

# Control-Mastery Therapy as a Secure Attachment Relationship

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Control-Mastery theory (CMT) and attachment theory were formulated over 40 years ago by Joseph Weiss and John Bowlby, respectively, psychoanalysts who had become disillusioned with Freudian theory. The interpersonal psychoanalytic theories both men devised stress the developmental importance of cognitive adaptations to life events. While Bowlby looked to evolutionary biology, ethology, and cognitive information theory for inspiration in understanding the attachments that infants form to their caregivers, Weiss remained within the psychoanalytic realm in formulating his cognitive theory of therapeutic practice. As a result, both theories describe the human developmental process in somewhat different language.

CMT is usually explained with the aim of training therapists on nuances of the technique, so these presentations tend to focus on consulting room activities. Evenings spent discussing theory with Joe Weiss have led me to understand, however, that Joe's concept of the human developmental process is considerably broader than is usually indicated. I would like to outline this broader view, framing the discussion with my take on attachment theory.

Current attachment theory has yet to achieve the status of a full-fledged psychoanalytic theory. As I will show, attachment researchers should look no farther than CMT for an indication of at least some of what a more generally applicable theory should include. That's because Joe Weiss anticipated many of Bowlby's findings in formulating his theory of the human developmental process. Although not overtly couched in attachment-related concepts, CMT is possibly closest to the psychoanalytic theory that Bowlby would have formulated, had he given serious attention to returning to his psychotherapeutic roots. In this article, I will explore the ways CMT can inform attachment theory and the pertinence of attachment-related concepts to CMT.

## **Bowlby's theory**

Bowlby (1) began his research with the conviction that the attachments infants form to their caregivers are both of immediate importance to them and crucial to their subsequent psychological development. He initially focused on the fact that, at about eight months of age, infants start displaying behaviors that evidently have the purpose of keeping caregivers nearby on a general basis and in contact with them when the infants sense danger or become upset. Bowlby took the presence of these behaviors as an indication that the infants had formed attachments to their caregivers, and therefore called the proximity-seeking behaviors "attachment behaviors." He then formulated an instinctive control systems theory to explain the presence and organization of these behaviors and capped it off with the evolutionary rationale that the instinctive systems responsible for the proximity-seeking behaviors arose through natural selection to protect infants from predators, a need that related to environmental conditions at the time when humans first evolved, which Bowlby called the "environment of evolutionary adaptedness."

This theory—impressive though it is—proved nettlesome in application almost from the start. Infants don't display attachment behaviors all of the time, so are their attachment systems turned "on" only when the behaviors appear and turned "off" at other times? Bowlby initially said yes, but then opted for the view that attachment instincts operate all the time but at high and low levels. Is an infant who clings to its mother more attached to her than one who seems to be more independent? The question involves distinguishing attachment from dependency, and the effort to do so led to further refinements of the theory. The final resolution of the issue involved the subject of attachment quality, which was initially researched by Bowlby's principal colleague, Mary Salter Ainsworth, in terms of the

“Strange Situation” protocol (2) she and her colleagues had developed. Explaining her data called for major revisions in the theory.

The revisions Bowlby and Ainsworth made generally involved giving cognitive regulation of attachment a greatly increased role. In the initial version of the theory, cognitive processes had little function other than to assess situations and choose the appropriate means of maintaining or increasing proximity to caregivers. To explain Ainsworth’s data, however, it was necessary to recognize that cognitive processes permeate the organization of an infant’s attachment relationship with its caregivers and its responses under various circumstances. This was a positive development because it enabled attachment theory to begin addressing Bowlby’s other initial conviction, namely, that attachment is crucial to later psychological development, which is something the early control systems theory could not do.

Bowlby’s conviction that attachment experiences are important to later development has been vindicated by modern attachment research, but his early control systems theory of attachment has not, and neither has the evolutionary function Bowlby postulated for attachment. So wide is attachment’s developmental reach that it is no longer credible that attachment merely serves a protective evolutionary function. Bowlby, however, never bothered to devise a new evolutionary purpose for attachment, and, as far as I know, neither has any other attachment researcher.

Control systems dominated by cognitive processes are now seen as being responsible for attachment-related responses and their aftereffects. Nevertheless, the early theory of protection-serving control systems continues to influence attachment research. It colors the interpretations that are made of the cognitive processes at work and continues a focus on proximity-seeking behaviors as being indicative of what attachment is all about. The protective function initially proposed for attachment is a conceptual dead end that, because it is still considered integral to attachment theory, stands as an impediment to reconciling attachment theory with other established theories of human development. There is a growing recognition of this within the attachment research community, which expresses itself in interpretations that are more psychoanalytic in nature and in new research methods that do not involve proximity seeking. One of the most important of these is the Adult Attachment Interview, which was developed by Mary Main and Ruth Goldwyn (3) in the early 1980s. In what follows, I will pro-

pose a new evolutionary function for attachment that is capable of removing the obstacles that now separate attachment theory from psychoanalytic theories in general and CMT in particular. But before doing so, it would be best to continue summarizing where attachment theory stands today.

### Attachment Theory Today

Perhaps the best way to begin summarizing current attachment theory would be to start with a discussion of the Strange Situation research protocol. The Strange Situation places a one-year-old infant and one of its caregivers in a room containing toys for the infant to explore and play with as it wishes. At various times during the twenty-minute procedure, the infant stays with its caregiver, the caregiver and a stranger, only the stranger, or is left alone for up to three minutes. The idea is to permit study of the infant’s responses upon separation and reunion with the caregiver. The responses are coded according to the way the infant seeks to be close to its caregiver, the ease with which it can be soothed when upset, and the speed with which it returns to play. The protocol is theorized as revealing the infant’s ability to balance its desire to explore a new environment with its need for protection and reassurance from the caregiver. Based on its behavior across the session, and especially during the reunion episodes, the infant’s attachment bond is classified as “secure” or “anxious,” with the “anxious” category being further subdivided into “avoidant,” “resistant,” and “disorganized/disoriented” subcategories.

The first two anxious subcategories were part of the protocol’s interpretative scheme when Ainsworth and her colleagues (4) initially established it; the disorganized/disoriented subcategory was added later by Main and Solomon (5) by way of accounting for infants who didn’t fit into the original scheme. The terms “secure” and “anxious” are taken to describe the infant’s apparent sense of assurance as to the availability of a caregiver, should a need for comforting or protection arise.

Infants have secure attachment relationships with caregivers who are emotionally available, perceptive, and responsive to their infants’ mental states—that is, caregivers who are sensitive to their infants’ signals and effective at meeting the infants’ needs. These parents are able to “tune in” to their infants, in the sense of maintaining mental contact with them through communications involving facial expressions, vocalizations, body gestures, and eye contact. Caregivers who establish anxious attachment relationships are unable to sustain emotional

contact with their infants. More particularly, caregivers who participate in avoidant anxious relationships continually communicate a rejecting attitude, while those responsible for resistant relationships are erratic in sensing and meeting their infants' needs. Disorganized/disoriented attachments often arise from patterns of caregiver behavior that confuse and frighten infants and possibly include physical or sexual abuse. Of all of the types of attachment, only a secure attachment relationship has the character of a mutual friendship between an infant and its caregiver. Given the psychologically beneficial effects that accrue to the infant from such a relationship, it may be said that a securely attached infant has found a "perfect friend" from a developmental standpoint.

Bowlby (6) explained the developmental effects of these various forms of attachment relationships by theorizing that interpersonal experiences shape the infants' "internal working models" of themselves, others, and relationships in general. He proposed that early experiences of sensitive or insensitive care contribute to the growth of expectations concerning a caregiver's accessibility and responsiveness, as well as to beliefs about the infant's deservingness of such care. Such expectations not only predict the sensitivity of a caregiver's responsiveness, but also guide future relational choices and expectations, self-appraisals, and behavior toward others. An infant who is treated in a consistently sensitive and responsive manner grows to see the world as good and responsive, and itself as deserving such consideration. On the other hand, an infant who is responded to harshly, erratically, or hardly at all grows to see the world as unpredictable and insensitive, and itself as not deserving better treatment. Furthermore, Bowlby believed that individuals with secure working models of relationships are led to seek supportive, satisfying encounters with others and behave in the positive, open manner that elicits such support. By contrast, individuals with insecure working models may, because of the distrust or uncertainty engendered by their relational expectations, anticipate less support from others and may actually deter the kind of supportive care that would benefit them (7). In these ways, infant expectations tend to become self-perpetuating through the apparent confirmation of early expectations later in life.

In a general way, this type of argument has been supported by longitudinal studies that followed individuals from one-year-old Strange Situation subjects through their adolescent years.

For example, securely attached infants as assessed by the Strange Situation have been found in their adolescent years to be significantly more socially competent than anxiously attached individuals (8); more empathetic (9); less given to chronic anger (10); less prone to victimize or become victimized by others (11); less apt to show emotional, social, and cognitive impairments (12); more self-confident (13); more independent (14); have more emotional resilience (15); and have greater motor skillfulness (16).

As can be seen, even this partial list of cognitive effects ranges far from the issue of fear-motivated proximity seeking. This suggests that the Strange Situation protocol should be considered as providing a measure of an infant's attachment relationship with its caregiver as a whole, with researcher focus on fear-based proximity seeking fulfilling the role of a sampling technique. This interpretation is supported by the research finding (17) that mothers of infants classified as securely attached were more sensitive and expressive during feeding situations than mothers of avoidant or resistant infants. Thus, sensitivity would seem to be a global attribute of a secure attachment relationship, which creates the possibility of a logical fallacy in applying the characteristic to a subset of the infant's responses, namely, those involving fear-motivated proximity-seeking behaviors, in arriving at interpretations that involve fear-based proximity seeking alone.

Additional support may be found from findings involving the Adult Attachment Interview (AAI). The AAI (18) is a cleverly structured set of questions whose aim is to assess an adult's "state of mind with respect to attachment." The 20+ questions quiz subjects on their relationships with their caregivers from early childhood on, seeking to ferret out the subjects' current attitudes toward relationships in general. A subject's narrative is scored for the extent to which the rater concludes that parents were loving, rejecting, involving or neglecting, and pressuring to achieve. However, the most critical aspects of the interview analysis process relate to the speaker's ways of presenting and evaluating his attachment history. As with the Strange Situation, subjects are placed in one or more of four categories: secure/autonomous, dismissing, preoccupied, and disorganized.

When the AAI is administered to caregivers who participated in the Strange Situation with their infants, a correlation is generally found between se-

cure/autonomous caregivers and secure infants, dismissing caregivers and avoidant infants, preoccupied caregivers and resistant infants, and disorganized caregivers and disorganized/disoriented infants, respectively. Moreover, there is some evidence that secure infants grow up to become secure/autonomous adults, avoidant infants become dismissing adults, resistant infants become preoccupied adults, and disorganized/disoriented infants become disorganized adults, thus completing the cycle (19) of development. Despite the multiple associations with Strange Situation assessments, the AAI has essentially nothing to do with proximity-seeking behavior.

In spite of great attention to the long-range effects of infant attachments in recent years, and despite many extensions to Bowlby's theory (20) that have been made, attachment theory remains without a detailed portrait of the human developmental process. Explanations tend to be tautological, in the sense that appeals to cognitive models are used to merely connect the developmental dots laid down by longitudinal studies. Theory has not progressed far from Bowlby's (21) rule of thumb that an adaptation always depends both on the prior history of the adaptation and current circumstances, with an established pattern influencing reactions to the environment and current experience having the power of changing the adaptation and subsequent expectations without erasing the influence of attachment history. To explain the fact that none of the correlation percentages in the abovementioned longitudinal studies are 100%, for example, attachment theory merely posits that events must have occurred in the interim, leading to changes in attachment relationships later in life.

It is difficult to fault Bowlby's theory as far as it goes. The main problem is that it does not go far enough in explaining recent research findings, which indicate that the human developmental process is more complicated than Bowlby realized. Attachment theory today lacks the precision to define developmental trajectories with any assurance, which has caused some (22) to even question the formative significance of infancy. As we have seen, attachment research is often guided by a general expectation that a secure attachment in infancy predicts good psychosocial outcomes in later years. But considerably greater theoretical precision is needed to guide future research into the outcomes of attachment security. This level of theoretical precision does not currently exist. The extensions to Bowlby's theory that have been attempted have not

contributed to the formation of a new overarching theory, but rather to the development of numerous "minitheories" having little application beyond the data set they were formulated to explain. The marriage between CMT and attachment theory I propose won't entirely solve this problem, but it will provide a basis for an overarching perspective within which solutions may be sought.

### Control-Mastery Theory Today

Control-Mastery theory got its start with Joe Weiss's efforts to help a disturbed young man about 50 years ago as a Freudian psychoanalyst. To hear Weiss tell it, he did nothing that Freud would have advocated in his 1911-1915 papers on therapeutic technique (23), yet after about 100 sessions, the man became significantly better. To understand what had happened, Weiss began studying transcripts of his psychoanalytic sessions with the man. He and fellow psychotherapist Hal Sampson then began studying the transcripts and process notes of other of Weiss's cases and of therapists conducting both Freudian therapies and therapies informed by other therapeutic viewpoints. Their aim was to understand the elements of successful therapeutic relationships at a level that cuts across theoretical psychoanalytic boundaries. The unspoken assumption of the research was that there was much more going on in therapeutic relationships than existing theories specified. Weiss wanted to find out what that something more was and how it could form the basis of a new theory of unconscious human functioning to serve a more enlightened form of clinical practice.

The upshot of this investigation was a fundamental break with Freud, at least as far his early theory was concerned. Freud in his 1911-1915 theory proposed what Weiss has called the "automatic-functioning hypothesis," according to which the unconscious mind is portrayed as consisting of powerful psychic forces—namely, impulses and defenses—that are regulated automatically by the pleasure principle. Such regulation is beyond the patient's control and takes no account of his thoughts, beliefs, or assessments of current reality. By contrast, Weiss formulated a "higher mental functioning hypothesis," according to which "a person may carry out unconsciously many of the same kinds of functions that he carries out consciously. He may think, make inferences, test reality, and make and carry out decisions and plans. Moreover, he may exert some control over his unconscious mental life in accordance with these decisions and

plans.” (24)

According to this cognitive hypothesis, assessments of reality in the form of expectations and beliefs derived from experience act as fundamental unconscious determinants of human behavior. Therefore, the human developmental process may be seen largely as the progressive establishment and elaboration of an integrated set of beliefs comprising a concept of reality that embraces the self, others, and human relationships in general. This emphasis on cognitive psychological development implies that when a person falls victim to psychological dysfunction, the problem likely lies with some aspect of the person's belief system. More specifically, it implies the existence of “pathogenic beliefs,” which Weiss describes as “compelling, grim, and maladaptive.” These beliefs “warn the person guided by them that if he attempts to pursue certain normal, desirable goals, such as a satisfying career or a happy marriage, he will endanger himself or others.” (25) It's through such expectations that pathogenic beliefs inhibit personal expression and development.

While it is possible for a person to develop pathogenic beliefs in adulthood, traumatic experiences are generally required. Typically, a person's pathogenic beliefs arise in childhood and thereafter take on a life of their own. Bowlby's and Weiss's views of how beliefs persist and change with time are similar, although Weiss's view is considerably more detailed. It's Weiss's view that early beliefs become modified as a result of experience through the agency of cognitive assessments wherein the implications of current experiences are weighed against those of childhood-borne beliefs, leading to judgments that current experiences either fully confirm the beliefs or offer partial or full disconfirmation of them, with the results of this analysis bringing about adjustments to the beliefs in question in response to the weight of cumulative evidence. Bowlby at times seemed also hold to this position. At other times, however, he apparently backed away from this model of continuous development in favor of a discontinuous one.

Bowlby's discontinuous model was adapted from a “developmental pathways” concept (26). In this view, early differences in attachment experiences do not directly cause later differences in functioning; rather, they initiate pathways that are probabilistically related to certain later outcomes. Bowlby argued that any outcome is always the joint product of earlier history and current circumstances. Thus, changes in a person's pattern of adaptation

always remain possible. Prior adaptation, however, constrains subsequent development both by making some patterns of subsequent adaptation become more likely than others and by making it more difficult to achieve a substantial change in direction the longer a given pathway has been followed. This type of argument is reminiscent of ethological explanations of how instinctive systems interact with one another in guiding overt instinctive behavior, and Waddington's pathways theory may have resonated with Bowlby because of his ethological studies. It should be noted that Bowlby's position is fully compatible with Weiss's, but lacks the latter's concept of causal connectiveness.

Application of Weiss's theory begins in early infancy, when it is theorized that unconscious beliefs start taking shape within the context of purposeful activities on the part of the child. This assumption, which is necessary to explain how the child learns that pursuing certain goals can have dangerous consequences, does not imply of course that infantile goals are pursued under conscious direction. Attachment theory does recognize the existence of purposeful behavior on the part of infants, but makes relatively little use of it in its explanations of developmental effects.

Memories formed before the age of three are not subject to later recall. This limits the therapeutic application of Weiss's theory to a three-year-old starting point. At this time, it is assumed that in forming pathogenic beliefs children are able to view parents and others as having minds that function as sources of motives. This cognitive dimension is referred to as a child having developed a “theory of minds” and is known to come into play during a child's fourth year (27). This developmental factor is not usually included in attachment theory explanations, but is crucial to Control-Mastery theory because it alone can lead to the emergence of pathogenic beliefs when little basis for them existed in the form of obviously traumatic experiences. Children from three years old on are fledgling psychologists, but they aren't very good. They are easily led to make mistakes, and these mistakes are one source of the pathogenic beliefs that can change the nature of a child's attachment relationship, even without significant changes in caregiver behavior.

Another layer of detail is provided by Weiss's assumption that a child in forming beliefs is guided by predispositions that are familiar to therapists the world over. These are of course the mechanisms of

identification, egocentricity, oedipal orientation, and altruistic guilt. With the exception of identification, attachment theory makes essentially no use of these developmental determinants in forming its interpretations of the influences that shape an infant's cognitive working models as it matures.

Like attachment theory, CMT has not mapped out the developmental process from childhood to adulthood in great detail; however, once again, Weiss's theory is more detailed, at least by implication. Empirical studies (28) of clinical practice by Weiss, Sampson, and members of the San Francisco Psychotherapy Research Group have shown that patients enter therapy with unconscious developmental goals in mind and tentative strategies for achieving those goals. The unconscious strategies are aimed at enlisting the therapist's aid in gaining experiences that will tend to disprove the validity of the patient's pathogenic beliefs. The unconscious strategies involve tests for the therapist, which are formulated in the hope that the therapist will pass them by acting contrary to the way the patients' pathogenic beliefs lead them to expect. This testing process continues throughout the course of a therapy. Patients progress by acquiring disconfirming information when tests are passed. They are also helped in reconstructing their belief systems through the therapist's interpretations.

Once one realizes that patients are almost universally ignorant of the nature of therapy, one sees that patients must be treating the therapist as they would anyone with whom they have a longstanding relationship. Or put another way, the empirical studies supporting CMT imply that unconscious testing of others is a normal component of the human developmental process. This implies, then, that humans have an innate sense of the kinds of experiences that will help and hurt them developmentally and that they tend to seek helpful experiences in everyday life, usually in the context of social relationships. This again is a dynamic factor attachment theory does not utilize.

This implies that people who remain in the grip of pathogenic beliefs well into adulthood are those who have not been able to find friends or mentors who were attuned enough to their developmental needs to pass their unconscious tests on a regular basis. Whether they realize it or not, patients in initiating therapy are seeking a perfect friend from a developmental point of view; that is, someone who will pass all of their tests, thereby providing them with the disconfirming experiences they need to

loosen the hold of the pathogenic beliefs that now derail their lives.

Much of Control-Mastery theory consists of advice on how a therapist should go about establishing and maintaining psychologically beneficial relationships with a patient, thereby in effect becoming a patient's "perfect friend." To make this point as clearly as possible, I offer a few quotes from Joe Weiss's book "How Psychotherapy Works" (29):

"According to the present theory, the therapist's basic task is to help the patient in his struggle to disprove his pathogenic beliefs and to pursue the goals forbidden by these beliefs. In carrying out this task, the therapist does a number of things: He helps the patient feel safe with him by demonstrating that he disagrees with the patient's pathogenic beliefs and sympathizes with his goals. He does these things not only by interpretation, but by his overall approach and attitude to the patient, and by passing the patient's tests. Also, he varies his approach from patient to patient: He adapts it to each patient's particular pathogenic beliefs, goals, and plans." (p. 68)

"The patient rather than the therapist sets the agenda. The patient conveys to the therapist, albeit at times indirectly, how he would like to work in therapy. He permits the therapist to infer the goals he would like to pursue and the pathogenic beliefs that prevent him from pursuing these goals .... The therapist's task, then, is to help the patient, in accordance with the patient's unconscious plans, to disprove his pathogenic beliefs and to pursue his goals. The therapist may learn whether or not he is passing the patient's tests or making helpful (pro-plan) interpretations by observing the patient's reactions to him. If the therapist is on the right track, the patient will become bolder and more insightful. Then in some instances, after a brief period of relief, the patient may develop the courage to test his pathogenic beliefs more vigorously. If the therapist is on the wrong track, the patient will become more timid, more depressed, and less insightful, and he may test his pathogenic beliefs less vigorously." (p. 21)

“In general the therapist should not be neutral, but should be the patient’s ally in his efforts to disprove his pathogenic beliefs and to pursue his goals. Nor should the therapist avoid the use of reassurance or authority in situations where reassurance or authority may be helpful. Thus, interpretation is not the *sine qua non* of therapy. In some instances the patient may be helped to disconfirm his pathogenic beliefs and to pursue his goals primarily by his experiences with his therapist. After this is accomplished, he may feel safe enough with the therapist to develop insights on his own, without benefit of interpretation.” (p. 69)

The tests patients devise involve surreptitiously reenacting traumatizing situations from their childhood. Reenacting the situations evokes traumatizing expectations. When the therapist reacts contrary to the expectations, the underlying pathogenic belief is counteracted to an extent, and the patient progresses. The tests allow patients to walk the same psychological ground they did as a child in hopes of achieving a more positive outcome. This more positive outcome occurs when the therapist passes the tests by acting contrary to the way parents did in the reconstructed situations.

Testing proceeds along two main routes: transference tests and passive-into-active tests, both inside the therapist’s office and in everyday life. With transference testing, a patient subjects a therapist to the patient’s behavior as a child that seemed to traumatize his parents. Passing transference tests entails showing the patient that the behavior does not traumatize the therapist, and therefore by implication that it is not inherently traumatizing. In passive-into-active testing, a patient subjects the therapist to parental behavior that traumatized the patient as a child. The test in this case involves whether the therapist will be traumatized by the behavior the way the patient was. When the therapist passes the test by not being traumatized, the person’s cognitive models come under the influence of disconfirming information in the form of an alternative way of responding. The patient acquires this information by using the therapist as a role model. The test is “passive-into-active” in the sense that the patient attempts to master his trauma by making active use of behavior he once suffered passively.

The view of continuous cognitive development suggested by CMT sees people as testing the valid-

ity of their beliefs through experience, both consciously and unconsciously, nearly every day of their lives. Integral to this activity is ongoing cognitive processing whereby the extent to which longstanding beliefs have been confirmed or disconfirmed by current experience is assessed. When a degree of disconfirmation is found, a judgment is made about whether the apparent discrepancy warrants a behavioral adjustment. Typically, behavioral adjustments are not put into effect on the basis of a few deviant experiences. This slows the progress of therapy considerably, but is adaptive nonetheless, Weiss argues:

“Ordinarily the adult, and to a lesser extent the child, is slow to change his conscious and unconscious beliefs about himself and his interpersonal world. When exposed to experiences that run counter to his beliefs, he is likely to assimilate the experiences to the beliefs. For example, a student who suffers from the belief that he is weak in academic skills may discount his doing well on an exam by assuming that he was lucky, or that the exam was easy, or that the teacher was lax in grading it.

“In his tendency to retain his beliefs about reality, a person in everyday life behaves like a scientist who, having understood his field in terms of his theories, tends to retain the theories, unless forced by striking new evidence to change them. Like the scientist, the person in everyday life tends to weigh evidence that confirms his beliefs more heavily than evidence that runs counter to them. This is adaptive. Neither the person in everyday life nor the scientist in his research could function if he were to change his basic beliefs with each new experience. Both need a relatively stable set of beliefs to guide them in their attempts to make and carry out their plans. Even a relatively poor guide may be better than a constantly changing one.

“This principle applies to both normal and pathogenic beliefs. Additional factors hold for pathogenic beliefs. A person is especially motivated both to retain such beliefs and to change them. He is especially motivated to change a pathogenic belief because he suffers from it; however, he fears that if he does

so he will experience the dangers that the belief warns him against.” (30)

One might ask when cognitive assessments of the behavioral import of life experiences are made. Weiss does not specifically address this question, but it’s clear that he believes that sleep is involved. He has indicated that a person assesses his waking experiences when asleep and that he expresses “policy statements” in his dreams (31). These policy statements are seen as possibly underpinning motives in support of developmentally helpful initiatives during the following waking interval.

### **Outline of a New Slant on Attachment Theory**

If Bowlby had given the same careful attention to learning that he did to instinctive processes, he would have seen that human infants have an incredible amount to learn to function adaptively in whatever environment they find themselves and that unaided learning is beyond their capabilities. The latter is largely because learning involves an analytical component. When we throw up our hands in despair and say we can’t figure out how to handle a certain situation, we point to a failure of this analytical capability, whose function is to produce purposeful adaptations through cognitive appraisals of current situations based on past experience. Infants have neither the experience nor the mental equipment for much analysis. They therefore require a lot of instinctive handholding, so to speak. Instincts must guide an infant in what it perceives, what it is motivated to do, and in the lessons it takes from its experiences. I call these instincts that guide learning-based development “developmental instincts,” and attachment embraces a number of them. The main business of attachment is self-programming, in my view, starting with infancy and continuing throughout life. I see the proximity-seeking behaviors usually pointed to as attachment behaviors as being at best peripheral to this activity. I am saying that keeping a mother nearby is important if one is to learn from her, but it’s the learning that’s central to attachment, not the activities chosen to accomplish proximity. The latter may serve a protective function, but that in no way means that attachment does.

With this said, I should add that I do not mean to suggest that proximity seeking has nothing to do with attachment, nor should it be construed that self-development is the only function of attachment. My motive for stressing self-development arises from my belief that when one loses sight of this role, one’s understanding of attachment runs the

danger of becoming lost. Stressing attachment’s protective function is one example of inadvertently taking a dead end theoretical path.

Attachment instincts operate as a control system that simplifies the task of learning by leading an infant to focus on its relationships with its principal caregivers so it can use their habits and personality traits in organizing its own mental processes with respect to its interpersonal relations and as a Rosetta stone in interpreting its exploratory experiences. Thus, I see the attachment bond that an infant forms with its caregivers as operating primarily as a source of cognitive contact. Infant brains are not little computers; they are cognitive sponges, and the most important information they soak up concerns interpersonal relations. I contend that this sort of guided learning is appropriate from an evolutionary perspective, given our nature as the most adaptable highly social species on the planet.

I am by no means the first to posit that infants are led to model their own mental processes on those of their parents (32) within the context of attachment relationships. Even specific elements of my proposal have been anticipated by attachment researchers. For example, it has been suggested that experiences within the early attachment relationship influence the developing brain, resulting in lasting influences at a neuronal level (33), that the early attachment relationship may serve as a foundation for learning affect regulation (34), and that attachment may influence subsequent development through an infant learning what it is like to behave in a relationship (35). All of these are aspects of the learning function I ascribe to attachment.

As we have seen, Weiss’s theory implies that infant behavior is purposeful. I now posit that this characteristic is present at the time the attachment bond becomes operative, and that these attachment-related developmental “motives” have the aim of exposing the organism to the experiences it needs to supplement its genetic programming in an appropriate fashion and at an appropriate time. This postulate implies that the anger anxiously attached infants evidence often arises in response to the frustration of these developmental motives through caregiver insensitivity, rejection, or neglect.

A model of how an infant strives to interact with its caregivers may be provided by the way neural network software programs itself for an engineering purpose. This is accomplished through a process of generating output signals and receiving what may be called congruous feedback from the environment.



Temperature data would be congruous information for a neural network striving to program itself to regulate room temperature, while air pressure data would not. In the programming process, the network's output signals to a heater, say, are assessed in relation to the resultant room temperature, with the "developmental motive" of the network being to adjust its output signals so as to minimize discrepancies between the room temperature and some set value. This done in a recursive manner, with discrepancies generally decreasing as the process continues. Feedback from the environment may thus be said to progressively validate the neural net's programming. Temperature controllers of course don't care whether incongruous information is sent their way, preventing them from behaving optimally, so they don't react with anything resembling frustration or anger under such circumstances.

It is theorized that something similar occurs when an infant interacts with its caregivers, except that infants do get frustrated and angry when congruous information fails to come their way, because unlike temperature controllers, infants do care about whether the information they receive makes sense. What constitutes congruous information varies from moment to moment and is a function of a host of developmental instincts that operate under the attachment umbrella. Sensitive caregivers are able to remain attuned to these shifts in continuing to provide the kind of information the infant needs.

Once one posits the existence of developmental instincts that are primarily meant to guide learning, one easily finds examples of them operating both within and outside of the attachment sphere. The exploratory instinct is an example of the latter, as is the related instinct that prompts infants to play. Such an assignment may be made because learning-based development is evidently the purpose behind both instinctive control systems.

Seeing attachment and explorative play as having allied developmental purposes, rather than as separate instincts that need to be linked by an additional instinctive system, leads to changes in interpretation in attachment theory that are subtle yet important. I will illustrate this by contrasting the new view with the interpretations typically made regarding the caregiver's role in encouraging exploratory behavior by acting as a "secure base."

*New secure base perspective.* Secure attachment relationships are usually said to promote an infant's exploration of its toys and home, and thus expand its mastery of the environment, because ex-

perience tells the infant that if exploration proves unsettling, it can rely on a caregiver being available to alleviate its fears. Such infants are said to be confident in their own interactions with the world specifically because they are confident in the availability of sensitive responses from their caregivers. A caregiver who instills this confidence is said to be fulfilling her role as a secure base.

As this summary indicates, attachment theory does include a type of psychological support as one of the benefits of a secure base. It should be realized, however, that this is a non-rigorous inclusion. If attachment is about physical protection, then so is the secure base function. Yet when an infant runs to a caregiver for support while playing, it is rarely because it has become fearful of physical harm. More typically it is because of frustration or because some unexpected occurrence has stripped it of its self-confidence. Another logical difficulty one encounters when taking traditional interpretations too literally concerns the fact that an infant's confidence in exploring its environment does not automatically translate into mastery of the environment or the infant's continued confidence in dealing with it. The latter would come only with an accumulation of successful environmental interactions. An infant who repeatedly encountered failure would not become confident, no matter how many times it was reassured by a sensitive caregiver. Clearly, much is being glossed over.

There are at least four issues that need to be dealt with in coming up with a credible cognitive explanation of how an infant can come to perceive a caregiver as being a secure base and how that perception can lead to positive developmental consequences when the infant explores its world:

1. How a secure attachment increases an infant's self-confidence,
2. How this psychological benefit helps the infant's deal with its immediate environment, at least initially,
3. The psychological mechanisms involved in an upset infant using a caregiver as a secure base to gain the confidence it needs to return to exploration and play, and
4. The additional secure-base activities that must be required of a caregiver if an infant's initial self-confidence is to be sustained and translate into environmental mastery.

The neural network of a securely attached infant receives beneficial feedback from the infant's sensi-

tive caregivers, who are able to achieve and sustain congruous developmental contact with their infant. This contact provides a full measure of validation, and thus self-confidence. What are validated are the infant's developmental instincts, which at this point represent who the infant is. This validation occurs because the infant's developmentally positive bids are continually successful, due to caregiver sensitivity and cooperation. By the same token, feedback that often isn't congruous with an infant's developmental needs, through insensitivity, rejection, or neglect, robs an anxiously attached infant of full validation, and thus the same level of self-confidence. Validation is thwarted because in this case the infant's developmentally positive bids are continually negated by caregiver actions.

Interestingly, an infant's attachment-related developmental instincts function as designed regardless, in that the infant takes on its caregiver traits in any case. Secure infants tend to become secure/autonomous adults, avoidant infants tend to become dismissing adults, resistant infants tend to become preoccupied adults, and disorganized/disoriented infants tend to become like their disorganized caregivers. What is different is that this mirroring is in accord with an infant's developmental instincts in the case of a secure attachment and in spite of many of them in all of the forms of anxious attachment.

It is possible to argue that validation of an infant's developmental initiatives within the context of its focal caregiver relationships should be enough to give an infant the confidence it needs to aggressively explore its environment, at least initially. I have, however, mentioned a "Rosetta stone" mechanism, which I suspect also comes into play. This acts as an amplifying factor in that the infant's caregiver relationship comes to be seen as a paradigm for expectations regarding its relationship with its environment. Bowlby has argued that this happens through a process of cognitive representation. I, however, believe that this starts before such a sophisticated cognitive process is possible.

Support for my Rosetta stone conjecture can be seen in a cognitive anomaly that can be considered an attachment instinct, which has been found in rat pups (36) and possibly exists in human infants, too. The developmental instinct involves the infantile tendency to cognitively "lump" experiences together, rather than make fine distinctions, as a more mature mammal would do. That is, neonates tend to experience the world as being made up of interconnected wholes, rather than as separate entities that

need to be understood and integrated conceptually on an individual basis. This opens the door for the infant's focal caregiver experiences influencing how the infant comes to feel about its capabilities and place in the wider world of its playful and exploratory experiences in a way that is quite different from the process Bowlby imagined.

The self-confidence securely attached infants derive from their caregivers is only part of the secure base concept. In fact, there probably wouldn't be such a concept at all if infants didn't run to their caregivers for reassurance when upset. In this sense, the secure base concept refers to an infant's use of a caregiver as a safe haven for purposes of psychological repair. The mechanisms involved in an upset infant using the caregiver as a secure base in gaining the confidence to return to exploration and play follow from what has been said. An infant experiencing failure or disappointment runs to a caregiver for re-validation, which sensitive caregivers provide. Physical contact and supportive commentary say in effect, "You're all right; there is nothing wrong with you; go out there and try again." Caregivers who rebuff such infants or ignore their cries not only provide no basis for re-validation, but also add insult to injury by heaping on additional developmentally negative experiences.

For re-validations to be credible in the long run, however, infants encountering frustration or failure in dealing with their environment must eventually succeed, which would imply that a securely attached infant would need more than sensitivity within the context of its relationship with its caregivers; it would need sensitive help in exploring its environment, too, which caregivers should provide in fulfilling their secure base role. Descriptions of secure base activities generally ignore this factor, but some attachment researchers have investigated this area, nonetheless. On general cognitive grounds, one would expect that securely attached caregivers would additionally provide help to their infants while they are engaged in explorative play in such a way that ensures that the infants meet with success.

Studies have shown that securely attached caregivers do provide this sort of assistance (37). When the infant becomes frightened by a novel occurrence or becomes frustrated because of a lack of success in manipulating objects, a securely attached caregiver will accurately interpret the infant's negative emotional signals as cries for help and will do something developmentally helpful while keeping the infant focused on its play goal. These attachment figures do

not interfere with the infant's concentration during play. Rather, they provide sensitive support that acknowledges the infant's frustration while hinting toward a solution that is appropriate to the infant's developmental level.

As may be expected, parents of avoidant infants react differently (38). During their infant's concentrated exploration, they often join in and offer a toy or redirect the infant's attention. As a result, these parents tend to disrupt their infant's concentration by interfering with its play, and the infant becomes discontented. When the infant signals distress, these parents tend to leave the infant to overcome its distress on its own.

Parents of resistant infants show a similar pattern (39). They are inconsistently available to their infants when the infants are distressed and tend to interfere when their infants are exploring the environment, often by interrupting the infants before they can complete their play bouts. Such parents usually do not help their infants with their distress in ways that favor continued exploration, but rather in ways that favor the parents' own needs.

In summary, secure attachment relationships are characterized by congruous communication between infants and caregivers aimed at fulfilling the infants' developmental needs, both within the context of the relationships and while the infants explore their worlds. A securely attached caregiver functions as secure base by validating the infant's developmental initiatives in both realms and by acting as a source of re-validation when the infant becomes frustrated or disappointed.

#### **Attachment and Traditional Psychoanalytic Mechanisms.**

Attachment—that is, the instinctive tug leading one to align one's mental states with those of one's parents through learning—does not end with infancy. As we have seen, traditional psychoanalytic theories find an array of influences that continue to guide caregiver-focused learning processes throughout childhood; these may then be considered attachment components. One of these is the mechanism of identification, which motivates a child to continue internalizing parental mental functioning and behavior, in imitation.

Another is usually described as the egocentricity of children. This relates to the tendency children have of taking responsibility for everything that happens in the family setting. The egocentric instinct orients the child adaptively. Not having the

analytical capability to discern when it is responsible for something happening and when it is not, the child must be oriented instinctively to take adaptive lessons from either everything that happens or nothing at all. Since the latter means no learning, Nature leads a child to apply everything that happens within the family to itself, as a flawed but unavoidable strategy.

Oedipal orientation can also be seen as an attachment component. As an infant grows to become a child, identification takes on a sexual flavor. That is, once a child sorts out its sex in relation to its parents, it begins identifying more with the parent of the same sex. Oedipal behaviors counteract this tendency a bit by leading the child to compete with the parent of the same sex for the attention and affection of the other parent. In this way, the child is led to include the parent of the opposite sex in its modeling activities as an integral part of its efforts to develop an identity as a sexual being. The foregoing is intended to be a rather complete description of what I mean by oedipal orientation. One should not, for example, assume that application of Freud's oedipal theory is appropriate. I find that theory to be a gross caricature of the mechanism I described.

Last but certainly not least, there is the attachment component that CMT stresses, namely, the mechanism of altruistic guilt. I see this as a component of attachment because it too has the net effect of binding a child to its parents' ways of thinking and doing things. Guilt in one form or other will kick in to tug a child back to a position of solidarity with its parents whenever the child is tempted to break away.

#### **Adding an Attachment Perspective to CMT**

I have brushed past a thicket of complicated issues to quickly reveal a bridge between attachment theory and traditional psychoanalytic notions. I would now like to cross that bridge and incorporate the new slant on attachment theory into the Control-Mastery view of human personality development. This will provide a basis for understanding Control-Mastery therapy in attachment-related terms. But first I think I should address some remarks to those attachment researchers who may be reluctant to let their shining scientific enterprise become sucked into the muck of psychoanalytic interpretation.

While such reluctance would be reasonable with respect to some psychoanalytic viewpoints, I hope I have shown that it is not reasonable regarding Weiss's theory. There is no concept I have presented that is beyond the pale of empirical scrutiny, and there is no one more committed to empirical verifi-

cation than Joe Weiss. Interpreting data necessarily entails psychological interpretation. One can either interpret data in terms of concepts that have stood the test of time in other contexts or make up concepts on an ad hoc basis. So far, attachment researchers have chosen the latter, even though doing so has not resulted in any scientific gains. Often these made-up concepts have a warm and fuzzy feel, but are essentially vacuous as science, as with, for example, the term “emotional security,” which finds its way into many attachment-related papers.

Recapping, attachment is an instinctive control system comprised of an array of developmental instincts that direct cognitive learning in ways that change as an infant matures. This learning requires appropriate feedback from caregivers on a continuing basis for optimum results, but acts to pattern the infant’s personality after to those of its caregivers in any case.

As the infant matures, it gradually formulates a theory of minds, which further shapes the beliefs and expectations the infant had developed up to that point. Belief development also becomes structured by the mechanisms of identification, egocentricity, oedipal orientation, and altruistic guilt. The beliefs, taken together, define the child’s focal concept of reality. This reality concept represents the child’s best effort at developing an integrated set of beliefs comprising a worldview relating to itself, others, human relationships, the social group of the child’s family, and the place of that social group in the general scheme of things.

As the child grows older, its world of experience widens to include teachers, schoolmates, and people in books, magazines, movies, and on TV. These new realities tend to challenge aspects of the child’s reality concept as, for example, the child begins to realize that at least some people react differently to the child and other children and each other than its parents do. Further disconfirming information comes through the observation that other people do not seem to be bound by the inhibitions and other limitations that rule the child’s life. The child also begins finding discrepancies between elements of its worldview and that espoused by the society in which it finds itself.

The child’s focal belief system also becomes challenged by the child’s own genetic makeup, which increasingly bids for expression. That’s because much of the genetic endowment of highly adaptable beings becomes expressed only in reaction to experience. This means that the emergence

of a child’s genetic self somewhat lags behind the sense of self that results from attachment-related caregiver interactions. So the child also gradually discovers that there is more to it than is specified by its programmed self.

The arrival of puberty adds yet another new element—sexuality—to challenge the child’s focal reality concept. So about this time, the child becomes highly motivated to begin developing a new internal reality concept, one that more accurately represents the person it has begun to feel that it can be. This quest is facilitated by a basic change in the child’s attachment system. At about puberty, a child’s attachment bond with its parents weakens, leading the child to establish attachments with peers and others outside the home. These changes enable the child to seek psychological development through attachments with individuals who seem to embody the child’s own goals, such as friends, teachers, mentors, and even historical figures and media personalities. The latter of course do not participate in full attachment relationships, but in shadow attachments that operate primarily through the mode of identification. The other attachments, however, do offer the adolescent the availability of the full panoply of attachment instincts to help motivate him in establishing a new reality concept that will serve as the basis for his adult life.

How different is the new reality concept that emerges as adolescence ends from the one developed in early childhood, as far as the person’s core personality is concerned? Typically, not much. What evidence there is indicates that most people do not change their personalities significantly upon emerging from adolescence or even over the course of a life. Part of the reason is the tendency to retain beliefs in the face of contrary reality that Weiss spoke of. This is often accomplished by searching for interpretations that will enable the beliefs to persist. For example, someone in the grip of the pathogenic belief that he is unlovable would tend not to take it as a disconfirmation were he to find someone who is attracted to him. The pathogenic belief would lead him to merely look for ulterior motives or other factors to explain the person’s apparent love. The person must either not really know him or be inferior in some way. The person must be “needy” or “desperate” or “stupid,” or something. Such is the unquestioned hold that childhood beliefs have.

Another reason unconscious testing within the context of attachment relationships often yields little progress is that the unconscious testing process is

complicated. Beliefs do not exist as compartmentalized entities; rather, they are integrated together, meaning that more than one aspect of a person's life will be subjected to change, should a pathogenic belief be defeated. Challenging a belief is therefore undertaken with some trepidation because there is no predicting all of the changes the absence of a pathogenic belief will cause. This, incidentally, is part of the reason for *unconscious* testing, which is a way of gaining a measure of experience before committing oneself to a more conscious and determined course of action. Unconscious testing across a broad front is called for, as a way of gaining the adaptive "vision" needed to judge whether a change is possible and desirable. The ambivalent nature of initial testing also means that testing is often not carried out vigorously enough to provide definitive information, the lack of which can bring the testing process to a premature end.

As a result, most people quickly "settle down" with a way of life that includes sporadic testing, but is mostly constructed of work-around beliefs and activities that enable them to avoid realizing that their deepest aspirations are not being addressed. For one reason or another, those who seek therapy cannot be satisfied with such an existence. A person seeks therapy after becoming disillusioned with accomplishing anything significant through his ongoing attachment relationships. Whether he realizes it or not, he comes to therapy seeking a new attachment relationship, a secure one with a perfect friend in a developmental sense. As Weiss has indicated, for a therapist to be a patient's perfect friend, he should (1) help the patient feel safe with him by demonstrating that he disagrees with the patient's pathogenic beliefs and sympathizes with his goals, (2) help the patient disprove his pathogenic beliefs and pursue his goals by passing the patient's tests, and (3) in general be the patient's ally in his efforts to execute his unconscious plans. Although Weiss doesn't say it in so many words, it's clear that his advice has the effect of establishing a secure attachment relationship between the therapist and his patient.

Adding an attachment perspective to CMT means recognizing that there is more to psychotherapy than passing a patient's tests. True, providing a patient with disconfirming experiences is the *sine qua non* of therapeutic success, but much more is involved. Passing tests may be seen as having a dual purpose. As passing tests helps disconfirm the patient's pathogenic beliefs, it also deepens the pa-

tient's attachment relationship with the therapist. This dual role helps explain the two time scales involved in producing therapeutic benefits. CMT claims that patients benefit noticeably immediately by becoming more relaxed and possibly more insightful after a test has been passed, but also that significant psychological change requires that many tests be passed, possibly over the course of several years. Reconciling these claims is straightforward when it is recognized that the immediate positive effect of a test being passed is a consequence of the patient being motivated to form a deeper attachment relationship. The immediate improvement should be seen as a type of "I'm finally making progress" response, rather than as an indication of significant psychological improvement.

The attachment relationship the patient forms with the therapist has the beneficial effect of motivating the patient to continue fighting for a new way of life through attachment-borne concerns about how the therapist would react, should the patient backslide. We form attachments with others to benefit from attachment instincts. These instincts motivate us to achieve the attachment figure's goals and pattern ourselves after the attachment figure's ways. In a very real sense, we combat the effects that former attachment figures had on us by binding ourselves through separation guilt to attachment figures who have proven trustworthy allies in helping us take our lives where we want them to go.

CMT postulates that a patient has inside of him a sensing as to the kinds of experiences he needs to counteract the inhibiting effects of pathogenic beliefs; it is this belief subsystem that enables the patient to formulate therapeutically beneficial plans. This developmentally positive set of beliefs is not, however, a powerful developmental force without outside help, because it has achieved relatively little validation through experience. By aligning himself with the patient's goals and by passing the patient's tests, the therapist in effect comes to embody the patient's developmentally positive vision of himself, with the difference that the therapist isn't inhibited by the patient's pathogenic beliefs. By forming an attachment with the therapist, the patient binds himself to this much more forceful version of his own developmentally positive aspirations, which then becomes the basis of his growth initiatives. The attachment also enables the patient to continue shaping his developmentally positive initiatives in accordance with the enfolding model the therapist provides as therapy proceeds.

Another way an attachment perspective can provide a more rounded picture of the therapeutic process is through the realization that many developmentally important activities occur outside the therapist's office and that the therapist aids the patient with his unconscious testing activities in his everyday life by functioning as the patient's secure base. As with an infant at play, a secure attachment relationship within the therapist's office would benefit a patient relatively little if the patient met only failure in attempting to apply what he learned to his everyday life. The therapist provides a secure base for the patient's psychological explorations in the real world of his everyday life by being a continuing source of reassurance, support, and helpful suggestions, which are particularly needed because the people in the patient's life are generally not very adept at passing his tests.

#### NOTES

1. Bowlby, 1969/1982.
2. Ainsworth et al., 1978.
3. Main and Goldwyn, 1984.
4. Ainsworth et al., 1978.
5. Main and Solomon, 1990.
6. Bowlby, 1980, 1988.
7. Scarr and McCartney, 1983; Sroufe, Egeland, and Kreutzer, 1990.
8. Schulman, Elicker, and Sroufe, 1994; Weinfield, Ogawa, and Sroufe, 1997.
9. Kestenbaum, Farber, and Sroufe, 1989.
10. Lyons-Ruth, Alpern, and Repacholi, 1993; Renken, Egeland, Marvinney, Mangelsdorf, and Sroufe, 1989; Suess, Grossmann, and Sroufe, 1992.
11. Troy and Sroufe, 1987.
12. Ogawa, Sroufe, Weinfeld, Carlson, and Egeland, 1997; Carlson, 1998; Lyons-Ruth, Alpern, and Repacholi, 1993.
13. Ainsworth and Bell, 1974; Sroufe, Fox, and Pancake, 1983; Banta, 1970.
14. Sroufe, Fox, and Pancake, 1983; Urban, Carlson, Egeland, and Sroufe, 1991; Sroufe, Carlson, and Shulman, 1993.
15. Arend, Gove, and Sroufe, 1979; Lütkenhaus, Grossmann, and Grossmann, 1985.
16. Matas, Arend, and Sroufe, 1978.
17. Egeland and Farber, 1984.
18. Main and Goldwyn, 1984.
19. Hesse, 1999.
20. Sroufe, 1979, 1990, 1996; Sroufe and Fleeson, 1986, 1988; Bretherton, 1991, 1993; Crittenden, 1990, 1994; Thompson, 1998; Main, 1991; Main, Kaplan, and Cassidy, 1985.
21. Bowlby, 1973.
22. For example, Fogel, 1993; Lewis, 1997; Scarr, 1992.
23. Freud, 1911-1915.
24. Weiss, 1993, pp. 4-5.
25. Ibid, p. 5.
26. Waddington, 1957; Sroufe, 1997.
27. Wellman, 1991.
28. Weiss et al., 1986; Weiss, 1993.
29. Weiss, 1993.
30. Weiss, 1993, pp. 31-32.
31. Weiss et al., 1986, pp. 128-129.
32. Hofer, 1994; Schore, 1994; Oppenheim, Nir, Warren, and Emde, 1997.
33. Schore 1994; Cicchetti and Tucker, 1994.
34. Isabella, 1993; Cassidy, 1994; Sroufe, 1979, 1996.
35. Elicker, Englund, and Sroufe, 1992; Gianino and Tronick, 1988; Pastor, 1981.
36. Polan and Hofer, 1999.

37. Grossmann, Grossmann, and Zimmermann, 1999.
38. Grossmann, Grossmann, and Zimmermann, 1999.
39. Cassidy and Berlin, 1994.

### References

- Ainsworth, M. D. S., & Bell, S. M. (1974). Mother-infant interaction and the development of competence. In K. Connolly & J. Bruner (Eds.), *The growth of competence* (pp. 97-118). New York: Academic Press.
- Ainsworth, M. D. S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Arend, R., Gove, F., & Sroufe, L. A. (1979). Continuity of individual adaptation from infancy to kindergarten: A predictive study of ego-resiliency and curiosity in preschoolers. *Child Development*, 50, 950-959.
- Banta, T. J. (1970). Tests for the evaluation of early childhood education: The Cincinnati Autonomy Test Battery (CATB). In J. Hellmuth (Ed.), *Cognitive studies* (pp. 424-490). New York: Brunner/Mazel.
- Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base*. New York: Basic Books.
- Bretherton, I. (1991). Pouring new wine into old bottles: The social self as internal working model. In M. R. Gunnar & L. A. Sroufe (Eds.), *Minnesota Symposia on Child Psychology: Vol. 23. Self processes in development* (pp. 1-41). Hillsdale, NJ: Erlbaum.
- Bretherton, I. (1993). From dialogue to internal working models: The co-construction of self in relationships. In C. A. Nelson (Ed.), *Minnesota Symposia on Child Psychology: Vol. 26. Memory and affect in development* (pp. 237-263). Hillsdale, NJ: Erlbaum.
- Carlson, E. A. (1998). A prospective longitudinal study of disorganized/disoriented attachment. *Child Development*, 69, 1107-1128.
- Cassidy, J. (1994). Emotion regulation: Influences of attachment relationships. In N. Fox (Ed.), *The development of emotion regulation. Monographs of the Society for Research in Child Development*, 59(2-3, Serial No. 240), 228-249.
- Cassidy, J., & Berlin, L. (1994). The insecure/ambivalent pattern of attachment: Theory and research. *Child Development*, 65, 971-981.
- Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology*, 4, 533-549.
- Crittenden, P. M. (1990). Internal representational models of attachment relationships. *Infant Mental Health Journal*, 11, 259-277.
- Crittenden, P. M. (1994). Peering into the black box: An exploratory treatise on the development of self in young children. In D. Cicchetti & S. L. Toth (Eds.), *Rochester Symposium on Developmental Psychopathology: Vol. 5. Disorders and dysfunctions of the self* (pp. 79-148). Rochester, NY: University of Rochester Press.
- Egeland, B., & Farber, E. (1984). Infant-mother attachment: Factors related to its development and changes over time. *Child Development*, 55, 753-771.
- Elicker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. Parke & G. Ladd (Eds.), *Family-peer relationships: Modes of linkage* (pp. 77-106). Hillsdale, NJ: Erlbaum.
- Fogel, A. (1993). *Developing through relationships*. Chicago: University of Chicago Press.
- Freud, S. (1911-1915). Papers on technique. *Standard edition*, 12 (pp.83-171). London: Hogarth Press, 1958.
- Gianino, A., & Tronick, E. Z. (1988). The mutual regulation model: The infant's self and interactive regulation coping and defensive capacities. In T. Field, P. McCabe, & N. Schneiderman (Eds.), *Stress and coping* (pp. 47-68). Hillsdale, NJ: Erlbaum.
- Grossmann, K.E., Grossmann, K., & Zimmermann, P. (1999). A wider view of attachment and ex-

- ploration: Stability and change during the years of immaturity. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 760-786). New York: Guilford Press.
- Hesse, E. (1999). The Adult Attachment Interview: Historical and current perspectives. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 395-433). New York: Guilford Press.
- Hofer, M.A. (1994). Hidden regulators in attachment, separation, and loss. In N.A. Fox (Ed.), *The development of emotional regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development, 59*(2-3, Serial No. 240), 192-207.
- Isabella, R. (1993). Origins of attachment: Maternal interactive behavior across the first year. *Child Development, 64*, 605-621.
- Kestenbaum, R., Farber, E., & Sroufe, L. A. (1989). Individual differences in empathy among preschoolers: Relation to attachment history. In N. Eisenberg (Ed.), *New directions for child development: No. 44. Empathy and related emotional responses* (pp. 51-64). San Francisco: Jossey-Bass.
- Lewis, M. (1997). *Altering fate: Why the past does not predict the future*. New York: Guilford Press.
- Lütkenhaus, P., Grossmann, K. E., & Grossmann, K. (1985). Infant-mother attachment at twelve months and style of interaction with a stranger at the age of three years. *Child Development, 56*, 1538-1542.
- Lyons-Ruth, K., Alpern, L., & Repacholi, B. (1993). Disorganized infant attachment classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. *Child Development, 64*, 572-585.
- Main, M. (1991). Metacognitive knowledge, metacognitive monitoring, and singular (coherent) versus multiple (incoherent) models of attachment: Findings and directions for future research. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 127-159). London: Routledge.
- Main, M., & Goldwyn, R. (1984). *Adult attachment scoring and classification system*. Unpublished manuscript, University of California at Berkeley.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 121-160). Chicago: University of Chicago Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 50*(1-2, Serial no. 209), 66-104.
- Matas, L., Arend, R., & Sroufe, L. A. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. *Child Development, 49*, 547-556.
- Ogawa, J. R., Sroufe, L. A., Weinfeld, N. S., Carlson, E. A., & Egeland, B. (1997). Development and the fragmented self: Longitudinal study of dissociative symptomatology in a nonclinical sample. *Development and Psychopathology, 9*, 855-880.
- Oppenheim, D., Nir, A., Warren, S., & Emde, R. N. (1997). Emotion regulation in mother-child narrative co-construction: Associations with children's narratives and adaptation. *Developmental Psychology, 33*, 284-294.
- Pastor, D. (1981). The quality of mother-infant attachment and its relationship to toddlers' initial sociability with peers. *Developmental Psychology, 17*, 326-335.
- Polan, H. J., & Hofer, M. A. (1999) Psychobiological origins of infant attachment and separation responses. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 162-180). New York: Guilford Press.
- Renken, B., Egeland, B., Marvinney, D., Mangelsdorf, S., & Sroufe, L. A. (1989). Early childhood antecedents of aggression and passive withdrawal in early elementary school. *Journal of Personality, 57*, 257-281.



- Scarr, S. (1992). Developmental theories for the 1990s: Development and individual differences. *Child Development*, 63, 1-19.
- Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of genotype—environment effects. *Child Development*, 54, 424-435.
- Schore, A. N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale, NJ: Erlbaum.
- Schulman, S., Elicker, J., & Sroufe, L. A. (1994). Stages of friendship growth in preadolescence as related to attachment history. *Journal of Social and Personal Relationships*, 11, 341-361.
- Sroufe, L. A. (1979). The coherence of individual development: Early care, attachment, and subsequent developmental issues. *American Psychologist*, 34, 834-841.
- Sroufe, L. A. (1990). An organizational perspective on the self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 281-307). Chicago: University of Chicago Press.
- Sroufe, L. A. (1996). *Emotional development*. Cambridge, England: Cambridge University Press.
- Sroufe, L. A. (1997). Psychopathology as outcome of development. *Development and Psychopathology*, 9, 251-268.
- Sroufe, L. A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. W. Hartup & Z. Rubin (Eds.), *Relationships and development* (pp. 51-71). Hillsdale, NJ: Erlbaum.
- Sroufe, L. A., & Fleeson, J. (1988). The coherence of family relationships. In R. A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families* (pp. 27-47). Oxford: Clarendon Press.
- Sroufe, L. A., Carlson, E., & Shulman, S. (1993). Individuals in relationships: Development from infancy through adolescence. In D. C. Funder, R. Parke, C. Tomlinson-Keeseey, & K. Widaman (Eds.), *Studying lives through time: Approaches to personality and development* (pp. 315-342). Washington, DC: American Psychological Association.
- Sroufe, L. A., Egeland, B., & Kreutzer, T. (1990). The fate of early experience following developmental change: Longitudinal approaches to individual adaptation in childhood. *Child Development*, 61, 1363-1373.
- Sroufe, L. A., Fox, N., & Pancake, V. (1983). Attachment and dependency in developmental perspective. *Child Development*, 54, 1615-1627.
- Suess, G. J., Grossmann, K. E., & Sroufe, L. A. (1992). Effects of infant attachment to mother and father on quality of adaptation in preschool: From dyadic to individual organization of self. *International Journal of Behavioral Development*, 15, 43-65.
- Thompson, R. A. (1998). Early sociopersonality development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 25-104), New York: Wiley.
- Troy, M., & Sroufe, L. A. (1987). Victimization among preschoolers: The role of attachment relationship theory. *Journal of the American Academy of Child and Adolescent Psychiatry*, 26, 166-172.
- Urban, J., Carlson, E., Egeland, B., & Sroufe, L. A. (1991). Patterns of individual adaptation across childhood. *Development and Psychopathology*, 3, 445-460.
- Waddington, C. (1957). *The strategy of the genes*. London: Allen & Unwin.
- Weinfield, N. S., Ogawa, J. R., & Sroufe, L. A. (1997). Early attachment as a pathway to adolescent peer competence. *Journal of Research on Adolescence*, 7, 241-265.
- Weiss, J. (1993). *How psychotherapy works: Process and technique*. New York: Guilford Press.
- Weiss, J. et al. (1986). *The psychoanalytic process: Theory, clinical observations, and empirical research*. New York: Guilford Press.
- Wellman, H. M. (1991). *The child's theory of mind*. Cambridge: MIT Press.