bornstein & Sigman, 1986; McCall & Carriger, 1993). Infant alertness within a social context possibly reflects both an inborn capacity for focused attention, which indexes the efficiency of the early information-processing system and later intelligence, and the maternal ability to direct infant curiosity and regulate the amplitude and pace of the infant's stimulus intake. At 9 months, early social alertness is integrated with initiation and is related to visual rather than verbal IQ. The child's involvement in interpersonal and toy-directed interactions at 9 months possibly assist the emergence of exploratory visual–tactile skills such as visual perception, cross-modal integration, and manipulative competence.

It is noteworthy that Maternal Adaptation, as indicated in Table 1, was the only play measure that had moderate loadings on three of the four factors identified at 3 months. This finding is consistent with previous emphasis on the centrality of the maternal regulatory function in early infancy (Sander, 1984, 1987). Adequate maternal regulation in the early months has been described as essential to the development of relatedness (Emde, 1988) and emotional regulation (Malatesta, 1988), as well as the development of verbal abilities (Akhtar, Dunham, & Dunham, 1991). Furthermore, the data suggest that Maternal Adaptation is an important dimension of social behavior across the first year and is not reduced between 3 and 9 months. Maternal regulation may be particularly important in the face-to-face exchange in order to maintain a balance among the biological, cognitive, affective, and interactional components in this intense social context. Additionally, consistent maternal regulation during play may be necessary to monitor the levels of arousal and excitement in this brief, highly stimulating interaction.

Maternal Responsiveness, particularly Dyadic Reciprocity at 9 months, expresses the development of a relatedness line. These patterns of interaction define a factor that accounts for the largest percentage of the variance at both 3 and 9 months. The components of that factor, however, have different developmental trajectories. Maternal imitation and elaboration decrease during the first year, whereas reciprocity
increases. The give-and-take exchange (reciprocity) becomes a central dimension of social interaction at 9 months, consistent with theoretical formulations of Stern (1985) and Emde (1984). At both 3 and 9 months, Dyadic Reciprocity is part of the Maternal Responsiveness factor, findings that are consistent with previous research linking mother–child mutuality to maternal acknowledgment and positive responsivity. It appears that reciprocity is associated not with a maternal general attitude as expressed in her positive affect or continuous visual attention (Maternal Attentiveness), but is specifically related to the mother’s active play patterns of acknowledgment, imitation, and elaboration. Infants identify and imitate mothers’ play patterns and respond with the same imitating behavior that initiates a cycle of reciprocal interchange. As infants master the rules of emotional dialogue, play begins to revolve around two infant-originated measures: reciprocity and initiation. These two measures, possibly representing the two trends in personality development of relatedness and self-definition, are integrated into two separate factors at 9 months: Maternal Responsiveness and Infant Involvement, respectively.

The level of Dyadic Reciprocity, as well as the general factor of Maternal Responsiveness, at 9 months was significantly related to later socioemotional symptomatology. These findings are consistent with previous studies that demonstrate relations between attachment security and early mother–infant interaction, and between attachment security and socioemotional adaptation in early childhood (e.g., Sroufe, 1983). The successful mastery of give-and-take play between mother and infant was related to the lack of externalizing and internalizing symptoms at 2 years, and the degree of Maternal Attentiveness at 3 months was related to lower internalizing symptoms. As argued by Achenbach and Edelbrook (1984), the presence or absence of discrete age-related symptoms affords a useful path for studying the development of socioemotional disturbances. The relationship found between aspects of the early social system and the emergence of disruptive socioemotional symptoms underscores early reciprocity as a central predictor of adaptive social development. Generally, the results indicate the importance of differentiating between interactive patterns associated with relatedness and interactive patterns associated with the development of the infant’s autonomous self. These two dimensions appear to have differential association with development in the toddler years and beyond.
Infant play activity in the first months of life appears to define the development of intelligence and self-assertion or self-definition. The mother’s capacity to establish mutual reciprocity, in contrast, is central to the development of socioemotional adaptation. As discussed by Blatt and Blass (1990, 1996), these two dimensions of relatedness and self-definition enter into a dialectic process that can be described by an extension of Eric Erikson’s (1950, 1982) developmental model. A relatedness developmental line that includes phases of trust, cooperation, and intimacy interacts with a self-definitional line that includes phases of autonomy, initiative, and identity. This dialectic interaction ultimately leads to the development of a “self-in-relation” (Miller, 1976, 1984; Surrey, 1991) or “enssembled individualism” (Sampson, 1988) in which themes of self and relatedness are coordinated and integrated in mature expressions of both intimacy and generativity.

In summary, mother and infant play patterns in the first year of life appear to define precursors of two fundamental developmental processes—relatedness and self-definition. These findings are consistent with theoretical formulations and empirical investigations indicating that these two fundamental dimensions evolve as a complex, dialectic, developmental process throughout the life cycle. The identification of these two dimensions may prove useful in the understanding of personality formation and a wide range of psychopathology throughout the life course.
Appendix
Mother, Infant, and Dyadic Play Patterns and Characteristics

Mother Play Codes

1. **Acknowledging**: The mother clearly demonstrates, by verbal response, facial expression, movement, or vocalization, her awareness of the infant’s actions.

2. **Imitating**: The mother imitates the baby’s vocalizations, movements, expressions, or gaze direction. Imitations can be in the same modality (i.e., vocal imitation of infant vocalizing) or in a different modality (i.e., facial imitation of child vocalization).

3. **Elaborating**: The mother adds variation or enlarges the imitated act in the same or in different modality.

4. **Gaze**: The mother looks at the child or object of joint attention.

5. **Affect**: The mother displays warm and relaxed emotions by her voice, handling of the infant, vocalizations, or facial expressions. Withdrawn, anxious, or angry emotions score low.

6. **Adaptation–Regulation**: Mother and infant adjust the amount of stimulation in accordance with the partner’s messages (e.g., lower the intensity of voice when the partner averts his or her gaze).

Infant Play Codes

7. **Gaze Aversion**: The infant looks away from the mother or object of joint attention.

8. **Alert**: The infant is enthusiastic, actively attentive, and interested in play. This score estimates the highest level of infant alertness during play. It does not represent, as do the other measures, an average of the entire interaction.

9. **Fatigue**: The infant is tired and displays inattention, drowsy expression, and disengagement. Both the duration and the degree of fatigue are considered.

10. **Fussy**: The infant is fussy during the interaction. Both the proportion of time the infant is fussy and the intensity, loudness, and soothability of fussiness are considered.

11. **Initiation**: Play consists of infant-originated activities, and the infant frequently initiates play.
Dyadic Play

12. Dyadic Reciprocity: Mother and infant are engaged in a give-and-take interaction. Each partner participates in play, enables the other to complete his or her part, and responds to the partner's play.

References


