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# Attachment theory and research: Resurrection of the psychodynamic approach to personality

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## Abstract

Since the rise of the social-behaviorist approach to personality and its elaboration with cognitive concepts following “the cognitive revolution,” psychodynamic theories, usually identified with Sigmund Freud, have taken a beating. This makes it easy for mainstream personality-social psychologists to brush the psychodynamic approach aside. At the same time, researchers in both developmental and personality-social psychology have made great progress in testing and elaborating ideas presented by John Bowlby in his famous trilogy on attachment and loss. What outsiders to that perspective may not realize is that Bowlby was a psychoanalyst who saw himself as retracing Freud’s steps but with the advantage of new theoretical and empirical strategies. In this article, we conceptualize attachment theory as a contemporary psychodynamic approach, show how this theory has helped to bring psychodynamic psychology back to life, and review empirical evidence from our laboratories that supports many of the psychodynamic hypotheses advanced by Bowlby.

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## 1. Introduction

Anyone studying the psychology of personality several decades ago might have been forgiven for assuming it was an offshoot of psychoanalysis. In the first edition of

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the now-classic personality textbook by Hall and Lindsey (1957), separate chapters were devoted to Freud and Jung and an entire chapter was devoted to more social and culturally oriented psychoanalysts, such as Adler, Horney, Fromm, and Sullivan. Even the chapter on learning theory was devoted mainly to Dollard and Miller's (1950) recasting of psychoanalytic theory in terms of Hull–Spence drive theory, the leading theory of animal learning at the time. Humanistic psychology, which played a role similar to today's positive psychology (e.g., Aspinwall & Staudinger, 2003), was "positive" mostly in contrast with Freudian psychoanalysis, which emphasized sexual and aggressive motives, defenses and illusions, and the pessimistic therapeutic goal of nudging clients upward from extreme distress to ordinary unhappiness. Many clinicians worked from a psychoanalytic perspective, and many personality researchers (e.g., Block, 1971; Blum, 1953; Klein, 1970; Sarnoff, 1971) were formulating and testing psychoanalytic hypotheses.

What happened between then and now? Today, many students specializing in personality psychology hardly know who Freud was, and most have never read his work. Some who do know about him think of him as a sex-obsessed theoretical web spinner who derogated women and turned a blind eye to his clients' personal narratives of sexual abuse. The once well-known neo-Freudian psychodynamic theorists, such as Sullivan, Horney, and Fromm, are even less well-known today than Freud. They do not even warrant specific arguments for demotion from the pantheon. More psychology graduate students know about the "Big Five" personality factors (Costa & McCrae, 1988) than know about psychodynamic approaches to inner conflict and personality development, and many students and researchers question whether defenses—a key part of the psychoanalytic framework—even exist.

There are several reasons for the intellectual sea change. Over time, psychodynamic theories and research were challenged, first by various forms of behaviorism (e.g., Dollard & Miller, 1950), and then by cognitive social learning theories and expectancy-value models (e.g., Atkinson & Raynor, 1974; Bandura, 1977; Mischel, 1973). These approaches continued to focus mainly on mental processes, but after a while even this commonality with psychoanalytic theory was abandoned. Trait researchers began to settle on what became the five-factor model (e.g., Costa & McCrae, 1988), which is largely descriptive rather than dynamic or process-oriented. In addition, narrative approaches to personality (e.g., McAdams, 1993), which went along with emphases in feminist scholarship and deconstructionism in the humanities, were proposed as phenomenological alternatives to theories that emphasized a dynamic unconscious.

Looking across these many changes, we can discern several causes of the eclipse of psychodynamic theories. First, it was difficult to create valid measurement techniques and obtain unambiguous empirical evidence for psychodynamic propositions. Second, both behaviorism and the "cognitive revolution" led to a general neglect of motivation and other dynamic processes, such as inner conflicts and defenses, as researchers focused on social learning of attitudes and action patterns, genetic and experiential underpinnings of traits, and cognitive constructs such as attributions and expectations. Third, as experimental social psychology joined forces with personality psychology, there was increased emphasis on proximal rather than distal causes of

mental and behavioral processes. Development was neglected while situational forces gained increased attention. There were many more brief, one-shot laboratory studies focusing on attitudes, cognitive aspects of stereotyping and prejudice, and validation of self-report questionnaires. Fourth, there was an increased preference for parsimony and simplicity over depth. Admittedly, psychoanalytically trained researchers and clinicians often seemed to pride themselves on the number of hidden twists and turns they could weave into any single causal story, and there was no way to tell whether their interpretations were or were not correct. Moreover, as academic psychology, with its emphasis on psychologically normal undergraduate students, became increasingly dissociated from clinical psychology and psychopathology, the motivation for probing deep and convoluted defenses, and their social and developmental causes, decreased. Finally, as the research enterprise heated up, fueled by federal research grants, and pressures to publish quickly or perish, the attractiveness of atheoretical studies and modest, highly focused mini-theories grew.

While there is much to be said for the progress that occurred in personality research as a result of these and other historical forces—many useful new measures were created and validated; the range of practical, real-world topics that got addressed, such as sex roles, prejudice, and health, increased; the interaction of dispositional and situational forces was recognized more clearly—it has been encouraging to see lately a return of deep psychodynamic issues and the creation of broader and more ambitious theories (e.g., Greenberg, Pyszczynski, & Solomon, 1997; Mischel & Shoda, 1995; Westen, 1994). For example, motivation, including unconscious motivation, is back at center stage (e.g., Bargh, 1996; Higgins & Kruglanski, 2000); and, somewhat ironically, the study of cognitive processes has yielded powerful and clever research techniques that can also be used to study dynamic, unconscious processes such as thought-suppression (e.g., Wegner, 1994), transference (e.g., Andersen & Berk, 1998), and defenses against existential threats (e.g., Greenberg, Koole, & Pyszczynski, 2004). Moreover, important psychodynamic constructs that arose in a clinical context, such as narcissism and repression, are being studied experimentally and taken seriously in personality psychology (e.g., Morf & Rhodewalt, 2001; Weinberger, 1995).

Supporting the renaissance of psychodynamic approaches to personality are some important trends within psychoanalytic theory itself. For example, there is now much less emphasis on Freud's mechanistic drive theory, which was rooted in inappropriate analogies to physics (e.g., the psychic energy construct), premature neurologizing (e.g., the notion of neural "cathexis"), and speculation about human evolution (the emphasis on sexual and aggressive instincts). The emphasis now is on mental representations of self and others, and the importance of close interpersonal relationships and their developmental residues (e.g., Aron, 2002; Mitchell, 1988). The links between psychodynamic and neurological processes have been made less speculative by the advent of neuroscience, which provides a more realistic picture of the ways in which implicit mental processes, emotions, and emotion regulation work (e.g., Solms & Turnbull, 2002). Moreover, there has been a move away from fantasy-oriented conceptions of mental processes, such as that of Melanie Klein (1957), toward intersubjective perspectives stressing actual social experiences (e.g., Aron, 2002; Mitchell,

1988). There is also a greater emphasis on self-organization, identity, and personal goals (e.g., Kohut, 1971, 1977), which narrows the distance between psychoanalysis and mainstream personality and social psychology.

In his impressive review of psychoanalysis, Westen (1998) formalized these trends and asserted that, although contemporary psychodynamic theories are far from being monolithic, all of them agree with five core postulates. First, a large portion of mental life is unconscious. Second, cognitive and affective processes operate in parallel so that people can have conflicting motives, thoughts, and feelings toward the same situation or person, and often activate psychological defenses to deal with these conflicts. Third, childhood experiences play a crucial role in the formation of adult personality. Fourth, mental representations of the self and others are major components of personality, and they often explain a person's behavior in interpersonal and social settings. Fifth, healthy personality development reflects a move from a socially dependent state to a mature autonomous one. One important example of contemporary psychodynamic approaches is Bowlby (1982/1969, 1973, 1980) and Ainsworth's (1991) attachment theory, which adheres to Westen's (1998) five postulates and has spawned an enormous amount of research in several different psychological subfields.

## 2. Attachment theory as an example of contemporary psychodynamic approaches

Attachment theory is obviously a psychoanalytic theory. Bowlby was trained as a child psychiatrist and psychoanalyst, and his major colleague, Mary Ainsworth, was trained in clinical and developmental psychology and coauthored a book about projective testing. Bowlby and Ainsworth combined key insights from psychoanalysis, ethology, developmental psychology, and cognitive psychology to create a theory of emotional bonding and emotion regulation that has been tested and elaborated in hundreds of studies over the past 25 years (see Cassidy & Shaver, 1999; Mikulincer & Shaver, 2003; Shaver & Hazan, 1993; Shaver & Mikulincer, 2002, for reviews). Like other psychoanalytic thinkers, they assumed that the explanation of adult behavior lay somewhere in childhood, but they were dissatisfied with the conventional psychoanalysis of their time, especially the ideas generated by Anna Freud and Melanie Klein. Whereas these theories viewed human motivation in terms of drives and explained a child's ties to its mother in terms of benefits associated with feeding and other forms of drive reduction, Bowlby and Ainsworth viewed human motivation as guided by innate behavioral systems that facilitate adjustment and survival, and they explained the infant–mother bond in terms of basic needs for protection and security. Moreover, although they retained an emphasis on dynamic unconscious processes, they also paid considerable attention to actual relationship experiences and their cognitive residues as influences on later behavior (Fonagy, 2001).

### 2.1. Basic concepts in attachment theory and research

According to Bowlby (1982/1969), human beings are born with an innate psychobiological system (the *attachment behavioral system*) that motivates them to seek

proximity to significant others (*attachment figures*) in times of need. The set-goal of the system is the attainment of actual or perceived protection and security; hence, the system is automatically activated when a potential or actual threat to one's sense of security is appraised. Under these conditions, a person tends automatically to turn for protection and comfort to actual attachment figures or to internalized representations of them, and to maintain actual or symbolic proximity to these figures until a state of protection and security is attained. Whereas Bowlby (1982/1969, 1988) assumed that age and development result in an increased ability to gain comfort from symbolic representations of attachment figures or self-structures linked to such representations, he also assumed that no one of any age is completely free of reliance on actual others and that the attachment system remains active over the entire life span.

Bowlby (1973) also described important individual differences in attachment-system functioning depending on the availability, responsiveness, and supportiveness of attachment figures in times of need. Interactions with attachment figures who are available and responsive at such times facilitate optimal functioning of the attachment system and promote a core *sense of attachment security*—a sense that the world is generally a safe place, that attachment figures are generally helpful when called upon, and that it is possible to explore the environment curiously and to engage effectively with other people. During these interactions, a person learns that acknowledgment and display of distress elicit supportive responses from others, that (given the proven availability of others to help when necessary) one's own actions are often able to reduce distress and remove obstacles, and that turning to others when threatened usually results in enhanced coping. These kinds of experiences increase both self-confidence and confidence in attachment figures' willingness and ability to provide effective support.

When attachment figures are not reliably available and supportive, however, a sense of security is not attained, serious doubts about one's self-efficacy and others' intentions are formed, and secondary strategies of affect regulation other than appropriate proximity seeking are adopted. These secondary strategies are of two major kinds: *hyperactivation* and *deactivation of the attachment system*. (We reviewed evidence for these strategies in Mikulincer & Shaver, 2003.) Hyperactivation refers to intense efforts to attain proximity to attachment figures and ensure their attention and support. People who rely on hyperactivating strategies compulsively seek proximity and protection, are hypersensitive to signs of possible rejection or abandonment, and are prone to ruminating on personal deficiencies and threats to relationships. Deactivation refers to the inhibition of proximity-seeking inclinations and actions, and the suppression or discounting of any threat that might activate the attachment system. People who rely on these strategies tend to maximize distance from others, experience discomfort with closeness, strive for personal strength and self-reliance, and suppress distressing thoughts and memories.

Beyond characterizing individual differences in attachment-system functioning during and following specific interactions with attachment figures, Bowlby (1973) proposed that such interactions can have enduring, long-term effects on personality development which are mediated by mental representations he called "attach-

ment working models.” According to Bowlby (1982/1969), actual interactions with attachment figures are stored in memory in the form of mental representations of attachment figures’ responses (*working models of others*) as well as representations of the self’s efficacy and value (*working models of self*). These working models allow a person to predict future interactions with the partner and design new proximity-seeking attempts without rethinking each one from the beginning.

Working models of self and others were viewed by Bowlby (1973) as the main cause of continuity between early attachment experiences and cognitions, feelings, and behaviors in later relationships. Given a fairly consistent pattern of interactions with attachment figures during childhood and adolescence, the most representative or prototypical working models of these interactions are solidified and become part of a person’s implicit procedural knowledge. Like other mental schemas, the most chronically accessible working models become core personality characteristics, tend to be applied in new situations and relationships, and can affect the functioning of the attachment system in general and the course of subsequent social interactions and close relationships.

In examining a person’s most chronically accessible working models, attachment researchers who study adolescents and adults have focused on *attachment style*—the systematic pattern of relational expectations, emotions, and behaviors that results from a particular history of attachment experiences (Fraley & Shaver, 2000; Shaver & Mikulincer, 2002). Initially, research was based on Ainsworth, Blehar, Waters, and Wall’s (1978) three-category typology of attachment styles in infancy—secure, anxious, and avoidant—and Hazan and Shaver’s (1987) conceptualization of similar adult styles in the romantic relationship domain. Subsequent studies (e.g., Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998) revealed, however, that attachment styles are more appropriately conceptualized as regions in a two-dimensional space. The first dimension, typically called attachment *avoidance*, reflects the extent to which a person distrusts relationship partners’ goodwill, strives to maintain self-reliance and emotional distance from partners, and chronically relies on deactivating strategies for dealing with attachment insecurity. The second dimension, typically called attachment *anxiety*, reflects the degree to which a person worries that a partner will not be available in times of need and chronically relies on hyperactivating strategies. People who score relatively low on both dimensions are said to be secure or to have a strong sense of security.

Although attachment style is conceptualized as a global orientation toward close relationships, there are theoretical and empirical reasons for believing that a person’s global style is just the top node in a hierarchical network of attachment representations, some of which apply only to certain kinds of relationships and others of which apply only in certain relational contexts (Mikulincer & Shaver, 2003). These attachment representations can be activated by actual or imagined encounters with supportive or unsupportive others even if they are incongruent with a person’s global attachment style (e.g., Mikulincer & Shaver, 2001).



## 2.2. *How has attachment theory helped to bring psychodynamic psychology back to life?*

Attachment theory is useful for bridging contemporary psychodynamic theories and empirical research on personality, social cognition, and interpersonal relationships. On the one hand, attachment theory adheres to the basic postulates that define contemporary psychodynamic approaches (Westen, 1998). All attachment researchers agree that many components of the attachment behavioral system operate unconsciously (Mikulincer & Shaver, 2003). For example, automatic activation of the attachment system by appraisals of threats and dangers can occur unconsciously and can shape a person's state of mind and behavior before he or she recognizes the activation in the stream of consciousness (Mikulincer & Shaver, 2003). In addition, deactivating strategies operate at an unconscious level; avoidant people often seem not to be aware of suppressing or denying their own otherwise measurable needs for protection and support and their painful attachment-related memories and thoughts (Cassidy & Kobak, 1988). Thus, although working models can be noticed and discussed to some extent, with repeated use they can become automatic and may sometimes be held out of awareness by defensive maneuvers (Bowlby, 1988).

In attachment theory, the basic postulate of contemporary psychodynamic theories concerning inner conflict and psychological defenses (Westen, 1998) is accepted as a characterization of the goals and operation of secondary attachment strategies. These strategies can operate either in tandem or in opposite ways at conscious and unconscious levels, can lead to conflicting tendencies toward the self and relationship partners, and can include psychological defenses against attachment-related insecurities and distress (Mikulincer & Shaver, 2003). For example, hyperactivating strategies reflect a compromise between conflicting, ambivalent tendencies toward attachment figures—overwhelming anger and hostility toward unavailable attachment figures together with an intense need for proximity to these frustrating figures (Cassidy & Kobak, 1988). Deactivating strategies are also associated with conflicting tendencies at different levels of awareness, with lack of negative emotions and a detached attitude evident at a conscious level while high levels of tension and unresolved attachment-related distress are measurable at an unconscious level (Shaver & Mikulincer, 2002).

The postulate of contemporary psychodynamic theories concerning the crucial role played by childhood experiences in the formation of adult personality (Westen, 1998) is also a basic principle of attachment theory. According to Bowlby (1973), the dynamics of the attachment system in adulthood reflect past experiences with relationship partners, especially parents, beginning in infancy. This does not mean, however, that the developmental trajectory of attachment-system functioning from infancy to adulthood is simple or linear. Although a person's ways of relating to others and his or her mental representations of self and others may stem from childhood experiences with parents, they can also reflect a broad array of contextual factors that moderate or even override the effects of childhood experiences (Fraleay, 2002). For this reason, we have devoted a great deal of our research to the structure and dynamics of adult attachment without claiming to know precisely how these features developed.

Attachment theory also emphasizes the centrality of mental representations of self and others in personality development and the developmental journey from social dependence to mature autonomy—the remaining two postulates of contemporary psychodynamic theories. As explained earlier, the concept of working models of self and others is used in attachment theory to explain how mental residues of actual experiences with specific relationship partners become building blocks of a person's cognitions and behaviors in later interpersonal interactions and relationships. In the case of the dispositional sense of attachment security, repeated experiences of attachment-figure availability provide a foundation for increased exploration, self-regulation, autonomy, and a flexible balance between self-reliance and other-reliance (Mikulincer & Shaver, 2004). This stands in stark contrast to the overly dependent, in some ways infantile, position or the rigidly self-reliant attitude of more anxious and avoidant attachment orientations, respectively.

On the other hand, although adhering to the core postulates of psychodynamic approaches to personality, attachment theory has been unusual in stimulating extensive and systematic empirical research. Over a period of 25 years, reliable and valid measures of attachment-related processes have been developed—for example, the Strange Situation to classify infant's quality of attachment to mother; the Attachment Q-Sort for assessing young children's attachment orientations; the Adult Attachment Interview to measure adult "state of mind with respect to attachment"; and several self-report scales to measure adult attachment style in peer relationships (see Crowell, Fraley, & Shaver, 1999; Hesse, 1999; Solomon & George, 1999, for comprehensive reviews). The adult measures are now being combined with powerful laboratory techniques borrowed from cognitive psychology (e.g., semantic priming), and the methods of contemporary neuroscience (e.g., EEG, fMRI) to test central propositions of the theory and examine unconscious and defensive aspects of attachment-system functioning (see Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2004, for reviews).

Attachment research has been successful in establishing a broad network of theory-consistent empirical findings. Specifically, research has systematically delineated the mental representations of self and others, psychological defenses, methods of emotion regulation, and interpersonal behaviors associated with specific attachment styles (see Shaver & Mikulincer, 2002; Mikulincer & Shaver, 2003, for reviews). Research has also provided strong empirical evidence concerning how interactions with attachment figures and working models of self and others contribute to resilience, adjustment, and mental health—or, in some cases, to the development of emotional problems and psychopathology (see Dozier, Stovall, & Albus, 1999; Greenberg, 1999, for reviews). Attachment theory has also generated studies on a broad range of social issues, such as intergroup relations, compassion and altruism, and prejudice (see Mikulincer & Shaver, 2003, for a review), without sacrificing precision or parsimony. In this way, it is beginning to realize some of the broad potential claimed by Freud for his original psychoanalytic theory while also re-connecting various psychological subdisciplines, such as personality, social, developmental, and clinical psychology.



In the following pages, we summarize empirical evidence from recent studies conducted in our laboratories to explore three basic issues in the psychodynamic approach to personality: the unconscious nature of attachment-system activation, defensive biases resulting from deactivating strategies, and the ways in which optimal functioning of the attachment system contributes to the development of a relatively autonomous personality. Using these examples, we hope to show that attachment theory not only adheres to the main propositions of psychodynamic theories, but also provides reliable and valid tools for empirically examining such propositions and producing a solid body of empirical evidence that contributes to a resurrection of the psychodynamic approach to personality.

### *2.3. Dynamic, unconscious activation of the attachment system*

One of the central propositions in psychoanalytic theory is that wishes can be unconsciously aroused by contextual or intrapsychic stimuli, and this arousal can affect subsequent cognitions, emotions, and behaviors (Westen, 1998). In attachment theory, the basic “wish” is for proximity to an attachment figure who can provide comfort in times of need. This wish can be unconsciously aroused by an encounter with actual or symbolic threats and can automatically bias a person’s cognitions and behavior. In our model of attachment-system functioning (Mikulincer & Shaver, 2003), unconscious arousal of the basic attachment “wish” is automatically manifested in heightened accessibility of mental representations of available and responsive attachment figures; episodic memories of supportive and comforting interactions with these figures; thoughts related to proximity, love, and support; and proximity-seeking goals. These cognitive representations become available for use in information processing and can then shape a person’s state of mind and affect his or her behavioral intentions and actual behaviors, even before the person experiences the material in the stream of consciousness.

Unconscious activation of the attachment system has been examined in several recent studies (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Mikulincer, Gil-lath, & Shaver, 2002) in which participants have been subliminally primed with threat-related words (e.g., failure, death, and separation) or neutral words (e.g., hat) while performing cognitive tasks (the lexical decision task, the Stroop color-naming task). Variations in the accessibility of thoughts about attachment themes or mental representations of attachment figures were assessed following the various primes. These studies examined the effects of symbolic threats on the readiness of attachment-related thoughts to influence cognitive performance without participants having to notice or report these thoughts at a conscious level.

In Mikulincer et al.’s (2000) studies, participants performed a lexical decision task in which they indicated whether a string of letters was or was not a word following the subliminal priming (20-ms exposure) of threat-related words or neutral words. The strings included non-words, proximity-related words (e.g., love), separation-related words (e.g., separation), and positive and negative words that had no attachment connotation. The findings indicated that a threat prime led to faster identification (higher accessibility) of proximity-related words than a neutral prime. That is, in line with psychodynamic thinking, a symbolic threat unconsciously activated

attachment-related representations and automatically biased information processing in a lexical decision task. This effect did not generalize to neutral words or to affectively positive words that had no attachment connotations.

Following these studies, Mikulincer et al. (2002) conducted three experiments focused on the accessibility of the names of people whom participants listed on the WHOTO scale (Fraley & Davis, 1997) as security-providing attachment figures. Participants also provided names of close others who were not mentioned in the WHOTO scale, as well as names of people they knew but with whom they were not close and names of people (from a provided list) they did not know at all. They then performed either a lexical decision task or a Stroop color-naming task, in which they were subliminally exposed to threat or neutral primes, and the accessibility of the names of their own attachment figures, close persons, known persons, and unknown persons was assessed.

The findings indicated that participants reacted to symbolic threats with heightened accessibility of the names of the people they listed on the WHOTO scale as attachment figures. In the lexical decision task, subliminal priming with threat words (rather than neutral words) led to faster identification of names of attachment figures. In the Stroop color-naming task, slower reaction times in naming the color of the printed names of attachment figures were observed following subliminal priming with a threat word (rather than a neutral word). In both cases, fast lexical decision times and slow color-naming reaction times indicated heightened activation of representations of attachment figures under threatening conditions. Importantly, the priming of threat words increased the accessibility of representations of attachment figures but had no effect on representations of other persons. Thus, heightened accessibility under threatening conditions depends on the extent to which a person is viewed as a safe haven and secure base. Again, this pattern of findings fits a psychodynamic view of attachment-system activation by which the mind can turn unconsciously to attachment figures when threats loom.

The priming studies also documented individual differences in unconscious activation of the attachment system. Securely attached participants, who scored relatively low on the attachment anxiety and avoidance dimensions (as measured by the Experiences in Close Relationships Scale, ECR; Brennan et al., 1998), exhibited greater access to thoughts about proximity and to the names of attachment figures only after subliminal priming with threat words but not following subliminal priming with neutral words (Mikulincer et al., 2000, 2002). In addition, Mikulincer et al. (2000) found that this greater access of attachment-related thoughts following threat primes was limited to proximity-related words; secure participants had relatively slow access to words connoting separation and rejection. It therefore seems, in line with theory, that relatively secure individuals are not unconsciously preoccupied with worries about rejection, separation, or attachment-figure unavailability.

In contrast, people who scored high on the attachment anxiety dimension indicated heightened accessibility of attachment themes and attachment figures' names in both threat and non-threat conditions as well as heightened access to words connoting separation and rejection (Mikulincer et al., 2000, 2002). This pattern of unconscious activation seems to reflect the underlying action of hyperactivating strategies,

which lead to heightened access to threat-related material, maintain the attachment system in a chronically activated state, even in non-threatening contexts, and intensify worries about rejection, separation, and attachment-figure unavailability. In other words, these defensive strategies bias the unconscious activation of attachment-related thoughts, resulting in a less adaptive pattern of attachment-system activation and leaving the anxious person chronically preoccupied with attachment-related worries.

The findings for people who scored high on attachment avoidance were especially interesting from a psychodynamic standpoint because they supported the notion of defensive deactivating strategies. Mikulincer et al. (2000, 2002) observed that, in some respects, avoidant people's overall pattern of unconscious activation of attachment-related mental contents resembled that of secure individuals. Nevertheless, Mikulincer et al. (2000) also found that avoidant participants, as compared with secure ones, reacted to the addition of a "cognitive load" during the lexical decision task (engaging in an additional cognitively demanding task) with heightened accessibility of separation-related worries. In this condition, avoidant participants resembled their anxiously attached counterparts, exhibiting high accessibility of separation-related thoughts and an automatic spread of activation from attachment-unrelated threats to attachment-related worries. It seems that the introduction of a cognitive load, which has been found to interfere with mental suppression (see Wenzlaff & Wegner, 2000, for a review), diverted mental resources needed for defensive exclusion of attachment-related concerns and thereby impaired the effectiveness of avoidant deactivating strategies.

Mikulincer et al. (2002) also found that whereas secure participants exhibited heightened access to the names of attachment figures following subliminal priming with the word "separation," avoidant participants reacted to the same prime with *decreased* access. There was no such difference when the subliminal prime word was failure, a threat word not closely related to attachment concerns. This finding indicates that both avoidant and non-avoidant people react to attachment-unrelated threats with unconscious attachment-system activation, but that only non-avoidant people display this activation following an attachment-related threat (e.g., separation). The attachment systems of avoidant individuals seem to be capable of activation under some conditions but are unconsciously inhibited or deactivated when separation is threatened. This is compatible with child-development research (e.g., Ainsworth et al., 1978) suggesting that avoidant children learn not to appeal to attachment figures when they are threatening to leave.

Overall, the findings support a psychodynamic approach to personality. Attachment-related representations are unconsciously activated by threats, and this activation affects the cognitive processing of attachment-related material. Although this activation holds across differences in attachment style, there are important attachment-style differences that are summarized in Fig. 1. Whereas secure people's encounters with threats heighten access to positive thoughts about love, support, and comfort, anxious people react to these encounters with a concomitant heightening of distressing thoughts about rejection, separation, and abandonment. In addition, whereas anxious people have their attachment-related thoughts and worries mentally

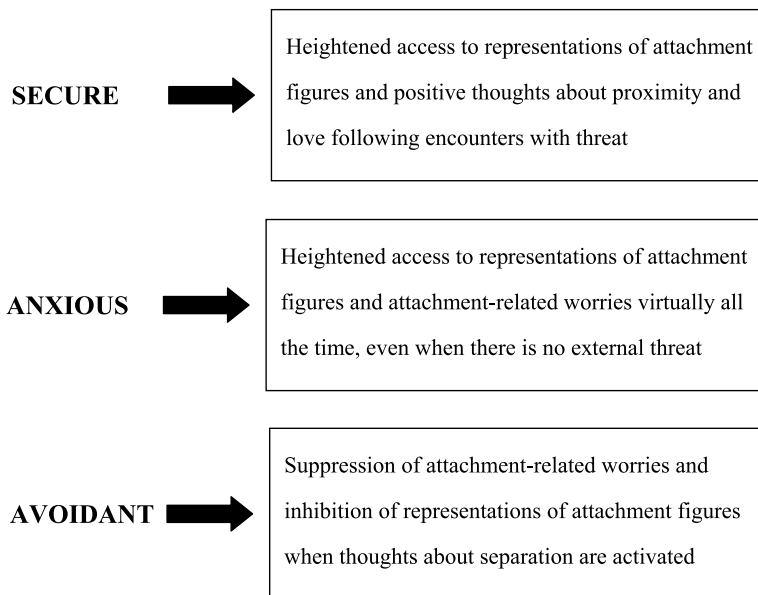


Fig. 1. Attachment-style differences in unconscious activation of attachment-related representations.

accessible virtually all the time, even when there is no external threat, avoidant people seem to suppress attachment-related worries and inhibit activation of representations of attachment figures when thoughts about separation are activated. These differences in attachment-system activation clearly support a psychodynamic perspective.

#### 2.4. Avoidant defenses and the unwanted return of the repressed

One of the central tenets in the psychodynamic approach to inner conflicts and defenses is that unacceptable or unmanageable thoughts, feelings, and motivational impulses can be actively suppressed or repressed, yet continue to remain active in the unconscious and at times resurface in experience and action (Freud, 1936, 1959/1926). In attachment theory, this kind of defensive suppression is characteristic of avoidant, deactivating strategies (e.g., Cassidy & Kobak, 1988; Mikulincer & Shaver, 2003), which may sometimes cause problems when the defenses prove insufficiently strong given other demands on mental resources.

Avoidant deactivating strategies include cognitive maneuvers aimed at minimizing the experience of stress and distress, such as suppressing thoughts related to rejection, separation, and loss, repressing painful memories, and deploying attention away from attachment-related threats (see Mikulincer & Shaver, 2003, for a review). These mental processes are efforts to create what Bowlby (1980) and George and West (2001) called “segregated” mental systems, which result in the defensive exclusion of distressing material from the stream of consciousness. Deactivating strategies are

also used to block cognitive access to self-relevant sources of distress, inhibiting the appraisal of negative self-traits, suppressing thoughts about personal weaknesses and imperfections, and projecting these weaknesses onto others.

In a direct examination of avoidant defenses, Mikulincer (1998) found that, as compared with securely attached study participants, avoidant participants reacted to various kinds of threatening experimental situations with an inflation of explicit and implicit positive self-appraisals. Mikulincer (1998) also noted that introducing contextual factors that inhibited defensive tendencies (a “bogus pipeline” device that measures “true feelings about things” or the presence of a friend who knew the participants) inhibited avoidant participants’ self-inflation response to threats. That is, avoidant people’s positive self-appraisals seemed truly to be strategic defensive maneuvers aimed at bolstering the experienced strength of the avoidant self.

Avoidant defenses are also likely to bias person perception. Avoidant individuals want to maintain distance from others and view themselves as strong and perfect. Therefore, they may strategically stress their own uniqueness and distinctiveness while devaluing other people. Indeed, Mikulincer, Orbach, and Iavnieli (1998) found that avoidant individuals were more likely than their secure counterparts to perceive others as dissimilar to them, and to exhibit a false distinctiveness bias in both trait and opinion descriptions. Importantly, Mikulincer et al. (1998) also found that avoidant individuals reacted to threats by generating self-descriptions that were less similar to their partner’s self-description and by forgetting more traits that they and their partner shared. In a subsequent study, Mikulincer and Horesh (1999) found that avoidant people defensively projected their own unwanted traits onto others, which increased self-other differentiation and, by comparison, enhanced their own sense of self-worth. This defense also resulted in a negative appraisal of others derived from the projection of negative self-traits.

The question here is whether avoidant deactivating strategies are effective in maintaining emotional equanimity in times of stress or are constantly disturbed by the unwanted resurgence of suppressed thoughts and negative self-representations, a phenomenon Freud (1959/1926) called “the return of the repressed.” In fact, research on thought suppression has shown that, for many people, this defensive maneuver leads, paradoxically, to what Wegner (1994) called a post-suppression rebound effect—heightened intrusion into consciousness of unwanted thoughts following suppression of these thoughts. However, with practice, suppression has been found to decrease the intensity of the post-suppression rebound effect, allowing a person to be less perturbed by the previously suppressed thoughts and feelings (e.g., Kelly & Kahn, 1994). This is likely to be the case with avoidant people, who chronically rely on mental suppression to manage distress. That is, they are likely to be “experts” in using this particular defensive maneuver.

There is direct evidence supporting the effectiveness of avoidant deactivating strategies in preventing the typical post-suppression rebound effect and the distress elicited by intrusion into consciousness of previously suppressed thoughts. In a related pair of studies, Fraley and Shaver (1997) asked participants to write continuously about whatever thoughts and feelings they were experiencing while being asked to suppress thoughts about a romantic partner leaving them for someone else. In the

first study, the ability to suppress such thoughts was assessed by the number of times separation-related material appeared in participants' stream-of-consciousness writing following the suppression period. In the second study, this ability was assessed by the level of physiological arousal (skin conductance) during the suppression task—the lower the arousal, the higher the ability to suppress the thoughts. The findings indicated that attachment avoidance was associated with both less frequent thoughts following the suppression task and lower skin conductance during the task, suggesting that avoidant defenses are effective in blocking unwanted thoughts and preventing the emotional arousal they might otherwise cause.

At the same time, there is evidence that avoidant deactivating strategies sometimes lead to emotional and adjustment problems. For example, [Berant, Mikulincer, and Florian \(2001\)](#) found that attachment avoidance on the part of mothers of infants with congenital heart disease, as assessed at the time of the initial diagnosis of the infant's disorder, predicted maternal distress one year later. Moreover, [Mikulincer, Horesh, Eilati, and Kotler \(1999\)](#) found that attachment avoidance was positively associated with the severity of psychiatric symptomatology among Israeli Jewish settlers whose lives were chronically endangered because of residing in disputed territory controlled by the Palestinian Authority. These findings imply that, although deactivating strategies allow avoidant individuals to maintain a defensive façade of imperturbability, they leave suppressed distress unresolved, which may impair adjustment and mental health during prolonged, highly demanding distress-eliciting experiences.

In two recent laboratory studies, we ([Mikulincer, Dolev, & Shaver, in press](#)) examined attachment-related variations in thought suppression, paying special attention to conditions that impair the effectiveness of deactivating strategies aimed at preventing the rebound of previously suppressed material. In Study 1, participants were asked to think about a painful separation or relationship breakup and were either instructed or not instructed to suppress thoughts about this separation. We then examined the rebound of the suppressed separation-related thoughts under conditions of low or high cognitive load, which allowed us to determine whether deactivating strategies are capable of inhibiting the post-suppression rebound effect even when other cognitive demands draw upon limited psychological resources.

We assessed the implicit activation of previously suppressed thoughts by measuring the extent to which they influenced performance on a Stroop color-naming task. Previous studies had shown that interference with color-naming responses in the Stroop task indicates implicit accessibility of previously suppressed material ([Wenzlaff & Wegner, 2000](#)). In our study, participants performed a Stroop task under low or high cognitive load (holding a 1- or 7-digit number in mind), and we assessed color-naming reaction times for separation-related words.

In Study 2, we examined possible consequences of failed suppression efforts on avoidant individuals' self-concepts. As mentioned earlier, deactivating strategies include the blocking of access to negative self-representations ([Mikulincer & Shaver, 2003](#)). Therefore, if high cognitive load impairs the effectiveness of deactivating strategies, it may render an avoidant person defenseless against reactivation of negative self-representations. In examining this possibility, we asked study participants to



recall either a painful breakup with a romantic partner or a more neutral experience (being at a drugstore) and to perform a 5-minute stream-of-consciousness task. In this task, participants were either instructed or not instructed to suppress thoughts about the just-recalled episode. All participants then performed a Stroop task, while at the same time carrying out a relatively easy or relatively demanding cognitive task. In the Stroop task, we assessed color-naming reaction times for idiographic negative self-traits and positive self-traits taken from lists supplied by the participant in a previous research session.

We found that attachment avoidance was associated with prevention of unwanted reactivation of previously suppressed thoughts about a painful separation. Under low cognitive load, avoidant individuals were able to suppress thoughts related to the breakup, and they evinced lower accessibility of such thoughts and higher accessibility of positive self-representations following suppression. However, the effectiveness of deactivating strategies was significantly impaired when a high cognitive load taxed the mental resources needed to maintain thought suppression. Under high cognitive load, avoidant individuals exhibited higher accessibility of thoughts of separation and negative self-traits following suppression. In other words, their avoidant defenses collapsed when mental resources were too scarce to maintain them, and this collapse seemed to be associated with a spread of activation from unwanted attachment-related thoughts to formerly suppressed negative self-representations.

Overall, the findings imply that, under strain, the avoidant mind operates in line with the psychodynamic conception of defensive suppression. (See Fig. 2 for a summary of the findings.) Evidently, avoidant persons' attempts to suppress or repress unacceptable or unmanageable thoughts and feelings concerning separation and rejection fail to resolve the distress caused by these painful episodes, and the suppressed material resurfaces in experience and action when high cognitive and emotional demands are encountered. This vulnerability resembles one that Wenzlaff, Rude, Taylor, Stultz, and Sweatt (2001) documented in the case of individuals at risk for depression: "High levels of thought suppression may indicate that the individual

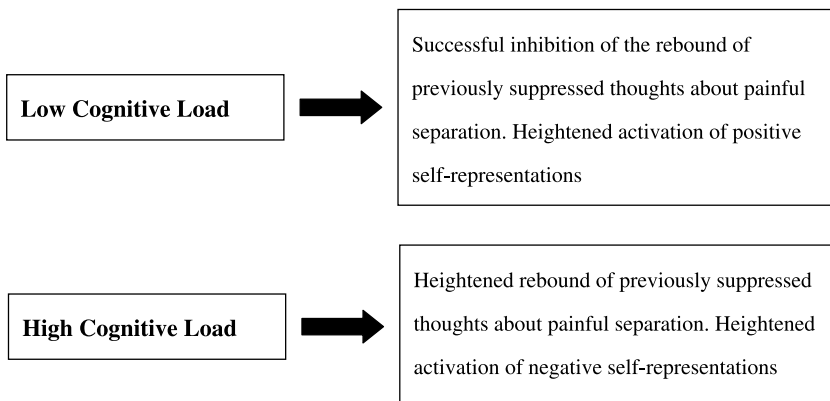


Fig. 2. Rebound of suppressed thoughts and the activation of self-representations among avoidant persons under conditions of low and high cognitive load.

has not resolved the negative patterns of thinking that contributed to the previous depressive episode. These patterns of negative thinking are apt to become evident when stress undermines mental control efforts” (pp. 448–449).

### 2.5. *Internalization of attachment interactions and the movement toward autonomy*

Another important tenet of both classic and modern psychoanalytic theories is that healthy personality development involves a move from a socially dependent state to a maturely autonomous one (Westen, 1998). According to psychodynamic and object relations theorists (e.g., Kohut, 1971; Schafer, 1968), affect-regulatory functions accomplished at first by parents and other interaction partners gradually become part of the self, allowing a developing individual to perform these functions autonomously. Kohut (1971, 1977) labeled this process “transmuting internalization” and claimed that caregivers’ empathic responses to children’s needs foster the development of an inner state of stability, security, and self-cohesion, which in turn makes external regulation less necessary. According to Kohut, the self incorporates the features and traits of the external figure, which allows the person to develop his or her own self-soothing and self-regulatory capacities and become less dependent on external sources of regulation. In this way, the individual can relate to others in a more autonomous and reciprocally interdependent fashion.

In our model of attachment-system functioning in adulthood, we (Mikulincer & Shaver, 2003, 2004) characterize some ways in which secure attachment, representing the optimal functioning of the attachment system, contributes to development of an autonomous self. We propose that security-enhancing interactions with attachment figures, the building blocks of attachment security, facilitate the construction of specific self-comforting and self-soothing processes that operate autonomously. These *security-based self-representations* provide real comfort and strength during threatening events, reducing the need for external or even internally represented distinct attachment figures. In other words, support that was originally provided from outside, by another person, can eventually be provided by the self, and be represented mentally as part of the self.

In our view, security-based self-representations are mental structures derived from internalization of security-enhancing interactions with attachment figures (Mikulincer & Shaver, 2004). These self-representations co-exist in a semantic network with other self-representations, including less secure models of self that result from internalizing negative interactions with attachment figures. Within this semantic network, the relative strength of security-based self-representations is thought to be a function of a person’s history of security-enhancing and security-impairing interactions. Secure persons, who have a history of mainly positive interactions with available and responsive attachment figures, have more, and more readily available, security-based self-representations within their semantic network than less secure persons, but context can influence the degree to which secure or insecure self-representations are available.

We theorize that security-based self-representations are associated with other components of the attachment system and are therefore likely to become more

available when the system is activated (Mikulincer & Shaver, 2004). They can then serve a regulatory, self-soothing function that helps to alleviate stress and distress. As stated earlier, the attachment system is unconsciously activated by the appraisal of threatening events and is followed by a search for internalized attachment figures. For secure people, activation of threat-related thoughts is accompanied by heightened accessibility of representations of security-enhancing attachment figures, which can serve as contextual cues for bringing security-based self-representations into working memory. These self-representations are presumed to have been formed originally in connection with threats that were alleviated by security-enhancing attachment figures. As a result, they are mentally associated with attachment-figure representations and positive feelings arising from memories of interactions with these figures. They can be automatically activated in new situations appraised as threatening, contribute to the arousal of positive feelings, and serve as a source of comfort.

If these representations are readily available in a person's semantic memory, they should easily become activated by relevant contexts, increase a person's sense of security, and contribute to a "broaden and build" cycle of security, competence, and autonomy. However, if security-based self-representations are not accessible, due to lack of frequent security-enhancing interactions with attachment figures, this regulatory path will be less available, causing an insecure person to rely more heavily on secondary attachment strategies (i.e., hyperactivating or deactivating strategies).

On the basis of many psychoanalytic writings, we (Mikulincer & Shaver, 2004) proposed that security-enhancing interactions with attachment figures would be mentally represented in the form of two closely related aspects of the self: representations of the self-in-relation-with-an-attachment-figure and self-caregiving representations. One kind of security-based self-representation is organized around self-aspects encoded during security-enhancing interactions with attachment figures. These self-aspects become integrated into *representations of the self-in-relation-with-an-attachment-figure* and incorporated within a person's conception of the actual self. They are expected to become accessible during encounters with threats, have a soothing, comforting effect on the person, and render the pursuit of other defensive strategies unnecessary.

To test these ideas, we (Mikulincer & Shaver, 2004) conducted a two-session study. In the first session, participants completed the ECR scale (Brennan et al., 1998), measuring dispositional attachment-related anxiety and avoidance, and were asked to think about a security-enhancing attachment figure ("a person from whom you seek and receive support and comfort in times of need and who helps you remain calm and endure difficult situations") and to generate 10 traits that describe their self-in-relation-with-this-figure (traits that describe themselves as they were when they interacted with that person). In the second session, we exposed participants to either failure feedback on cognitive tasks (threat condition) or no-feedback (neutral condition), noted the accessibility of various categories of traits within their self-descriptions, and assessed their current emotional and cognitive state (e.g., worry, cognitive interference).

As predicted, securely attached participants reacted to the threat condition with heightened accessibility of security-based self-representations. They rated traits that they originally used to describe their self-in-relation-with-a-security-enhancing-attachment-figure as more descriptive of their current self following threatening than following neutral conditions. This heightened accessibility of security-based self-representations under threat was not observed among insecurely attached persons. More important, security-based self-representations had a soothing effect: The higher the accessibility of these self-representations, the more positive was a participant’s emotional state following a threat and the less frequent were task-related worries and other interfering thoughts. Thus, it appears that securely attached individuals can mobilize representations of being loved and valued, and these representations can provide real comfort, allowing one to feel worthy and unperturbed (see Fig. 3). These representations become more available during stress and are not simply equally activated or conscious at all times.

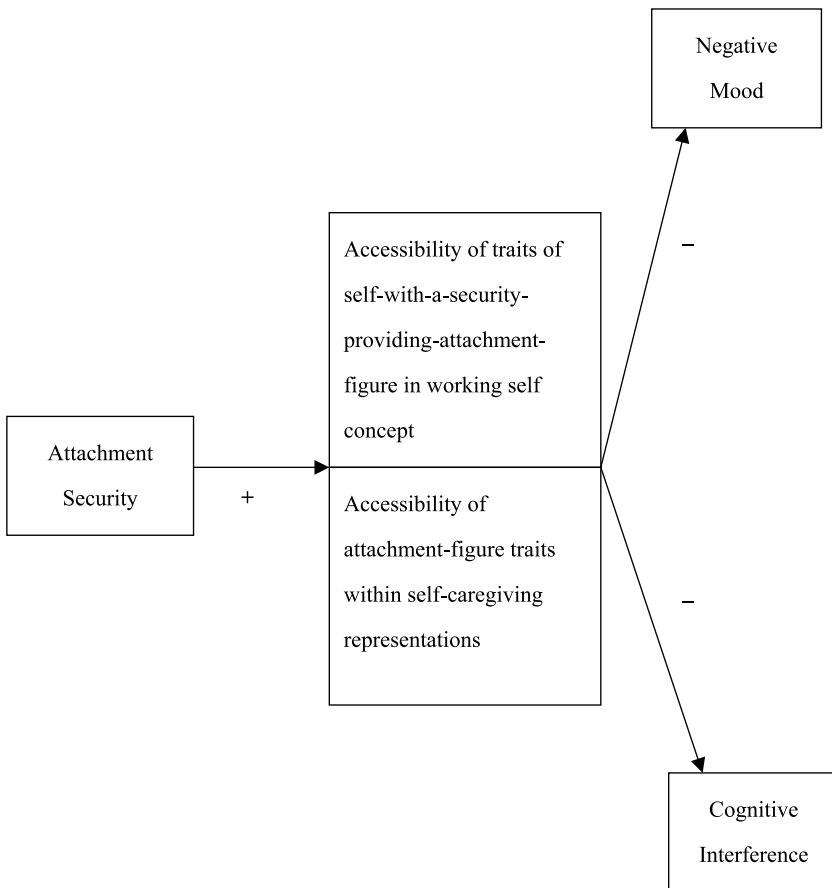


Fig. 3. The soothing function of security-based self-representations in threatening conditions.

Another important kind of security-based self-representation is one that includes internalized characteristics of particular supportive attachment figures. We theorize that during interactions with attachment figures, people tend to identify with these figures and to internalize their features and traits in a component or subroutine of the self that characterizes relation to and treatment of oneself—*self-caregiving representations*. Hence, one's relation to and treatment of oneself during periods of stress tends to resemble the treatment one has received from key attachment figures. In the case of security-enhancing attachment figures, the process of identification fosters the formation of security-based representations of self-caregiving, which include strategies for being available, sensitive, compassionate, and comforting toward oneself in times of need. These self-representations are expected to become accessible during encounters with threats and to comfort a person in the same way helpful attachment figures have done.

Based on this line of reasoning we (Mikulincer & Shaver, 2004) conducted a second laboratory study. In the first session, participants completed the ECR scale and provided 10 traits describing a security-enhancing attachment figure. In the second session, participants received failure feedback on cognitive tasks (threat condition) or no-feedback (neutral condition). They then described how they felt and related to themselves during the experimental session (self-caregiving representations), and completed scales tapping their current emotional and cognitive state. We found that a threat induction significantly heightened the accessibility of attachment-figure traits within current representations of self-caregiving mainly among secure participants, but not among participants who scored high on either anxiety or avoidance. Findings for mood and cognitive interference indicated that the more accessible the attachment-figure traits were within a participant's self-caregiving representations, the less intense the reported negative emotion and the less frequent the occurrence of interfering thoughts. It thus appears to be the case that secure people react to threats by activating attachment-figure traits within their own self-representations, and these representations facilitate effective mood regulation (see Fig. 3).

Overall, our empirical findings are in line with the basic psychodynamic postulate that healthy personality development represents a move from dependence to autonomy. Secure attachment, which reflects healthy functioning of the attachment system, seems to be related not only to an increased capacity to seek external sources of support but also to a heightened capacity for inner regulation that may often make explicit dependence on others less necessary. Attachment-figure availability and the development of attachment-related security seem to be related to the development of specific soothing subroutines within the self: security-based self-representations, which are made accessible during periods of stress and distress and become an inner source of comfort and relief. That is, security-enhancing interactions with attachment figures are reproduced within a person's self-representations, with some parts of the self being represented as sensitive and caring toward other parts, and the latter parts being represented as secure, calm, and able to deal with threats. This, again, is a familiar psychoanalytic notion.

### 3. Concluding remarks

Beyond the studies reviewed in this article, which were selected to fit within a tight space limit, there is accumulating evidence concerning other attachment-related processes that fit with a psychodynamic approach to the human mind. For example, [Sohlberg and Birgegard \(2003\)](#) found long-term mood effects of subliminal exposure to symbiotic messages such as “Mommy and I are one” over a period of several weeks. We have also systematically documented the positive effects of priming with security-related representations on cognitive openness, compassion, altruism, and tolerance of out-groups—effects that cannot be explained in terms of associative priming or positive mood induction (see [Mikulincer & Shaver, 2003](#), for a review). There is also empirical evidence concerning the dynamics of anxious attachment, such as projective identification (projecting one’s own traits onto others and feeling closer as a result) and ironic negative reactions to positive mood inductions—effects that cannot be explained by correlated variables such as neuroticism, self-esteem, or trait anxiety ([Mikulincer & Shaver, 2003](#)). These examples fit with classic psychoanalytic descriptions of neurosis and hysteria. There are also empirical studies showing theory-consistent correspondence between attachment anxiety and avoidance, on the one hand, and measures of constructs in Kohut’s psychoanalytic self-theory (e.g., needs for mirroring, idealization, and twinship) and scores on clinical tests such as the TAT and Rorschach, on the other hand ([Banai, Mikulincer, & Shaver, in press](#); [Berant, Mikulincer, Shaver, & Segal, in press](#); [Shaver & Mikulincer, 2004](#)).

Research on adult attachment provides persuasive evidence for many of the unconscious processes discovered and described by psychoanalysts. This does not mean, however, that attachment theory can be simply equated with psychoanalysis. In fact, attachment theory offers a unique perspective on the developmental trajectory of working models and the role played by contextual factors in shaping cognitions and behaviors in adulthood. While contemporary psychoanalysis still views mental representations of self and others in adulthood as mental residues of childhood experiences, [Bowlby \(1988\)](#) believed that these mental representations can be updated throughout life and can be affected by a broad array of contextual factors, such as current interactions with a relationship partner, the partner’s attachment style and dynamics, and a person’s current life situation. Indeed, longitudinal studies have shown only a moderate level of stability in attachment orientations from infancy to adolescence, while indicating that life events (e.g., parental death) can substantially alter a person’s working models (see [Fraley, 2002](#), for a review and meta-analysis of these studies).

The changing nature of attachment styles and underlying mental representations is also evident in several experimental studies showing that positive effects of contextual priming of security-enhancing representations are found even among chronically insecure people (e.g., [Mikulincer et al., 2001](#); [Mikulincer & Shaver, 2001](#)). The possibility and nature of change are further revealed in two recent studies documenting the role of subjective appraisal of person-environment transactions in regulating changes in attachment orientation ([Davila & Cobb, 2004](#); [Simpson, Rholes, Campbell, & Wilson, 2003](#)). For example, [Simpson et al. \(2003\)](#) observed changes in



attachment orientations during the transition to parenthood and found that prenatal appraisals of partner support and anger influenced the change process. Specifically, women who perceived less spousal support and more spousal anger during pregnancy became more anxiously attached across the transition, whereas husbands who perceived themselves as providing more spousal support during pregnancy became less avoidant across the transition to parenthood. These findings imply that attachment orientations are most likely to be changed if people construe life events as disconfirming their chronically accessible working models.

Attachment researchers have benefited from psychoanalytic insights as well as methods developed by cognitive and social-cognitive researchers. A similar kind of synergy may be about to occur between psychodynamic insights and methods developed by cognitive and affective neuroscientists. If researchers in the fields of personality and social psychology adopted a strategy of remaining open to psychodynamic insights, wedding these insights with a range of creative, contemporary methods, and working toward comprehensive, integrative theories, psychology might attain some of the ambitious goals, including psychological depth, that motivated theorists such as Freud and Bowlby.

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