

Attachment theory

A humanistic approach for research and practice across cultures

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From the start, attachment theory has always been a cross-cultural theory, a theory concerned with human welfare, a theory with direct clinical relevance, a theory rooted in biology and a theory capable of empirical test. This set of characteristics makes it virtually unique among psychological theories and likely is responsible for its great and increasing popularity. In modern times, in a shrinking world, we are aware of the need to take into account contextual influences on behavior, including culture, even as we attempt to create theory and practices of clinical utility. At the same time, it is not possible to overlook the extent of human psychological suffering and the ubiquity of trauma and hardship faced by children and adults. Human needs must be attended. Finally, there is an acute need for practices that both deal in a real way with the psychological substance of disturbance and yet are "evidenced based." Attachment theory promises all of this, and it has done so from the beginning.

These themes will be elaborated throughout this book. In this chapter, I will comment briefly on the cross-cultural nature of attachment theory, its affinity with a compassionate stance toward our fellow beings, and its clinical relevance, and I will discuss more fully its amenability to rigorous empirical testing. I will do this from the perspective of a long-term and comprehensive longitudinal study, the Minnesota Study of Risk and Adaptation, which began in 1974 and continues to the present. Many of the propositions of attachment theory and, indeed, many of the critical questions in developmental psychology can be answered only with such a study. The two central hypotheses formulated by Bowlby (for example, 1973) were: (1) that variations in the quality of infant attachment relationships are based on patterns of interaction between infants and their

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caregivers early in the first year, and (2) that these variations in the quality of attachment are the foundations for later personality organization—for psychological health and for disturbance. Both of these questions, of course, may be best addressed by prospective longitudinal studies; that is, studies in which early patterns of care are directly observed at the time, and all later outcomes are directly observed throughout childhood and beyond, always by independent observers.

As a background for this discussion and for all of the chapters to follow, a few fundamentals of attachment theory and attachment assessment must be outlined. Attachment concepts are quite distinctive from drive and trait concepts common in other psychological theories. Being clear about these distinctions will make it easier to understand both the nature of attachment research and the clinical applications that derive from it.

Fundamentals of attachment

Attachment theory was part of a revolution in psychology both in moving away from drive-reduction concepts and in moving toward relationship concepts, as opposed to only the study of individual characteristics. Attachment is a *relationship concept*. In infancy, it refers to the emotional connection and the behavioral coordination between infant *and* caregiver (attachment figure). It refers to this relationship and not to a characteristic of the infant. When we refer to an infant as “securely attached,” we actually mean that it is secure in (confident about) its attachment with this particular caregiver. Thus, the same infant may be secure in its attachment with one caregiver, and anxious with another. This was difficult for some psychologists to grasp at first, but it is an absolutely critical notion in attachment theory.

One implication of thinking of attachment as a quality of a relationship, as opposed to a trait of the baby, is that one can quickly get beyond certain confusions regarding strength of attachment—that is, “how attached” an infant is. All infants become attached if some consistent person cares for them, whether poorly or well. They don’t become weakly or strongly attached. They are just attached. Some may be anxious in their attachments and some may be confident, but all are attached, even to abusive caregivers. Saying that a baby is “too attached” likewise is a misnomer—a throwback to dependency-trait terminology. It is not a problem to be very confident in the responsiveness of your caregiver;

rather, such confidence is a sign of a good-quality, effective relationship. Infants described as “too attached” are no more attached than those who are secure; their unremitting clinging is simply a sign that they are anxiously attached.

It can readily be seen how attachment is distinctive from temperament. Temperament refers to individual variations in behavioral style—for example, dimensions such as activity level, thresholds of responsiveness, or reactivity to stimulation. These would be expected to show some consistency across contexts and to some extent across situations. Infants who are secure (or anxious) in their attachments may be high or low on any of these dimensions. For example, in the Ainsworth Strange Situation Procedure, some infants assessed to be in secure relationships become quite upset by the brief separations and cry a great deal, while others cry hardly at all. Yet those who are very distressed by the separations are judged to be secure in their relationship because they go immediately to the caregiver upon reunion and are readily settled by contact, as opposed to ineffectively seeking contact or failing to be settled by it, perhaps even fighting against it. Their confident expectations are revealed by the directness of their approach and the ease of settling. They know the contact will work and they use it to return to play and exploration. Those secure cases that are not distressed are judged to be secure because they actively greet and initiate interaction with their caregivers upon reunion, and this *psychological* contact is sufficient to promote their return to active play and exploration. They do not ignore or avoid the caregiver. As temperamentally different as these infants may be viewed, they have in common that they have confident expectations regarding their caregivers and they are able to effectively use their relationship to promote exploration.

In summary, all human infants are expected to form attachments with the person or persons that interact with them on a consistent basis. These relationships, however, vary in quality: in some cases, they will be characterized by confident expectations regarding caregiver responsiveness and by effectiveness in using the caregiver as a secure base for exploration, and in some cases, they will not manifest such expectations. It is hypothesized that such variations derive from the history of interaction with the particular caregiver. Finally, these variations may be observed in the dyadic organization of behavior, that is, the way the infant adjusts behavior with respect to the caregiver in various circumstances across time. Secure infants will explore when external stress is minimal, seek contact

when stress increases, and use that contact (physical or psychological) for reassurance, which promotes a return to exploration.

Attachment theory is distinctive from classic psychoanalytic positions that conceive of self as preceding relationships, as when a primitive self cathects a part object and subsequently a whole object, thus forming a relationship. In attachment theory, the infant is seen as born into and embedded in an organized relationship matrix, from which self emerges. Such a revised viewpoint solves a complicated problem in the study of personality. If we cannot simply assume the fully formed personality exists from the beginning, and we cannot assume something coming from nothing, how can we explain the complex organization that is the person. The answer is that there is an organization in the beginning; that organization is in the infant-caregiving relationship (Sander, 1975). In a later section, we will see the implications for research of this revised position.

Attachment theory as a cross-cultural theory

As was true with classic psychoanalytic theory, attachment theory has been criticized as culturally biased, that is, as based in white, Northern European culture (for example, Rothbaum et al., 2000). In the case of attachment theory, this critique is surprising for several reasons. First, attachment theory derived originally from studies of animals, especially non-human primates. Thus, beyond being a panhuman theory, it is even a cross-species theory. Moreover, the first empirical application of Bowlby's theory was Ainsworth's (1967) study in rural Uganda, about as far from Northern European culture as one could imagine. Most of the ideas about the link between parental sensitive responsiveness and quality of attachment derived from that study. The next study by Ainsworth was with a largely black sample in inner-city Baltimore (Ainsworth et al., 1978). Only following this were studies done with middle-class North Americans and northern European samples.

Some studies did find results dissimilar from those of Ainsworth using the Strange Situation Procedure, for example, in one north German sample (Grossman et al., 1985) and in a traditional Japanese sample (Miyake et al., 1985). But the north German sample proved to reflect a cohort effect. The mothers in this sample were born just after World War II in conditions of extreme hardship. They believed their children needed to be pushed toward independence and, as Bowlby (1973) predicted, this led to a dramatic increase in avoidant attachment. But the theory worked as

before. Avoidant attachment predicted heightened aggression just as it does in American samples. Moreover, in a southern German sample and a subsequent sample in northern Germany, such an increase was not found. Cultural bias is not indicated by this set of findings but rather the impact of hardship upon parenting.

The Japanese case is a bit different. These infants were unable to be consoled in the reunions following brief separation and therefore appeared to fit the anxious-resistant (ambivalent) category. However, such differences in the laboratory were not reflective of differences observed in the home. In Western samples, anxious-resistant patterns of attachment are associated with inconsistent, chaotic care and much crying in the home, but not so in the traditional Japanese families. Even their exploration in the laboratory was adequate *prior* to the first separation, making it unlikely that they were genuinely anxiously attached cases. But these infants, who in this cultural setting *never* experienced brief separations, were thoroughly distressed by the separations, which were unfortunately allowed to go on too long, rather than being cut short as is standard practice with distressed babies. As a consequence, these infants were inconsolable upon reunion. Such difficulty settling fallaciously implied anxious attachment. The most plausible interpretation of these results is that the Ainsworth procedure (which assumes modest though increasing stress) was not appropriate for these infant-caregiver pairs. It does not call into question the cultural generality of attachment theory, just this particular assessment procedure in this case. It should be noted that modern Japanese families (where mothers often work) and Japanese-American families show the same proportion of secure attachment as other US samples in the Strange Situation. (See also a paper by Behrens, Hesse, & Main, 2007, that illustrates the distinction between the Japanese concept of *amae* and attachment, and nonetheless provides validity for the attachment construct in Japan.)

The cross-cultural validity of attachment theory is not dependent on the general applicability of a particular assessment method, such as the Strange Situation Procedure; rather, it hinges on whether the process of attachment itself is culturally general. There is now substantial empirical evidence that core propositions of attachment theory hold across cultures (Posada, this volume; Gojman & Millán, this volume). This is despite the fact that, of course, cultures also differ widely in both parenting practices and infant behavior. There are cultures in which infants are in near-constant physical contact with mothers in the early months of life, for example, being carried in slings and co-sleeping, while in some modern cultures neither of these is

practiced. In some cultures, parents talk a great deal to even young infants, but there are other cultures where the belief is held that there is no point talking to children before they begin speaking. In some cultures, children as young as 3 tend to toddlers; in some, any relative may discipline a child (Whiting & Whiting, 1975). The list goes on and on.

On the other hand, there are constancies across cultures. In all but modern industrial cultures, babies in the first months of life are cared for primarily by one person, usually a nursing mother. Moreover, the variations in care described above are not central to attachment theory. At the core of attachment theory is the belief that a single figure or a small hierarchy of figures will serve as a safe haven—a portable source of protection—for the infant. Infants will seek out these persons specifically when frightened or distressed. This “safe haven” or “secure base” phenomenon also is apparently constant across all cultures. Likewise, it has been shown that individual differences in quality of attachment (effective secure base behavior) are related to caregiver responsiveness to signals in every culture studied (see again Posada, this volume).

Attachment theory and the concern for human well-being

As has been true with other psychoanalytic theories, Bowlby's theorizing began with a clinical problem (Bowlby, 1944). At the time, Bowlby was working with a large number of “juvenile thieves,” who today would likely be referred to as “conduct disorder.” He thought he discerned a common problem—namely, a lack of care in early life that he referred to as “maternal deprivation.” In a sense, all of his work for the next four decades can be seen as an effort to rigorously examine this hypothesis. Along the way, however, he never lost sight of the goal of improving the lives of such children, both in terms of prevention and improved clinical understanding and treatment. Early on, he spearheaded a report for the World Health Organization (1951) to call attention to early privation and deprivation of care in creating problems for children. Later, in his collaboration with James and Joyce Robertson, he worked to change hospital policies with regard to the damaging practice of forbidding parent-child visitations in medical settings.

His investigations led him to a novel approach within psychoanalytic theory; namely, begin not with disorder but with understanding normal

development. The questions arose: how do attachments typically arise and what functions do they serve? Followed by: how can this process go awry and what are the consequences of such deviations? This approach turned out to be incredibly fruitful. It led to new paradigms in psychiatry and psychology, playing an important role in the emergence of the field today known as “developmental psychopathology.” It also inspired a revolution in the study of social development wherein the role of relationships came to the fore. At the same time, this approach led Bowlby to a new emphasis on the lived experience of the person and the expectations for self and other that derive from that experience. Not only did this create a psychodynamic theory readily capable of being empirically tested; at the same time, it promoted enhanced compassion for clients in therapy. When one understands that clients are suspicious because their trust has been violated, anxious about minor separations because early separations frequently occurred or were frequently threatened, or expect hostility from others because hostility has been frequently visited upon them, the task of remaining empathic becomes easier for the clinician. In general, from the start, attachment theory has promoted compassion regarding the struggles that so many face.

Mary Ainsworth, Bowlby’s longtime collaborator, showed equal concern for human well-being, as well as being a non-combative scholar and a gentle mentor for so many. Ainsworth, the primary attachment researcher, showed her compassion through her sensitivity regarding the parents she studied, even those whose parenting was inadequate. She understood the difference between loving one’s children and being able to care for them properly. She discovered that being able to be sensitively responsive depended on much more than simply wanting to do well. She was one of the first to call our attention to the context of care. Once one understands context, one is no longer condemning of parents even though the harm that they sometimes do cannot be disregarded. The following quotation, in Ainsworth’s own words, illustrates this attitude:

Kasozi’s mother, who had been deserted by her husband, had to work most of the day in a desperate effort to establish a new garden in order to provide food for her family and she left Kasozi with a neighbor. The father’s desertion thus affected Kasozi both through the mother’s anxiety and by making it necessary for her to give him less care and attention than most . . . Ganda mothers gave their babies.

(Ainsworth, 1967, pp. 392–3)

Thus, while parents provide the context for their infants' development, and therefore are crucial in shaping individual outcomes, parenting itself occurs in the context of surrounding supports and stresses. Such an understanding yields compassion for parents who participate in research in the Bowlby-Ainsworth tradition.

The clinical relevance of attachment theory and research

Attachment theory and research have proven to have great clinical utility. They are, first, highly relevant for understanding the etiology of problems, their emergence step-by-step beginning in early relationships. Bowlby's view about how lived malevolent experience becomes the progenitor of disturbance is captured in the following quotation from his 1973 book:

In the working model of the world that anyone builds, a key feature is the notion of who his attachment figures are . . . and how they may be expected to respond. Similarly, in the working model of the self that anyone builds a key feature is how acceptable or unacceptable he is in the eyes of his attachment figures [p. 236] . . . The model of the attachment figure and the model of the self are likely to develop so as to be complementary and mutually confirming. Thus an unwanted child is likely not only to feel unwanted by his parents but to believe that he is essentially unwanted, namely unwanted by anyone. [p. 238]

Second, such a developmental viewpoint has inevitably led to an emphasis on prevention and early intervention. A plethora of attachment-based early interventions now exist worldwide. Often they are comprehensive, involving both direct guidance toward sensitive interaction with infants and toddlers, adjusting internal representations of negative experience that are interfering with adequate parenting, and helping parents establish more serviceable support networks. Some outstanding examples of such programs with infants and toddlers are to be found in later chapters of this volume (for example, Lieberman; Slade). Another attachment-based program addresses behavior problems of school-aged children, not by working directly with the children, but by training teachers in attachment concepts and helping them serve as secure bases for children, with promising results (Pianta, 1990).

Third, it is not surprising that attachment theory pointed the way to a thoroughgoing relationship-based therapy (Bowlby, 1988; Cassidy &

Shaver, in press; Wallin, 2007). In fact, when Bowlby outlined his five tasks of therapy, the very first one was that the therapist is to become established as a “secure base” for the client. This firm sense of safety would then allow addressing the second task—namely, an examination with the client of expectations regarding the self and other in relationships. Such expectations, while deriving logically from the history of lived experience, nonetheless undercut current relationships and are the root of many disturbances of personality. Task three is to examine the current therapeutic relationship as a potential counter-case to previously established relationship models. The fourth task is to then examine the family origins of the previous expectations and patterns of relating. This step is, of course, often challenging, because such examination may be painful, and there has been a longstanding taboo against making these connections. Bowlby posited that the root of many personality disturbances is conflict between what is insisted to children that they believe and what their actual experience would suggest. Accepting the reality of mistreatment, hostility, or lack of care from one’s attachment figures is indeed difficult. Having done this, however, the client will be prepared for task 5: evaluating these longstanding expectations anew. Further discussion of attachment-based therapies will be found later in this volume.

Empirical support for attachment theory

Attachment theory has proven to be not only a theory capable of empirical test, but a theory whose core propositions have been amply and repeatedly supported (for example, Cassidy & Shaver, in press; Grossmann, Grossmann, & Waters, 2005; Sroufe et al., 2005). The outpouring of research has led both to three editions of the *Handbook of Attachment Theory and Research* and the launching of the journal *Attachment and Human Development* in 1999. While much of this research has been devoted to validating major assessment instruments (the Strange Situation, the Attachment Q-sort, and the Adult Attachment Interview) and the utility of attachment-based interventions, ample research has also supported Bowlby’s two central hypotheses: that variations in quality of attachment derive from patterns of caregiver responsiveness in the first year of life and that variations in attachment are the foundation for individual differences—in later functioning of the person.

Variations in attachment as an outcome of variations in care

Her observations in Uganda led Ainsworth to propose that the critical aspect of care in the first year was the caregiver's sensitive responsiveness to the infant. The sensitive caregiver is attuned to the infant, continually monitoring the infant and being alert to the infant's signaled needs or desires. Such signals are interpreted accurately and responded to sufficiently promptly and thoroughly so that infant arousal is in general modulated. Such a caregiver also fits his or her behavior to the infant's state, mood, and ongoing behavioral direction rather than disrupting the flow of infant behavior or distressing the infant with sudden stimulation for which it was not prepared. Ainsworth summarized these concepts in a set of well-crafted scales that have been widely used to test Bowlby's first hypothesis.

In her Baltimore study (Ainsworth et al., 1978), Ainsworth obtained a very strong relationship between home observations of sensitive responsiveness and later attachment security in the laboratory. Her study was hard to match, in that she had 72 hours of home observation on each case. Still, later studies with somewhat extensive observations (6–8 hours in the home) replicated Ainsworth's original findings (Pederson et al., 1998; Posada et al., 1999). Summaries of a large number of studies using what is called "meta-analysis" also confirm that this link is robust, although most studies are based on much briefer home observations and obtain smaller correlations. Finally, one very large-scale study, based on 1,200 cases across 5 sites, confirmed the link between caregiver sensitivity in the home and later attachment security in the Strange Situation (NICHD, 1997). The important thing to note is that in all of these studies the home observations were completely independent of the outcome assessment, almost always not even being made by the same individuals. And only the caregiver sensitivity measures, not measures of temperament that were obtained in many of the studies, predicted attachment outcomes.

The cumulative body of information also suggests some specificity regarding early experience and particular manifestations of anxious attachment. *Avoidant attachment*, in which infants show little preference for caregivers under stress and even actively avoid them following brief separations in the Strange Situation (see Box 1.1), is associated with emotional unavailability, hostility or rejection, especially when the infant expresses a tender need (Ainsworth et al., 1978; Egeland & Sroufe, 1981; Isabella, 1993).

Disorganized attachment (see Box 1.1) has been linked to physical abuse and specifically to frightening parental behavior (Cicchetti & Toth, 2000; Schuengel, Bakermans-Kronenburg, & van IJzendoorn 1999; Jacobvitz, Hazen, & Riggs, 1997). While the data are less clear, it appears that *resistant attachment* (Box 1.1) results from care that is inconsistent, haphazard, neglectful, or chaotic (Egeland, Sroufe, & Erickson, 1983).

Box 1.1 Ainsworth and Main patterns of attachment

- 1 Secure attachment
 - Effective use of caregiver as a secure base
 - Clear preference for caregiver when distressed
 - Active initiation of contact/interaction following brief separations
 - Ease of being comforted by caregiver if distressed
- 2 Avoidant attachment
 - Little obvious preference for caregiver when stressed
 - Little emotional sharing
 - Active avoidance following brief separations
 - *Minimizing the expression of attachment behavior*
- 3 Resistant attachment
 - Poverty of exploration
 - Wariness of the unfamiliar and difficulty with separation
 - Difficulty being settled by caregiver; visible anger
 - *Maximizing the expression of attachment behavior*
- 4 Disorganized attachment
 - Caregiver as a source of threat
 - Irresolvable paradox (flee to or away?)
 - Disorientation and incoherence
 - Apprehension or confusion

Attachment variations as the foundation for the personality

Bowlby's major idea was that the working models or representations of self and other that derive from early attachment relationships form the foundation for later personality, be it healthy or disturbed. This is because these representations or expectations (Sroufe & Fleeson, 1986) guide one's behavior, one's reactions to situations, and one's interpretation of events. It is not a matter of the emerging psyche being scarred by early experience;

rather, it is the initiation of a developmental pathway that if continually followed leads to a certain outcome. When a pathway is initiated, there is a tendency to continue along it because, in addition to the fact that there is some stability in the environment, being on that pathway itself engenders further experiences that support that course.

One notable experiment may be used to illustrate this idea of self-sustaining pathways. Children with histories of “avoidant” attachment, a pattern associated with chronic rebuff and rejection when the infant expresses a tender need, later tend to manifest more aggression in school settings. The presumed mechanism is internalized expectations of hostility and malevolent relationships. Suess, Grossmann, and Sroufe (1992) supported this idea in a study using cartoon strips. The first picture showed a child building a tower. Then, in the second frame, another child is walking past. Finally, in the third picture, the tower has fallen down. When asked to explain what happened, children with secure attachment histories usually said something like “the [second] child must have accidentally knocked that down. He’ll probably help him fix it.” Those with avoidant histories commonly said the child had knocked it down on purpose, although there was nothing in the picture to suggest that. In another study, children watched three puppets in a variety of vignettes. Afterwards, the child was asked about the protagonist puppet’s feelings. Children with secure attachment histories showed greater emotional understanding than children without secure attachment histories, suggesting that an internalized secure attachment history allows children to better understand the emotional point of view of others (Laible & Thompson, 1998). There are now numerous studies linking early attachment to later representations, and it seems likely that, as Bowlby suggested, such experience-based representations are the carriers of experience and a core feature of personality (Bretherton & Munholland, 1999; Carlson et al., 2004).

The role of early attachment in formation of the person also can be conceptualized in terms of five bases or foundations. The first foundation is a *motivational base*. From a history of responsive care (secure attachment), one develops positive expectations concerning relationships, a basic sense of connectedness with others, and a belief that relationships will be rewarding. Second and closely related, is an *attitudinal base*. This refers to the belief that one may elicit responses that are needed from others and expectations of personal mastery in the social world. The third foundation is the *instrumental base*. Because the attachment relationship supports

exploration, those with secure histories develop object mastery skills and a capacity to enjoy play and discovery. This makes them attractive play partners in the preschool and launches them on their way to social competence (Sroufe, 1983). It also undergirds a positive problem-solving attitude (Sroufe et al., 2005). Those with secure histories think if they try hard they will succeed. Fourth is the *emotional base*. Attachment is fundamentally dyadic emotion regulation. Infants cannot well regulate their own emotions, but they can be well regulated within a supportive caregiving context. In a real sense, within the attachment relationship, young children are being trained in emotion regulation (Sroufe, 1996). The capacity for self-regulation springs from this training. Many scholars have described this base in neurophysiological terms, how excitatory and inhibitory systems in the brain are developed and balanced in the context of relationships. (for example, Schore, 1994; Siegel, 1999). Finally, we have the *relational base*. This concerns the notion of reciprocity in relationships and, in general, how relationships work. For example, from empathic care comes the capacity for empathy (Kestenbaum, Farber, & Sroufe, 1989).

It is through such foundations that attachment lays the groundwork for healthy personality development in the case of secure attachment, or for disturbed behavior and personality disturbances in the case of anxious attachment. In addition, more specific predictions are derived from attachment theory. The outcomes based most clearly in theory include (1) self-esteem, (2) self-reliance, (3) social competence, including the capacity for empathy, and (4) self-regulation and self-management (relative absence of anxiety or behavioral and emotional problems). High self-esteem derives naturally from having been treated as worthy. Self-reliance has its roots not in having been pushed early toward independence, but in experiencing effectiveness within the relationship. Social competence, empathy and self-regulation were all discussed in the previous paragraph. Each of these outcomes has been well supported in the Minnesota longitudinal study, as well as other research (see Carlson & Sroufe, 1995; Cassidy & Shaver, in press). Before presenting some key results from this study, crucial features of the study will be described.

The Minnesota Longitudinal Study of Risk and Adaptation

The Minnesota study began in the mid-1970s with the recruitment of more than two hundred economically disadvantaged women who were pregnant

with their first child; the study continues to this date. Families living in poverty were selected for two reasons. First, all previous long-term longitudinal studies of development had been conducted with middle-class families, and it was deemed important to understand disadvantaged families as well. Second, it was well known that poverty places children at risk for a range of problems. We wanted to understand both the processes through which many children developed problems and at the same time to understand how some children developed well despite poverty.

Assessments began before birth and were very frequent and detailed in the first 18 months of life. Before the birth of the child, we assessed both the prenatal context (quality care for the mother including prenatal physician visits) and parents' attitudes and expectations. Attitudes toward a child can, of course, be responses to the child, so it was important to tap these before a child was present. We found that indeed negative expectations and lack of understanding regarding the child as a complex separate being (who must not be expected to meet parental needs) were related to later negative outcomes. Early and frequent direct observations of the child and of the parent-child interaction were a major strength of the study. Only within such a strategy can one determine whether child characteristics are determining parent behavior, or vice versa. Likewise, if one wishes to study change over time, dense measurements are required. We gathered extensive observational data right in the hospital and at seven and ten days of life, then every three months for the first eighteen months. We found, for example, that mothers' interest in the baby in the hospital was predictive of numerous outcomes.

Our assessments were not only frequent; they were comprehensive. Quality of care was assessed at multiple ages. In addition, all age-relevant domains of child functioning were assessed, including, for example, temperament, language and cognitive development, IQ, curiosity, role taking, peer relationships, school achievement and, later, work, romantic relationships, and parenting. We measured behavioral and emotional problems at each age, using multiple independent sources of information, including parent and teacher reports, self-reports, and clinical interviews. Such comprehensive measurement was important to fully examine the impact of attachment relationships. For example, only by having such data can we know that the link between anxious attachment and later behavior problems is not due to temperamental differences of infants. When we conclude that we can predict dropping out of school with 77 percent accuracy by the time

the child is 3 years old, based on our measures of early care, we must be able to show that this is not simply a reflection of IQ differences (with high-IQ parents giving better care and having children who are simply smarter). Neither parent nor child IQs account for our findings, and IQ drops out as a predictor when assembled in a statistical test with early care. These children did not drop out of school because they were stupid (Jimerson et al., 2000).

It was also important in this study to not only measure parenting and child characteristics but also the context of stresses and supports within which the parents were operating. At every age, we specifically measured the life stress the parents were experiencing and the social support available to them. This was critical for two major reasons. The first was that this completely removed the issue of blaming parents. Stress and support predict the quality of parenting. Once this fact is recognized, one can see that it is incumbent upon society to provide better support for parents in poverty rather than blaming them for the poor-quality care. The second reason is that tracking such measures, as well as parental depression, gave us traction with regard to understanding change. As depression, stress, and support changed over the years, the quality of the child's functioning went up and down in commensurate fashion (Sroufe et al., 2005).

Finally, of course, we assessed attachment at 12 and 18 months, as well as many other aspects of parenting keyed to the age salient issues of development (for example, guidance and limit setting in the toddler period). We wanted to know not just whether early attachment predicted later outcomes, but also how attachment worked with other aspects of parenting and other developmental influences, such as peer relationships. While we did not assess attachment per se beyond the infancy period, we did measure representations of attachment in every developmental period. These measures included story completions in the preschool period, family drawings in early elementary school, a variety of projective and narrative techniques in pre-adolescence and adolescence, and the Adult Attachment Interview in late adolescence and early adulthood. This allowed us to track the interplay between early attachment, later experience, representations and behavior problems (Carlson et al., 2004).

Earlier longitudinal studies had demonstrated very little stability or predictability of functioning from the first two years of life to later periods of development (for example, Kagan & Moss, 1962). This was problematic for psychoanalytic theories because, if anything, this early period might be expected to be most important of all. Not only is development expected to

be built upon early foundations, the early period could have more lasting effects because, being pre-verbal, it is not subject to conscious examination. As Freud indicated, there is no law of effect for the unconscious; it is not open to revision in light of reality (Loevinger, 1976). However, these early studies were seriously flawed in having a too simple view of continuity—that is, that traits of babies would simply persist. For example, stability of dependency or aggression from infancy should not be expected. All infants are necessarily dependent and hostile aggression is not yet in their repertoire. Yet, we now know that variations in aggressiveness and dependency may be strongly predicted by looking at their origins in relationship experiences. Our developmental model gave us impetus to begin our study even in the face of the previous failures.

Major findings

We found that age-by-age the history of infant attachment relationships and early care had consequences for individual functioning. Results were strong with regard to individual characteristics, such as self-esteem, agency, and self-reliance, as well as for social competence and behavior problems. I will briefly review findings on personal characteristics and social competence in each developmental period; then I will provide an overview of our findings on psychopathology and resilience. (For a more complete account of all of this see Sroufe et al., 2005.)

Toddler adaptation

Several studies have found that those with histories of secure attachment are more compliant with caregiver requests as toddlers (Londerville & Main, 1981; Matas, Arend, & Sroufe, 1978). This compliance is not based in fear, but is what Grazyna Kochanska calls “committed compliance” (Kochanska et al., 2004). Toddlers with a history of secure attachment and responsive care want to maintain a coordinated relationship with their caregivers. In addition, in our studies of both a middle-class (Matas, Arend, & Sroufe, 1978) and our poverty sample, we found that those with histories of secure attachment were more enthusiastic and affectively positive in approaching problems, were less easily frustrated, and were more persistent. All of this reflects the early roots of executive function and a sense of effectiveness (Sroufe et al., 2005).

Adaptation in the preschool

Many aspects of functioning were assessed during the preschool period in our longitudinal study, both in our laboratory and, with subsamples, the preschool setting (see Sroufe, 1983; Sroufe et al., 2005, for more complete summaries). In the laboratory, those with secure histories showed more agency and persistence in struggling with a challenging problem and showed more curiosity in the face of novel objects than those histories of anxious attachment. As directly observed or rated by teachers, they showed more positive affect, more self-reliance, higher self-esteem, and better self-management. To detail one specific finding: during circle time, those with anxious attachment histories, including the avoidant group, sat next to teachers or on their laps much more frequently than did those with secure histories, even though the secure group showed great facility in seeking out teachers in times of need (Sroufe, Fox, & Pancake, 1983). Moreover, they were better able to flexibly adjust their behavior to the demands of the situation, playing with exuberance in the play yard, but being quiet and attentive during story time or demonstrations (showing what Block & Block, 1980, refer to as high "ego-resiliency").

Other powerful links to attachment history appeared in the realm of early peer relationships (Sroufe, 1983; Sroufe et al., 1984). Those with histories of secure attachment were more actively involved in the peer group, were less frequently isolated, and were able to sustain interactions longer. They more frequently approached and responded to other children with positive affect. All of this made them attractive play partners, leading to higher popularity rankings. In interactions with play partners, they neither victimized their partners, nor allowed themselves to be victimized, whereas those with histories of avoidant attachment more likely to bully and those with resistant histories were more likely to be their victims (Troy & Sroufe, 1987). All of these experiences prepared those with secure histories for the more complex social world of middle childhood. ?

It should be noted that attachment history also predicted the reactions of teachers to the children, although they were uninformed regarding that history. From randomly sampled video recordings made in the classroom, coders with no knowledge of other information rated teachers as treating children with secure histories with higher expectations for compliance, less control, and higher standards. In other words, they treated them in a warm, but age-appropriate manner, expecting them to behave properly. With those

having resistant histories, teachers had low expectations, made allowances for immature behavior, and controlled and guided their behavior a great deal. With those having avoidant histories, teachers had low expectations, but also were controlling, demanding, and at times even angry. No doubt these varied reactions were in response to the way children in these different groups behaved. Nonetheless, we viewed these patterns as confirming the inner models that the children brought with them to the preschool.

Adaptation in middle childhood

By every key measure, children with secure histories were better adjusted during the elementary school years (Sroufe et al., 2005). Their teachers (again with no knowledge of the child's history) rated them as higher on both peer competence and self-esteem/emotional health. They also obtained higher achievement test scores and were, in general, more academically successful. Both teachers and independent observers rated them as less dependent and less isolated than those with histories of anxious attachment, as well as being better able to flexibly adjust their behavior to various circumstances. Teachers were a primary source of data on behavior problems, and this will be presented in a later section.

Our richest data on social relationships came from a series of summer camps (Elicker, Englund, & Sroufe, 1992). Counselors rated children who had secure histories as more socially competent than those with anxious histories. In addition, both counselor nominations and direct observation confirmed that they were more likely to form stable, reciprocated friendships. At the same time, they were better integrated into the peer group, participating actively in activities and adhering to peer group norms. Most significant, they were able to coordinate friendship and peer group demands, a complex task (Shulman, Elicker, & Sroufe, 1994). For example, if chosen to be on separate teams in a sporting event, one could observe them maintaining contact with their friend. They might congratulate them on a good play or banter with them when in proximity. Their friendship was not threatened by the presence of other children. In contrast, those with avoidant histories, in those rare instances where they developed a friendship, stayed isolated with their friend, being unable to integrate friendship and group activities and appearing "lost" and unable to function on days when their friend was not present. It should again be noted that every piece of data was contributed by people blind to developmental history and unaware of any other data.

Adaptation in adolescence

Interviews with the children at the end of middle childhood showed that those with secure histories had a deeper understanding of social relationships; for example, that arguments with a friend could lead one to feel closer due to enhanced understanding of one another. Such understanding expanded dramatically in the adolescent years. In interviews, those with secure histories showed a deep understanding of the nature of friendships and of group dynamics. They accurately described who associated with whom, as confirmed by our behavioral observation. Counselors at a series of camps again rated those with secure histories as more socially competent and less isolated. Moreover, ratings on "capacity for vulnerability," an age-salient scale we developed just for this age period, strongly discriminated those with secure and anxious histories. This was mainly revealed in circumstances in which strong feelings would be aroused (trust exercises, the last-night dance, etc.).

Direct observation by independent observers confirmed the continued social competence of those with secure histories. Observers agreed that those with secure histories were more central to the group and more actively involved. They were more frequently selected as leaders in small group settings by their peers, and they were rated as more interactive and influential in groups. By this age, the network of social relationships is extraordinarily complex. The young person must now coordinate same-gender friendships, cross-gender friendships, same-gender peer group functioning and mixed-gender group functioning, all when they have an increased understanding of their own vulnerability. It was those with secure histories that were best able to master this complex task.

Adaptation in adulthood

Early attachment experiences were also related to functioning in intimate adult relationships. Not only do adults describe their relationships in a more coherent and open manner (Roisman et al., 2005), they have higher-quality romantic functioning as observed in standard conflict and collaboration tasks. For example, Simpson and colleagues (2007) found that infant attachment variations predicted the degree to which people experienced negative emotions in their romantic relationships at age 20–21. Moreover, individuals who had been securely attached at 12–18 months of age were able to recover from conflict more effectively than those with insecure

attachment histories (Salvatore et al., 2011). As we stated in a previous paper: “the individual projects his/her representation of relationships onto future social contacts, leading to a repetition and confirmation of expected cycles of behavior. All in all, this process leads to the carry-over of basic relationship styles into future relationships” (Shulman, Elicker, & Sroufe (1994, p. 343).

Other measures of adjustment to adulthood also are related to attachment history. One summary measure, called “global adjustment,” was based on interviews and involved three major criteria: (1) adequate progress in work, education, or training; (2) meaningful relationships with family, friends, and partners, and (3) a functional level of self-awareness (including clarity with regard to goals and pathways to those goals). Security of attachment was related to this outcome, although as we will discuss below, predictions were much stronger when we combined attachment with other measures of early functioning and with functioning in childhood (Sroufe et al., 2005).

One further note: we found attachment history to be related to representations of attachment, to parenting, and to attachment in the next generation. Here, the significant finding was that disorganized attachment in infancy predicted disorganized attachment in the next generation. Moreover, we found that this was mediated by a history of dissociation.

Attachment and psychopathology

Attachment theory and research was influential in launching a new view of psychopathology; namely, that pathology is an outcome of development. Like all development, pathology is a cumulative process, a step-by-step confluence of multiple influences over time. In such a view, early anxious attachment relationships are not viewed in themselves as pathological or even as direct causes of later disturbance. Their connection with disturbance is seen in probabilistic terms; that is, they initiate developmental pathways that if pursued lead to a greater likelihood of disorder. We did find that both avoidant and resistant attachment were modestly associated with later problems and with some specificity. Logically, because of alienation, avoidance was associated with conduct problems (Renken et al., 1989), and resistant attachment, because of heightened vigilance and uncertainty, was linked to anxiety disorders (Warren et al., 1997). Both were linked to depression (Duggal et al., 2001), we believe via different pathways.

Disorganized attachment was an especially potent predictor of psychopathology (Carlson, 1998). In fact, no other single measure from the infancy period was as strong. Disorganized attachment represents a profound disturbance in the organizing core of the self, and it predicted a wide range of pathological outcomes, from conduct problems to borderline personality symptoms. Because this pattern is built upon an irresolvable paradox (the simultaneous impulse to flee both to and away from the attachment figure), these infants are later prone to dissociation. It was indeed the case that the disorganized pattern predicted dissociative tendencies through adolescence and into adulthood. Such dissociation lay underneath the tendency of these individuals to show a myriad of disturbed behaviors and to be unable to resolve experiences of loss or trauma (Sampson, 2004).

Resilience

Just as with pathology, resilience is seen as a developmental outcome within the attachment framework, not as a characteristic that some individuals simply have. It is constructed, step-by-step, with sensitive, responsive care and secure attachment as the important foundation. We were able to demonstrate the role of attachment in promoting resilience in two ways. First, a classic definition of resilience is the capacity to function well even in the face of adversity. Our measures of high family stress served as an adversity indicator, and indeed, high stress was associated with child behavior problems in our sample. But not all children facing high stress showed problems and, thus, could be called "resilient." Note that this term is merely a description of the phenomenon, not an explanation. Rather than simply assuming an inherent characteristic, we sought to determine antecedents of this capacity. What we found was that children with secure attachment histories were significantly less likely to show behavior problems in the face of high family stress than were children with histories of anxious attachment (Pianta, Egeland, & Sroufe, 1990).

The second way we explored attachment and resilience was by defining groups of children who recovered from a period of difficulty. This is in keeping with dictionary definitions of the term as "bouncing back." In the first analysis, we defined a group of children with consistent behavior problems aged 3–4½ years (across three assessments). When we followed them to age 8, some had remitted their problems and therefore could be called "resilient." Such "remitters" were significantly more likely than

those who continued to have problems to have histories of secure attachment (Sroufe, Egeland, & Kreutzer, 1990). We repeated this analysis at several age points, always with the same general results (Sroufe et al., 2005). It was also the case that intervening changes in family stress or support also accounted for positive change in the children. When history and current supports were taken into account, the mystery and magic in the term "resilience" virtually disappeared.

A final note here concerns the way attachment history influences the capacity to utilize opportunities for growth (Supkoff, Puig, & Sroufe, 2012). In the adult literature, it has been known that certain major events, such as marrying or having children, offer potential turning points in the life course. We too found that forming stable partnerships was associated with remission of depression, for example, between adolescence and early adulthood. But, in addition, we found that those with secure early attachment were more likely to remit than those with anxious histories given similar opportunities. In other words, those with secure histories were better able to take advantage of this new partnership.

Attachment and other influences

Variations in attachment are more impressive when considered in the context of other developmental influences. For example, when we consider a combination of early care influences (quality of stimulation, guidance and limit setting, support for problem solving), predictions to an array of outcomes became notably stronger. This included relations with social relationships in childhood, adolescence and adulthood, as well as school performance and other aspects of personal functioning (Sroufe et al., 2005). Likewise, considering both attachment and peer experiences greatly enhanced predictive power. For example, predictions concerning adolescent and adult social competence from combined measures of attachment history and peer competence were very powerful. Sometimes it was the case that peer measures predicted outcomes better, and sometimes early attachment predicted better. For example, in adult relationships, attachment predicted emotional aspects of relationships better (capacity for trust, hostility), and sometimes peer experiences were more powerful (ability to negotiate and resolve conflicts). Thus, attachment appears to prepare certain motivational and attitudinal expectations, but the actual practice one gains from negotiating in more equal relationships also is important.

Similarly, with regard to psychopathology outcomes we found that, when combined with other influences, predictions involving early attachment were greatly strengthened. This was true for every pathological outcome we studied. In particular, when those with early anxious attachment encountered subsequent stresses or adversity, they were notably vulnerable in terms of developing disturbance. As one example, those having disorganized attachment in infancy, who later experienced abuse or other trauma, were much more likely to develop dissociative symptoms in late adolescence than those with similar trauma but not disorganized attachment or those with disorganized attachment but not subsequent trauma (Ogawa et al., 1997). Thus, just as secure attachment history promotes the capacity to withstand or recover from adversity and take advantage of opportunities for growth, anxious attachment history (especially the disorganized pattern) leaves individuals more vulnerable.

Change, of course, does occur in light of later experience and other influences. We documented this in a number of ways in our study, and have shown it to be possible at every phase of development (Sroufe et al., 2005). Of particular note, as family stress decreases, as social support increases, and as parental depression lessens, child, adolescent and adult problems decrease. Having said that, it is also true that the longer a pathway is followed, the more difficult change becomes, and it appears that one's early attachment history is never lost.

We summarize this state of affairs previously in the following way:

Variations in infant-caregiver attachment . . . are related to outcomes only probabilistically and only in the context of complex developmental systems and processes. Still, the importance of attachment is not trivialized by such considerations. Within a systemic, organismic view of development, attachment is important precisely because of its place in the initiation of these complex processes. It is an organizing core in development.

(Sroufe, 2005, p. 365)

Conclusion

Attachment theory has fomented a revolution in psychology because of its general applicability across all human groups, its clinical relevance, and its openness to empirical test. Early attachment relationships not only are theoretically of great importance, they have proven to be absolutely foundational for later development. As I concluded in a previous paper:

While it is not proper to think of attachment variations as directly causing certain outcomes, and while early attachment has no privileged causal status, it is nonetheless the case that nothing can be assessed in infancy that is more important. Infant attachment is critical, both because of its place in initiating pathways of development and because of its connection with so many critical developmental functions—social relatedness, arousal modulation, emotion regulation, and curiosity, to name just a few. (Sroufe, 2005, p. 365)

Thus, because development is cumulative, always building upon itself, early attachment relationships set an initial direction for development. Because individuals seek, select, and react to later experiences within the framework of attitudes and expectations forged in attachment relationships, there is a tendency for these early pathways to be followed in a cascading manner. Of course, early attachment experiences are open to change. Still, they are not discarded. They remain either as factors that promote growth or leave individuals more vulnerable to adversity and developmental challenge.

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