

CHAPTER 16

Early Attachment and Later Development

Familiar Questions, New Answers

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How does the child foreshadow the adult-to-be? Philosophers, spiritualists, playwrights, and most recently behavioral scientists have sought to understand how early dispositions and influences provide a foundation for adult personality. Among the answers they have offered is the influence of early, close relationships. This view was eventually crystallized in Freud's (1940/1963, p. 45) famous dictum that the infant–mother relationship is “unique, without parallel, established unalterably for a whole lifetime as the first and strongest love-object and as the prototype of all later love-relations.” Drawing on this psychoanalytic heritage, Bowlby (1969/1982, 1973, 1980) also enlisted formulations from evolutionary biology, developmental psychology, and control systems theory to argue that a warm and continuous relationship with a caregiver promotes psychological health and well-being throughout life in a manner that accords with the adaptive requirements of the human species. In collaboration with Ainsworth (1967, 1973), he proposed that differences in the security of infant–mother attachment have significant long-term implications for later intimate relationships, self-understanding, and even risk for psychopathology.

Bowlby's conceptual integration was provocative, and with the validation of reliable

methods for assessing the security of attachment for infants and young children, an enormous research literature emerged concerning the origins, correlates, and consequences of secure and insecure relationships. Guided by a general expectation that a secure attachment would predict better later functioning, developmental researchers have explored the association between early security and later relations with parents, peers, friends, and other social partners, as well as with self-concept, competence in preschool and kindergarten, personality development, social cognition, behavior problems, and indicators of emergent psychopathology. But researchers have also broadened their inquiry to explore how security predicts later cognitive and language development, exploration and play, curiosity, ego resiliency, math achievement, and even political ideology, extending the range of predictive correlates far beyond what Bowlby originally envisioned. As Belsky and Cassidy (1994) mused, one might wonder whether there is anything with which attachment security is *not* associated. Comprehending this research literature thus requires reconsidering how and why early attachment security should be associated with later development, as well as alternative models for why security might predict later functioning in direct and indirect ways. Doing so is important for inter-

preting research findings in a theoretically coherent manner—and equally important for highlighting the research designs that are likely to be most informative for future studies of early attachment and its sequelae.

This chapter begins, therefore, with consideration of alternative explanations for why a secure attachment should be associated with later behavior, with a focus on attachment security in the early years. Following this is a review of the research examining these associations in the developmental domains that have been best studied: parent–child relationships, close relationships with peers and other partners, personality, emotion regulation, self-concept, emotion understanding, social cognition, memory, and conscience. In a final section, these results are discussed in light of what we can conclude about how attachment security influences later developmental functioning, and which research approaches are most likely to elucidate this association in future studies.

CONCEPTUAL PERSPECTIVES

To an observer, it might appear surprising that it would be necessary to begin this discussion by sorting through the various conceptual explanations in the literature for why early attachment security should be associated with later development. After all, wasn't Bowlby's theory clear on this issue?

The challenge facing contemporary attachment researchers is not only Bowlby's theory, but also its generativity. Attachment theory was formulated decades ago, at a time when scientific understanding of infancy and early childhood underestimated the cognitive and behavioral sophistication of the child and the dynamics of early parent–child relationships. There have also been significant advances in behavioral ecology and evolutionary biology. It is natural that in efforts to keep the theory current with advancing knowledge, Bowlby's heirs would expand, elucidate, and update his formulations in ways that he could not anticipate. Furthermore, as would be expected of a conceptually innovative approach, Bowlby's theory provides a conceptual umbrella for broad and narrow constructions of the developmental impact of attachment relationships. Grossmann (1999), for example, has identified at least two different conceptualizations of “internal working models” in Bowlby's theory, and the breadth of the theory offers explanations for developmental influences related to the biologically adaptive qualities of

attachment relationships, continuity and change in parent–child interaction, and the dynamics of personality growth. Beyond theoretical breadth, of course, is the fact that subsequent attachment researchers have had their own ideas about the influence of early attachment security, which they have sought to harmonize with Bowlby's formulations.

These are all signs of a vibrant, generative theory. Indeed, it can be argued that today the proper role of Bowlby's theory is not as a source of orthodoxy for attachment theorists (much as Freud's theory was treated in the early decades of psychoanalysis), but rather as a foundation for new thinking about early parent–child relationships. The problem this presents for contemporary researchers, however, is the proliferation of conceptual explanations for why early attachment should (and sometimes should not) be associated with later development. Beyond the casual post hoc explanations offered by researchers for unexpected empirical findings, in other words, there have grown from the foundation of Bowlby's theory various attachment minitheories, with somewhat different views of the nature of the developmental influences arising from secure or insecure early relationships.

In this section, therefore, the goal is to summarize and evaluate several alternative views of the developmental influence of attachment that have become significant in contemporary attachment research. These approaches are discussed with respect to certain key conceptual questions. For which developmental domains is early security likely to be most important, and at what ages? How much should the effects of early attachment be expected to endure, and what mediators might affect its continuing influence? What are the conditions in which attachment should most influence later development? Although most of these attachment minitheories do not provide clear answers to all of these conceptual questions, the purpose in posing them is to clarify our thinking about why early attachment should be developmentally provocative.

Internal Working Models

One of Bowlby's most heuristically powerful formulations is the view that attachment security influences psychological growth through children's developing mental representations, or “internal working models” (IWMs), of the social world. IWMs are based on infants' expectations for the accessibility and responsiveness of their caregivers; these expectations develop into broader represen-

tations of themselves, their attachment figures, interpretations of their relational experiences, and decision rules about how to interact with others. These mental representations not only enable immediate forecasts of the caregiver's responsiveness, but develop into interpretive filters through which children (and adults) reconstruct their understanding of new relationships and experiences in ways that are consistent with past experiences and expectations arising from secure or insecure attachments. As a consequence, children choose new partners and behave with them in ways that are consistent with, and thus help to confirm, the expectations created from earlier attachments. IWMs thus constitute the bridge between an infant's experience of sensitive or insensitive care and the development of beliefs and expectations that affect subsequent experience in close relationships. Young children also internalize conceptions of themselves from early relational experience that form the basis for developing self-concept and other self-referential beliefs. This concept has been theoretically generative: Bretherton and Munholland (1999 and Chapter 5, this volume), Crittenden (1990), Main (1991), Sroufe and Fleeson (1988), and I (Thompson, 2006) have each offered contemporary extensions of Bowlby's concept of IWMs.

In this formulation, therefore, IWMs would be expected to be most directly associated with the child's capacities to create and maintain successful close relationships (with parents, peers, teachers, and others), establish a positive self-image, and perhaps also develop constructive social representations of people and of relationships. However, because of the imprecision of Bowlby's portrayal of IWMs (which is a conceptual metaphor rather than a well-defined theoretical construct), this concept has assumed far greater explanatory breadth in attachment research to account for a widening array of developmental outcomes, such as proneness to stress, theory of mind, and ideological values. Its use by the field has caused some to question whether IWMs constitute a "catch-all, post-hoc explanation" for almost anything to which a secure attachment is found to be associated (Belsky & Cassidy, 1994, p. 384). The inclusiveness of the contemporary IWM construct has tended to expand with every new empirical finding that is "explained" with reference to it, which is a problem for attachment theory and the discriminant validity of the attachment construct (Thompson & Raikes, 2003).

One solution to this problem of underspecificity is to understand IWMs as developing rep-

resentations that change over time with a child's conceptual growth. Thus our knowledge of young children's developing conceptual skills could establish parameters for what we would expect to be true of their IWMs of self and relationships, especially early in life. Bretherton (1993; Bretherton & Munholland, 1999 and Chapter 5, this volume) pioneered this developmental approach by conceptualizing IWMs in relation to mental schemas and constructive memory processes, underscoring that regardless of their unconscious influences, IWMs are based on consciously accessible cognitive processes that change with development. Elsewhere (Thompson, 2000, 2006), I have built on this formulation by offering a developmental account that associates the growth of IWMs with allied conceptual advances in early childhood—such as implicit memory and social expectations in infancy, the development of event representation and episodic memory in early childhood, the emergence of theory of mind and autobiographical memory in the preschool years, and the development of specific social-cognitive skills later in childhood. Each of these well-understood conceptual advances contributes to the representational capacities of Bowlby's IWM construct: understanding other people (including attachment figures), representing experience (especially in close relationships), self-concept, and understanding how to relate socially to others. When a developmental understanding of IWMs is linked to these conceptual advances in the encoding, representation, and memory of social experience, the growth of attachment-related working models can be conceptualized more precisely and studied in relation to current understanding of children's cognitive growth.

There are several other implications of this developmental formulation (Thompson, 2000, 2006). First, IWMs are likely to change in response to new relational experiences and also during periods of representational advance, such as in the transition to the symbolic representational capacities of early childhood and the emergence of abstract thought in adolescence. These transitions render IWMs more susceptible to revision, as new modes of understanding can alter earlier representations of relational experience. Second, the security or insecurity incorporated into IWMs may have their greatest influence on social and personality capacities during those periods when these capacities are maturing most significantly. The IWMs associated with a secure attachment are likely to influence self-concept or emotion understanding most strongly in early childhood, for example, when

children's conceptions of themselves and others' feelings develop significantly. In this regard, contrary to the traditional research strategy of using infant Strange Situation classifications to predict later psychological functioning, the IWMs associated with attachment security may be found to be developmentally most influential when assessed during the preschool years or later, depending on the developmental outcome of interest.

Finally, especially in early childhood, IWMs are shaped not only by direct experience of sensitive care, but also by the secondary representations of experience mediated by language—particularly in parent–child conversation. This is consistent with the research literatures on constructive memory, event representation, autobiographical memory, and even theory of mind, which together document the great narrative influence of parent–child conversation (for a review, see Thompson, 2006). These literatures attest to the powerful influence of language in providing young children with insight into shared experiences, others' feelings and thoughts, and even the self. In this respect, responsive care and thoughtful, rich, accessible conversation may each be age-appropriate manifestations of parental sensitivity, once young children become capable of representing and sharing experience through language (see Wareham & Salmon, 2006). As we shall see, a growing body of research documents the different qualities of parent–child conversation of secure and insecure dyads in the preschool years.

Taken together, Bowlby's IWM construct and the extensions it has generated predicts that early security should influence a child's capacity to form close, satisfying relationships; create a positive self-concept; and develop constructive, insightful understanding of other people. More expansive views of the influence of IWMs exist, however. In some formulations, IWMs develop with a child's conceptual advances, and their influence is most significant when young children are at the vanguard of new advances in social understanding and personality development. Virtually all theorists agree that IWMs change with further experience and conceptual growth (although disagreement exists over how readily they change), suggesting that the influences of early attachment relationships may not be enduring unless the IWMs with which they are associated are maintained.

Emergent Personality Organization

Another conceptualization of the influence of early attachment on later development is that

attachment security shapes emergent personality processes in infancy, which, as they mature and become consolidated, exert a continuing influence on subsequent personality growth. Early attachment is important because it inaugurates adaptive or maladaptive organizational processes in personality that render young children more or less competent in facing subsequent challenges in personality growth.

This view is best articulated in the “organizational perspective” that has been advanced by Sroufe (2005; Sroufe, Egeland, Carlson, & Collins, 2005; Weinfield, Sroufe, Egeland, & Carlson, Chapter 4, this volume) and others (e.g., Cicchetti, 2006). This neo-Eriksonian perspective portrays personality growth as a succession of age-salient developmental challenges around which critical aspects of personality development are organized. During the first year, of course, the development of a secure attachment is central. In successive years, relevant developmental issues include the growth of an autonomous self in toddlerhood, the acquisition of effective peer relationships in preschool, successful adaptation to school, coordinating friendship and group membership in middle childhood, and identity and self-reflection in adolescence. The successful mastery of earlier developmental challenges is believed to provide a stronger psychological foundation for subsequent challenges, because of the internal resources in personality organization that have developed and the supportive relationships on which the child can rely. However, even though the child builds on prior developmental accomplishments when facing new challenges for personality organization, the possibility for change in adaptation remains.

From this perspective, therefore, the developmental processes that are affected by early attachment vary, depending on the age-relevant challenges faced by the child with growing maturity. Proponents of the organizational perspective anticipate continuity over time in the adaptive success with which children address these challenges, while allowing for change in personality organization as well.

Consistency and Change in Parent–Child Relationships

In infancy and early childhood, parent–child relationships are described as secure or insecure. By adulthood, security is viewed as a characteristic of the person. Attachment theory thus seeks to explain how characteristics of relationships become incorporated into personality. In the developmen-

tal transition from attachment-as-relationship to attachment-as-personal-characteristic, the consistency of relational quality in the early years may be a foundation for the enduring significance of early attachment for later development. Quite simply, an early secure attachment provides a stronger foundation for subsequent psychosocial achievements if the sensitive, supportive parental care initially contributing to attachment security is maintained over time (Lamb, Thompson, Gardner, & Char-nov, 1985). In that ongoing relationship of parental support, young children continue to enjoy the benefits of the sensitive care that they experienced in infancy; moreover, they become increasingly receptive to their parents' influences and socialization incentives as they identify with the adults' goals and behavior (Kochanska, 2002; Waters, Kondo-Ikemura, Posada, & Richters, 1991). However, if the earlier sensitive care that initially inspired a secure attachment is not maintained, there would be less reason to anticipate that early attachment security would have enduring effects on a child. In this view, therefore, the significance of early attachment for later development is contingent on the continuing sensitivity of parental care, especially in a child's early years.

In an empirical assessment of this formulation, Belsky and Fearon (2002a) analyzed data from the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care, a national sample of more than 1,000 mothers and their children studied from birth. Analyzing attachment classifications in the Strange Situation at 15 months and subsequent measures of maternal sensitivity at 24 months, they reported that the children who obtained the highest scores on a broad range of social and cognitive measures at 36 months were those who were securely attached and who subsequently experienced sensitive care. Those performing most poorly at 36 months were insecurely attached in infancy and experienced later insensitive care. Of the two intermediate groups, children who were initially insecurely attached but subsequently experienced sensitive care scored higher on all outcome measures than did children who were initially secure but later experienced insensitive care. These researchers also found that maternal report measures of life stress, depression, social support, and family resources at 24 months helped to explain why some securely attached infants subsequently experienced insensitive maternal care, and why some initially insecure infants later experienced sensitive care. In each case, declines in maternal sensi-

tivity were associated with the number of negative life events and lack of support that mothers experienced when children were age 2, which were likely to affect children as well as their mothers. In a corollary report from the same NICHD study, Belsky and Fearon (2002b) reported that a cumulative measure of contextual risk during a child's first 3 years moderated some of the associations between early attachment and later behavior.

These findings are consistent with those reported by other researchers (e.g., Egeland, Kalkoske, Gottesman, & Ericson, 1990; Sroufe, Egeland, & Kreutzer, 1990), and with the literature concerning the causes of stability and change in the security of attachment (see Thompson, 2006, for a review). Taken together, they indicate that early security of attachment interacts with the quality of subsequent experience (particularly sensitive parental care and broader life stresses) in predicting developmental outcomes. Indeed, these findings suggest that later quality of care may be at least as important as early security in predicting later development. The continuing sensitivity of parental care may be especially important in the early years, when IWMs are still rudimentary. In this respect, the continuing harmony of the parent-child relationship may constitute a bridge between a secure attachment in infancy and the development of more sophisticated later IWMs of the reliability of parental care and of one's deservingness of love, which influence later personality growth.

Biological Adaptations

Bowlby (1969/1982) and his followers have portrayed attachment as a function of an evolved behavioral system to promote the inclusive fitness of the human species. More specifically, the attachment behavioral system is viewed as motivating infants to seek the protective proximity of adults, especially when offspring are distressed, alarmed, or in danger, and as organizing the behavioral competencies to maintain proximity. Attachment theorists initially viewed the secure behavioral pattern as biologically adaptive because, by contrast with the insecure behavioral patterns, it is well organized to accomplish and maintain protective proximity to a caregiver (see, e.g., Ainsworth, 1979, 1984). However, with advances in behavioral ecology and life history theory, it became apparent that the different behavioral patterns of security and insecurity can be regarded as biologically adaptive responses to different qualities of parental care (e.g., Chisholm, 1996, 1999). In this view,

sensitively responsive parental care leading to a secure attachment derives from the adult's ability and willingness to provide for the child, enabling the child's confident exploration, play, and other activities that also prepare the child for maturity. By contrast, unresponsive or insensitive parental care reflects either the adult's unwillingness to invest resources in the child (leading to avoidant insecurity in offspring) or the adult's inability to do so (leading to resistant insecurity), with each insecure behavioral pattern representing a necessary means of obtaining needed resources in alternative ways. Viewed in this light, early attachment patterns can be regarded as "juvenile adaptations" that function to aid individuals through their immaturity, but have no necessarily enduring significance.

Life history theory also highlights, however, how variations in the quality of early care sensitize offspring to broader characteristics of environmental provision or deprivation that are relevant to survival and reproductive strategies beyond infancy. An influential evolutionary theory of socialization that reflects this approach was proposed by Belsky, Steinberg, and Draper (1991; see also Simpson & Belsky, Chapter 6, this volume). They argued that owing to the sensitivity of offspring to variations in parental care and the meaning of this care for long-term reproductive success, early attachment patterns are likely to be related to the later timing of pubertal maturation, the onset of sexual activity, preferences in pair bonding, and eventual parental investment. In essence, children whose family experiences are characterized by high stress (and consequent insecurity) are likely to develop reproductive strategies that are low-investment and opportunistic, with children in low-stress, secure families developing in the opposite manner. This approach portrays early attachment patterns not as juvenile adaptations, but rather as "ontogenetic adaptations" that are significant early in life, but also become incorporated into later behavioral patterns that have lifelong adaptational value (see also Chisholm, 1996, 1999, for another example of this approach).

Thus whether early attachment is viewed biologically as a juvenile or an ontogenetic adaptation is relevant to the nature of the developmental outcomes expected of early security or insecurity, as well as their long-term consequences. Research relating to the evolutionary model of Belsky and his colleagues has received considerable but not unequivocal research support, with some arguing that early family stress may be more significantly

associated with the duration of childhood immaturity than with pubertal maturation and reproductive strategy (Ellis, 2004). Much more work remains to characterize the place of early attachment in the biologically adaptive processes of the human species.

Other Considerations

There are other formulations about how early attachment is associated with later development. To Weinfield, Sroufe, Egeland, and Carlson (1999 and Chapter 4, this volume), early attachment is important because of its influence on developmental functions that have long-term consequences for brain development, affect regulation, relational synchrony, and early representations of relationships. They argue that early attachment relationships should be most strongly related to later interpersonal competence, psychological adjustment, and self-understanding, but there is room for a far broader range of sequelae from the early developmental functions they identify. In a similar vein, we (Thompson & Lamb, 1983) have argued that attachments in infancy foster the development of social skills and social dispositions that, as they are generalized to other social partners, elicit complementary responses from partners and contribute to the development of relationships.

It is apparent, therefore, that attachment researchers have a variety of theoretical approaches to guide their inquiry into the developmental outcomes of early security. Moreover, these formulations differ in important and meaningful ways. They emphasize different outcomes, for example: Some highlight the relational consequences of early secure or insecure relationships, others the representational sequelae of attachment security, and still others its influence on stages of personality growth, while some evolutionary theories focus on reproductively adaptive strategies. Although some formulations view the continuing influence of parenting practices in childhood as a mediator of the enduring effects of early security, others make no such claim. In several approaches, the consequences of attachment security are developmentally graded—that is, the effects of attachment depend on when security is assessed and when outcomes are evaluated—but others offer more general predictions. Most of these approaches also expect stronger associations between attachment security and its contemporaneous correlates than in long-term predictive relations, but they differ in the reasons why.

These conceptual differences are important because they have implications for research design. If, for example, researchers expect that later behavior arises from an interaction between early security and the continuing quality of parental care, it is important to measure each of these factors in follow-up studies. Likewise, other potential moderators of this association should also be assessed, such as family stress. Moreover, the analyses of large-scale follow-up studies with many outcome measures should be guided by theoretically derived expectations concerning the behaviors that attachment security should predict and other behaviors that it should *not* predict, in order to document the discriminant validity of the attachment construct. When unexpected associations emerge (such as between early attachment security and math achievement), researchers should measure and examine whether these might arise from theoretically predicted mediators (such as parental involvement in school), rather than creating new extensions of attachment theory to explain these findings (Thompson & Raikes, 2003). Unfortunately, the research reviewed below was rarely designed with these considerations in mind, and the large majority of studies used simple pre-post designs. This is unfortunate, because in the context of a variety of minitheories to explain the association between early attachment and later behavior, it is often difficult to determine whether empirical associations confirm, disconfirm, or have no theoretical relevance at all. The needs for greater theoretical clarity concerning the sequelae of early attachment, and for research designed with direct, mediated, moderated, and nonlinear associations between attachment and later behavior in mind, are two of the greatest challenges for attachment theory and research in the 21st century.

EMPIRICAL PERSPECTIVES

Consistent with these conceptual perspectives, this review of research is organized according to the various outcome domains to which attachment security has been empirically associated. The review begins with the relational outcomes anticipated from a secure attachment (warmer subsequent parent-child relationships, closer relationships with peers and other partners); then moves on to personality outcomes and emotion regulation; and then examines more recent work on the representational correlates and outcomes of a secure attachment—self-concept, emotion

understanding, social cognition, conscience, and finally memory. The prediction of early attachment to risk for psychopathology is also an important outcome domain, but is not considered in this chapter because it is discussed extensively elsewhere in this handbook (see especially DeKlyen & Greenberg, Chapter 27, and Lyons-Ruth & Jacobvitz, Chapter 28). In light of the enormous empirical literature in this area, this review should be viewed as a representative, not an exhaustive, overview of the major findings and important new directions for research.

Parent-Child Relationship

The strongest and most direct outcome of a secure attachment should be more positive parent-child interaction in follow-up assessments. This expectation is confirmed in short-term longitudinal studies during the second year, in which securely attached children (assessed in the Strange Situation) showed greater enthusiasm, compliance, and positive affect—and less frustration and aggression—during shared tasks with their mothers (e.g., Frankel & Bates, 1990; Matas, Arend, & Sroufe, 1978; Slade, 1987). In short, securely attached infants tend to maintain more harmonious relations with their mothers in the second year.

Consistent with the view of early attachment as a relationship, however, in each of these studies the mothers of securely attached children were also more sensitive and helpful toward their offspring in follow-up assessments, and their behavior supported the positive behavior of their children. In the words of one researcher, “secure dyads ‘work’ better” together (Slade, 1987, p. 83), suggesting that the consistency between attachment security and later parent-child interaction is dyadic. This is a nontrivial conclusion, because it suggests that one of the benefits of a secure attachment is that it inaugurates what Maccoby (1984) called a “mutual interpersonal orientation of positive reciprocity” between parent and child; this is the foundation for cooperation, values acquisition, and the child’s enthusiastic responsiveness to the parent’s socialization incentives (see also Kochanska, 2002). If this relational harmony is not maintained, however, the benefits to the parent-child relationship of early security may not endure.

Over longer periods of time, evidence for the enduring benefits of early security for the parent-child relationship is mixed. On one hand, researchers have not found longer-term associations between a secure attachment in the Strange

Situation and parent–child interaction at ages 3 (Youngblade & Belsky, 1992) and 5 (van IJzendoorn, van der Verr, & van Vliet-Visser, 1987). On the other hand, some research groups have found significant associations between different measures of parent–child attachment over even longer periods (e.g., Main & Cassidy, 1988). This mixed pattern of results mirrors the inconsistent findings concerning the stability of the security of attachment over time, with some researchers finding long-term stability of security over several years, and others finding little consistency between repeated attachment assessments over as little as 6–7 months (see Thompson, 2006, for a review). Consistency in the quality of parent–child interaction over time is often mediated by intervening events, such as family stress, significant changes in family circumstances, or other conditions affecting relational harmony (Thompson, 2006). Consequently, although early attachment security may inaugurate short-term consistency in the harmony of parent–child relations, the likelihood of longer-term consistency is more contingent on other events in family life.

Other Close Relationships

One of the most important alternative relational contexts in which the benefits of early security might be observed is that of peer relationships. A meta-analysis by Schneider, Atkinson, and Tardif (2001) found a modest association between parent–child attachment security and children’s peer relationships (combined effect size = 0.20), and noted that this association is stronger for studies of children’s close friendships (effect size = 0.24) than for relationships with other peers (effect size = 0.14), consistent with the view that attachment security is more important for establishing and maintaining relational closeness. Attachment was assessed with the Strange Situation, Attachment Q-Sort (AQS), and self-report measures for older children (e.g., Kerns, Klepac, & Cole, 1996), and the findings for each method were consistent with these conclusions. Schneider and colleagues also concluded that the association with attachment is stronger for peer relations in middle childhood and adolescence than for those in early childhood; they suggested that this derives from the consolidation and sophistication of children’s friendship representations and attachment IWMs with increasing age. The strength of this association was not affected by the amount of time between assessments of attachment and peer relationships. In a study

applying growth curve modeling to data from the NICHD Study of Early Child Care, we (Raikes, Virmani, Thompson, & Pong, 2007) found that securely attached children (assessed at 24 months via the AQS) showed lower rates of peer conflict in preschool and first grade, as well as greater declines in peer conflict from 54 to 84 months.

Differences in peer relationships by attachment security are also revealed in children’s self-perceptions of their peer relationships. We (Raikes & Thompson, in press-a) analyzed data from the NICHD Study of Early Child Care and reported that AQS security scores at 24 months were negatively associated with children’s self-reported loneliness in first grade, and that children deemed resistant in a modified Strange Situation procedure at 36 months were significantly higher in self-reported loneliness than children in the other attachment groups (see also Berlin, Cassidy, & Belsky, 1995). These findings are important in suggesting that securely attached children benefit not only from their enhanced social skills in developing friendships, but also from self-perceptions as fitting well into the peer group. (See Berlin, Cassidy, & Appleyard, Chapter 15, this volume, for further discussion of the links between infant attachment and children’s current and subsequent relationships with peers.)

Other studies support the conclusion that attachment security is associated with children’s functioning in close relationships. Bost, Vaughn, Washington, Cielinski, and Bradbard (1998) found that secure preschoolers (assessed via AQS scores) had more extensive and supportive social networks and were also higher on sociometric assessments of peer competence (similar conclusions have been reported by Booth, Rubin, and Rose-Krasnor, 1998, and DeMulder, Denham, Schmidt, & Mitchell, 2000). Anan and Barnett (1999) found in a sample of lower-income African American 6½-year-olds that secure attachment (assessed 2 years earlier) was associated with children’s perceptions of greater social support, and that social support mediated the association between secure attachment and lower scores on externalizing and internalizing problems. These results underscore the importance of children’s perceptions of social support, and show how social cognitions like these can mediate between attachment security and its psychosocial outcomes.

Some studies have found that securely attached infants are also more sociable with unfamiliar adults in follow-up studies (e.g., Thompson & Lamb, 1983). However, mothers were present

during assessments of stranger reactions, and each study in which concurrent maternal behavior was evaluated yielded differences indicating that the mothers of secure children were more supportive of their offspring. Thus early differences in responses to unfamiliar adults appear to be reliant on maternal support. The association between attachment security and children's capacities to develop close relationships with peers and adults, by contrast, appears to be more clearly a result of the skills and predispositions that children bring to these relationships.

Personality

The largest and most comprehensive study of early attachment and its developmental consequences is the Minnesota Study of Risk and Adaptation from Birth to Adulthood (Sroufe, 2005; Sroufe et al., 2005). This prospective longitudinal study of children and families in poverty focused on the association between attachment and personality, and thus enlisted the "organizational perspective" described earlier. In this study, children were recruited with their families in infancy and followed through age 28. Strange Situation observations were conducted at 12 and 18 months; in the years that followed, personality characteristics were assessed regularly through behavioral observations, interviews, observer ratings, self-reports, and semi-projective instruments.

The reports based on this study revealed significant associations between early attachment security and personality characteristics throughout childhood and adolescence, including relations with measures of emotional health, self-esteem, agency and self-confidence, positive affect, ego resiliency, and social competence in interactions with peers, teachers, camp counselors, romantic partners, and others (see Sroufe et al., 2005, for a detailed discussion, which also includes a list of citations to specific research reports). In infancy, the researchers concluded, the association between attachment security and emergent personality owed primarily to the continuing quality of care—or, in the authors' words, "continuity at this age is still primarily at the level of the relationship" (Sroufe et al., 2005, p. 110).

As children matured, moreover, the continuing importance of early attachment was in the context of subsequent developmental influences. Sroufe and his colleagues found that the prediction of later personality was enhanced when early attachment measures were supplemented by other

indicators of the quality of subsequent care, which could transform as well as sustain the effects of early security (see Carlson, Sroufe, & Egeland, 2004). Moreover, as time progressed between Strange Situation assessments and later personality outcomes, the effects of early security were more likely to be indirect—mediated and/or moderated by subsequent relational influences. In recognizing that personality outcomes are multidetermined and that attachment security is only one of many constituent influences, in other words, these researchers emphasized that both developmental history and current experience are important in shaping personality growth.

The Minnesota study has been an important and provocative contribution to the research on the sequelae of early attachment, and is one of the few studies to document long-term associations between attachment security and later personality outcomes. Few other studies have sought to replicate the findings reported from this study, however, and in view of some nonreplications (e.g., Bates, Maslin, & Frankel, 1985; Easterbrooks & Goldberg, 1990), continued efforts to confirm and extend these important findings are warranted. Equally important are future studies that are designed, as was the Minnesota study, to view the significance of early attachment security in the context of subsequent developmental influences on multidetermined personality outcomes.

Emotion Regulation

One of the functions of attachment relationships is to assist in regulating the emotional arousal of offspring, especially emotions that are potentially disturbing or overwhelming (Cassidy, 1994; Thompson, 1994). This is most evident when parents respond sensitively to the distress of their infants, but remains an ongoing feature of secure relationships even as children mature and become more capable of emotion self-regulation. Moreover, through the parents' acceptance of children's feelings and willingness to communicate openly about them, especially those that are disturbing or threatening, parents in secure relationships foster the children's developing emotional self-awareness and scaffold the growth of competent, flexible skills in emotion self-regulation. Thus children in secure relationships are likely to be stronger in emotion regulation than are children in insecure relationships, where parents may be more dismissive, punitive, or critical of the children's emotional expressions (Thompson & Meyer, 2007).

The relevance of a secure attachment to emotion regulation is apparent in infancy (see NICHD Early Child Care Research Network, 2004). In a study of the responses of 18-month-olds to moderate stressors, for example, Nachmias, Gunnar, Mangelsdorf, Parritz, and Buss (1996) reported that postsession cortisol elevations were found only for temperamentally inhibited toddlers who were in insecure relationships with their mothers. For inhibited toddlers in secure relationships, their mothers' presence helped to buffer the physiological effects of challenging events. Gilliom, Shaw, Beck, Schonberg, and Lukon (2002) reported that boys who were securely attached at age 1½ were observed to use more constructive anger management strategies at age 3½. The securely attached boys were more likely to use distraction, ask questions about the frustration task, and wait quietly than the insecurely attached boys were. These findings may help to explain the emotional behaviors that also distinguish securely attached from insecure children from early in life. In a longitudinal study over the first 3 years, Kochanska (2001) reported that over time, insecurely attached children exhibited progressively greater fear and/or anger, and diminished joy, in standardized assessments compared with secure children.

The importance of secure attachments for emotion regulation does not end with early childhood, however. Using the self-report index of attachment security developed by Kerns and colleagues (1996), Contreras, Kerns, Weimer, Gentzler, and Tomich (2000) found that security in middle childhood was significantly associated with children's constructive coping with stress, and that the measure of coping mediated the association between attachment and children's peer competence. Similar findings have been reported by Kerns, Abraham, Schlegelmilch, and Morgan (2007), using multiple measures of middle adolescent attachment (see Kerns, Chapter 17, this volume). As discussed below, preschoolers and older children engage in rich conversations about daily experiences with their parents; these provide a forum for discussion of feelings and their management, as well as a context for growth in emotion regulation skills (Wareham & Salmon, 2006). Research in our laboratory is currently devoted to exploring these influences further.

Self-Concept

Bowlby's (1969/1982, 1973, 1980) argument that attachment security influences young chil-

dren's self-concept, particularly their conceptions of themselves as loved and lovable, has guided several research inquiries into attachment and self-concept. Cassidy (1988) found that securely attached 6-year-olds described themselves in generally positive terms in a puppet interview, but were capable of admitting that they were imperfect (i.e., they were flexible or "open"). Insecurely attached children either revealed a more negative self-image or resisted admitting flaws (similar results were reported by Verschueren, Marcoen, & Schoefs, 1996). In addition, secure children were significantly more likely to exhibit globally positive self-esteem on Harter and Pike's (1984) measure. Clark and Symons (2000) also found that attachment at age 5 (on the AQS) was significantly associated with the positivity and openness of children's responses to the contemporaneous puppet task, but not with self-esteem on the Harter and Pike measure. However, attachment at age 2 (also on the AQS) for this sample was not significantly associated with either measure of self-concept at age 5. Goodvin, Meyer, Thompson, and Hayes (in press) found that AQS attachment assessments at age 4 predicted the positivity of young children's self-concept at age 5 even when contemporaneous attachment security was controlled for. Secure children also viewed themselves as more agreeable and as expressing less negative affect, and these self-concept dimensions were more stable between ages 4 and 5 for secure children. In this sample, a composite measure of maternal emotional stresses was negatively correlated with positive self-concept. Attachment security has also been associated with positive self-concept in older children (Doyle, Markiewicz, Brendgen, Lieberman, & Voss, 2000).

Each of these studies measured explicit self-concept in young children. Only two studies have measured implicit self-concept. One was by Colman and Thompson (2002), who presented 5-year-olds with both manageable and difficult puzzle tasks. Children with lower AQS security scores spontaneously expressed more self-doubt about their abilities or negative self-appraisals during *both* tasks, such as saying, "This is too hard for me" (mothers were present but otherwise occupied as children worked on the puzzles). The second study was by Cassidy, Ziv, Mehta, and Feeney (2003), who used the self-report measure of middle childhood attachment by Kerns and colleagues (1996) in a study of the association between security and children's preferences for receiving positive or negative feedback about the self. They found that a more secure attachment was associ-

ated with seeking more positive feedback about the self, and that this association was mediated by global self-worth. Thus research on implicit self-concept is consistent with the findings of explicit self-descriptions by young children in highlighting the more positive self-representations of securely attached children.

Emotion Understanding

Several attachment researchers have proposed and tested the view that owing to the greater psychological intimacy they share with the attachment figure and other partners, securely attached children should have greater understanding of emotions than insecure children. Several studies have now confirmed this to be true in contemporaneous associations with preschoolers using the AQS (Laible & Thompson, 1998; Ontai & Thompson, 2002), and in predictive associations with infant Strange Situation classifications (Steele, Steele, Croft, & Fonagy, 1999) or early childhood AQS ratings (Raikes & Thompson, 2006). Secure children are indeed more proficient at identifying emotions in others. These studies also indicate that securely attached children are especially skilled at understanding negative emotions and mixed feelings, which are conceptually more complex than are positive emotions.

Several studies have sought to understand the relational catalysts of this enhanced understanding. They have drawn on Bretherton's (1993) portrayal of the more "open, fluid communication" between securely attached children and their caregivers that enables emotional sharing and discussion—particularly of negative emotions, which may be more troubling, disturbing, or confusing to young children. We (Ontai & Thompson, 2002) found that more secure 5-year-olds had mothers who, in discussions with them of recent past events and in storybook reading, used a more descriptively rich, elaborative style of conversation about emotion (see Laible, 2004, for similar findings). A number of studies have found that the mothers of secure children are more elaborative in their style of conversation with offspring (see Reese, 2002, for a review); this finding is important, because such a conversational style has been found by other researchers to enhance young children's memory representations and contribute to the construction of autobiographical recall (Nelson & Fivush, 2004), and it is consistent with Bretherton's (1993) description of the communicative style of secure dyads. In reciprocal fashion, preschool children in secure relationships spontaneously talk about emotions more

often in their everyday conversations with their mothers (Raikes & Thompson, in press-b).

In talking about shared events in a rich, interactive, elaborative manner, the mothers of securely attached young children are likely to provide them with enhanced understanding of the psychological dimensions of human interaction, since an appreciation of the influence of emotions (and of other mental phenomena) in everyday events would naturally become incorporated into their shared recounting (Thompson, Laible, & Ontai, 2003). Indeed, Raikes and Thompson (2006) found that the quality of mother-child conversations about emotion mediated the association between attachment security and emotion understanding in 3-year-olds. Thus the association between the security of attachment and emotion understanding may have origins in the relational processes by which mothers and their preschool offspring co-construct an understanding of the psychological world through shared conversation—a view meriting further research exploration. The need for further study of this collaborative construction of psychological understanding is especially important, because of its potential connection to the capacity for mentalization that is, to researchers like Fonagy and Slade, at the heart of security and the development of secure parent-child relationships (see Fonagy, Gergely, & Target, Chapter 33, this volume, and Slade, Chapter 32, this volume).

Social Cognition

Enhanced understanding of emotions may contribute to the greater social competence of secure children. In a study by Denham, Blair, Schmidt, and DeMulder (2002), multiple measures of attachment security (including the AQS) were obtained when children were age 3, along with several measures of emotional competence, including assessments of emotion understanding, emotion regulation, and anger expression. Children were subsequently studied in their kindergarten classrooms to assess peer competence through sociometric ratings and teacher-rated social competence measures. Through latent-variable path-analytic procedures, these researchers confirmed two pathways from preschool attachment security to kindergarten social competence. The first was a direct pathway, consistent with the results of research reviewed above. The second was an indirect pathway, with attachment security at age 3 having an indirect effect on social functioning through emotional competence (see also Denham et al., 2001). The emotion understanding of secure

children appears to be an important contributor to their greater social competence with peers.

Other social-cognitive contributors to children's peer relationships are also likely to be influenced by attachment security. In three studies, Cassidy, Kirsh, Scolton, and Parke (1996) examined the association between attachment and children's attributions concerning peer motivations. Infant attachment classifications were not strongly predictive of preschoolers' responses to story questions concerning the motivations of peer story characters when their negative behavior had ambiguous intent. But when attachment and attributional probes were assessed contemporaneously, securely attached kindergartners and first-graders responded as predicted: Secure children were more likely to attribute benign motives to, and insecure children to infer hostile intent in, the story characters. Moreover, these attributions concerning peer motivations were found to mediate the association between attachment security and peer friendship nominations in a sociometric procedure.

Ziv, Oppenheim, and Sagi-Schwartz (2004) examined differences in social information processing in Israeli middle schoolers on the basis of infant attachment classifications. Based on children's responses to interview questions after watching a filmed series of peer interaction vignettes, the researchers found that there were no differences by security on questions concerning the encoding or interpretation of social behavior or generation of alternative responses, but securely attached youth were more likely to believe that peers would respond positively and constructively to competent social initiatives.

Analyzing data from the NICHD Study of Early Child Care, we (Raikes & Thompson, in press-a) examined the association between early attachment security (at 15 months in the Strange Situation, 24 months in the AQS, and 36 months in the modified Strange Situation for preschoolers) and several measures of social cognition when children were 54 months and in first grade. Replicating the results of Cassidy and colleagues (1996), we found that children deemed resistantly attached at 36 months were more likely to make negative motivational attributions to peers as first graders than were secure children (although there were no differences on this measure by attachment security at 54 months). Securely attached children at 24 and 36 months were more likely to identify socially competent and relevant solutions to social problem-solving tasks than were insecure children, but there were no group differences in children's identification of aggressive solutions.

Several things make this study noteworthy. First, each of these predictive outcomes from the security of attachment controlled for the influence of later measures of parenting (including maternal sensitivity), to ensure that these were outcomes of early security rather than of continuity in parenting practices. Second, the prediction of these social-cognitive variables was especially strong when children were securely attached at more than one assessment. Finally, Strange Situation classifications never predicted later social cognition, perhaps because of the more rudimentary IWMs underlying infant attachments compared to attachments at 24 and 36 months of age.

Taken together, these findings suggest that the enhanced capacities of secure children to create and maintain more intimate, close relationships with peers and other partners may derive at least in part from aspects of their social-cognitive skills (including emotion understanding) and representations of relationships, consistent with Bowlby's IWM construct. Securely attached children have been found in these studies to exhibit greater emotion understanding and greater social problem-solving competence than insecurely attached children, to be less lonely, and to create more benign attributions for peers' motivations in ambiguous situations. The relevance of each of these social-cognitive capacities to successful peer interaction in childhood is also empirically supported, and suggests that greater inquiry into how the security of attachment is associated with social information processing is warranted.

Conscience

Kochanska (2002) has argued that one of the motivators of early conscience development is the young child's commitment to maintaining a relationship of mutual harmony with the caregiver. In this respect, a secure attachment may be associated with greater compliance and cooperation, and this association has been confirmed (Laible & Thompson, 2000). Kochanska's (1991, 1995) research has also shown that a secure attachment is especially influential for children who are temperamentally relatively fearless; for these children, the emotional incentives of the mother-child relationship (rather than the anxiety provoked by discipline practices) are motivational.

As in research on emotion understanding, attachment researchers have also sought to understand in more detail the relational catalysts to early conscience development in the context of attachment. Laible and Thompson (2000) report-

ed an interaction between attachment security and the way in which mothers talked about prior instances of child misbehavior (and good behavior) with their children. Mothers who spoke more about people's feelings and used moral evaluatives (e.g., "That was a nice thing to do") in their recounting of past events contributed to conscience development especially for children who were less secure, suggesting that when a secure relationship does not exist, emotion-based references in discussions of misbehavior may stimulate conscience development (see also Laible & Thompson, 2002). In another study, Laible, Panfile, and Makariev (2008) reported an association between AQS attachment security and mothers' conflict resolution strategies in disputes with their children at 30 and 36 months. Mothers of secure children were more likely to use justifications and compromises with their children and were less likely to aggravate conflict, even though the frequency of mother-toddler conflict did not differ from that of insecure dyads.

Further evidence for the relational catalysts to early conscience development comes from findings of Kochanska, Aksan, Knaack, and Rhines (2004). In their longitudinal analysis, they found that for securely attached children (assessed in the Strange Situation at 14 months), the parents' responsiveness and use of gentle discipline (from 14 to 45 months) predicted later conscience (assessed at 56 months), but that for insecure children there was no such association. These findings add to other studies by Kochanska suggesting that an adult's disciplinary practices have differential emotional impact, depending on the broader quality of the parent-child relationship. But this is one of the first studies documenting that the security of attachment moderates the influence of other relational influences on early socialization—an idea that merits further study.

Memory

Why would memory be associated with the security of attachment? Considering this question requires proceeding from the well-studied *content* of IWMs to the *process* (i.e., information-processing) characteristics of IWMs, which have been much less systematically examined. Bowlby's (1980) portrayal of the functioning of IWMs included his view that IWMs guide the analysis of new information in light of previously established expectations or schemas. Attachment theory is not entirely consistent, however, in its view of how IWMs are so

influential—sometimes indicating that attention and memory will be directed *toward* information that is consistent with prior expectations and prior schemas (see below), and on other occasions (particularly in discussions of defensive processing; see also Main, Kaplan, & Cassidy, 1985) indicating that attention and memory will be directed *away* from expectation-consistent information, especially if it is painful or disturbing. Nevertheless, these theoretical views have generated several efforts to examine the hypothesized influence of attachment security on memory.

Belsky, Spritz, and Crnic (1996) hypothesized that differential processing of schema-consistent information, owing to the influences of IWMs, would cause securely attached children to remember positive events more accurately than would insecure children. In a study in which 3-year-old boys' delayed recognition memory for positive and negative events during a previously viewed puppet show was assessed, this expectation was confirmed. Children who were securely attached (assessed in infancy) remembered the positive events more accurately than the negative events; the reverse was true for those earlier deemed insecurely attached, even though there were no group differences in initial attention to the positive or negative events in the puppet show.

Kirsh and Cassidy (1997) also studied the relevance of infant attachment status for 3½-year-olds' memory for stories depicting maternal responsiveness, rejection, and exaggerated distress-related responding. Consistent with the findings of Belsky and colleagues (1996), securely attached preschoolers remembered the stories describing responsive mothers better than insecure children did. Contrary to expectations, however, secure children also better remembered rejecting and exaggerated stories, significantly better than insecure-resistant children in the case of stories describing maternal rejection. Although the authors interpreted these findings as indicating that secure children are open to a range of emotions in their processing of attachment-related information, these findings underscore the need for greater theoretical clarity concerning the relevance of attachment security for memory of certain events. It is possible (indeed, likely) that several different processes may be relevant to the association between attachment and memory for attachment-relevant events (see Alexander, Quas, & Goodman, 2002, for a thoughtful review of potential processes mediating the association between attachment and children's memory for traumatic events).

CONCLUSION

This review does not exhaust the range of correlates and outcomes of early attachment security that have been studied. Associations with theory of mind, mastery motivation, academic achievement, cognitive and linguistic functioning, and many other sequelae have also been empirically examined. The reason for focusing on outcomes related to children's functioning in relationships, personality, emotion regulation and understanding, social-cognitive capabilities, conscience, and memory is that these are the most direct derivatives from Bowlby's theory and (perhaps as a consequence) have been best studied.

In the broadest sense, the picture yielded by this vast empirical literature is both encouraging and daunting. On the one hand, there is a broader, more coherent network of correlates and outcomes of early attachment security than has ever before been revealed. This literature indicates, usually in replicated findings, that children with a secure attachment history are capable of developing and maintaining more successful close relationships, especially with their parents and with peers, than are insecure children; they develop a variety of desirable personality qualities in childhood and adolescence; they are more likely to exhibit constructive forms of emotionality and emotion self-regulation; and they exhibit more positive self-regard in both explicit and implicit assessments of self-concept. Some of the more exciting recent findings come from studies of the representational correlates and outcomes of attachment security. Securely attached children exhibit greater emotion understanding, demonstrate more competent social problem-solving skills, assume more benign attributions for peers' motivations in ambiguous situations, are more advanced in conscience development, and are less lonely than are insecurely attached children. There is also evidence for the advantages of a secure attachment for memory, especially of attachment-related events, although elucidation of this awaits greater conceptual clarity and research exploration.

Early security clearly makes a significant difference for psychological development, but the empirical yield of this literature is not as generous with respect to the reasons why. As earlier noted, the various attachment minitheories provide somewhat different explanations for why a secure attachment should be developmentally provocative; most of the studies in this literature are agnostic concerning why attachment is related

to later outcomes, because the research is seldom designed to discriminate among different potential explanations. Of those that are more informatively designed, the literature yields some important and interesting clues. Early security is more strongly associated with psychological sequelae when children continue to experience sensitive parental care and security is maintained (Belsky & Fearon, 2002a, 2002b; Raikes & Thompson, in press-a). The content and quality of mother-child conversation may be part of that sensitivity, with the mothers of secure children conversing with their offspring in more elaborative and psychologically more informative ways (Raikes & Thompson, 2006; Thompson et al., 2003). Attachment security may also mediate the effects of other parenting practices on early psychological development (Kochanska et al., 2004). Early secure or insecure attachment may be especially predictive of later psychological outcomes when it is considered in the context of subsequent developmental influences, especially the continuing quality of parental care (Sroufe et al., 2005). The social-cognitive advantages of children with a secure attachment history may be an important mediator of their social competence, especially with peers and other close relational partners (Cassidy et al., 1996; Denham et al., 2002). In particular, how secure and insecure children perceive themselves and their own characteristics may be an especially significant contributor to their better psychological functioning (Cassidy et al., 2003). Attachment security may be important not only for how young children think, but for how they attend to, process, and remember events related to their relational experiences (Belsky et al., 1996).

These are important clues to how early attachment influences later psychological functioning, and constitute an agenda for future study. One of the central conclusions of this chapter, therefore, is that there will be further advances in our understanding of the association between early attachment and psychological growth when future studies are designed more incisively to examine the intervening processes that connect them. Carefully designed longitudinal research studies, together with analytical designs that enable the detection of direct and indirect associations between attachment and later outcomes, are likely to be important contributions to that productive future research literature. In addition, consistent with some of the more exciting research insights of this field, exploration of continuing parental influences (e.g., conversational fluency, discipline prac-

tices), contextual demands (e.g., family stress and disruption) and representational processes (e.g., self-referential beliefs, self-regulatory capacities, motivational influences) mediating attachment and its outcomes will be especially informative.

Another challenge facing attachment researchers in the future is that of narrowing and specifying the range of expectable correlates of a secure attachment. “All good things go together” is not a sophisticated developmental theory, but the current literature increasingly suggests that a secure attachment is associated with an ever-widening variety of good outcomes. If attachment theory does not have a coherent explanation for this variety of outcomes, the integrity of the attachment construct is in doubt (a problem currently confronting the literature on adult attachment styles), because theory development cannot be bootstrapped by findings of empirical research alone without potentially holding attachment theory accountable for formulations it should not and perhaps cannot embrace (Sroufe, 1988). Therefore, future research must be designed to examine both the convergent and the discriminant validity of the attachment construct, to determine the extent to which the associations between attachment and other behaviors derives from theoretically predicted mediators, and to facilitate further work on theory development (particularly concerning the representational dimensions of attachment security).

One manner of addressing these conceptual and empirical challenges is for attachment researchers to integrate the scholarship of contemporary developmental science more fully into their thinking about the impact of early close relationships, just as Bowlby did several decades ago. For Bowlby, new insights into children’s thinking inspired by Piagetian theory were significant catalysts to his conceptualization of stages of attachment formation and the developmental outcomes of early security. For current attachment scholars, the equally profound insights deriving from literatures on implicit knowledge, theory of mind, autobiographical memory, social representation, and many other areas of contemporary scholarship have comparable potential to reinvigorate thinking about the development of attachment and its psychological outcomes. Because scientists are all studying the same developing child, there is every reason to expect that contemporary research insights into conceptual and behavioral development should inform attachment theorists’ understanding of IWMs, the psychological meaning of

secure relationships, and the influence of these relationships on specific developmental outcomes at particular periods of growth. Drawing on allied developmental literatures outside of the attachment field will add greater clarity, specificity, and precision to attachment theory.

One of the reasons why attachment theory has remained vigorous over the years is that researchers have found new areas to pioneer. The “move to the level of representation” (Main et al., 1985), the exploration of adult attachment representations, and the connections between disorganized attachment and emergent risk for psychopathology are some of the ways that new research directions have reinvigorated attachment theory in the past. For the future, understanding the reasons for the psychological outcomes of attachment security in a theoretically rigorous, developmentally informed manner promises to yield equally vigorous new energy for this field of study.

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