CHAPTER 30

Psychology

JOEL WEINBERGER, PH.D.
KENNETH N. LEVY, PH.D.

Psychoanalysis is not a particular branch of medicine. I do not see how anyone can refuse to see this. Psychoanalysis is part of psychology—not even a medical psychology in the old sense of the term...but simply of psychology. (Freud 1927, pp. 392–393)

IN THIS CHAPTER, we examine the relationship between psychoanalysis and psychology, focusing on the interface between academic psychology and psychoanalysis. This relationship is a complicated one and can be characterized mainly as a tale of two psychologies: academic psychology (including research-oriented clinical psychology) and psychoanalytic psychotherapy (applied clinical psychology). We examine the historical development of the relationship between these disciplines as well as their contemporary relationship. To accomplish this task in a comprehensive fashion is a huge endeavor, well beyond the scope of a single chapter. We therefore focus on two specific areas to illustrate our points: unconscious processes and interpersonal relationships (attachment). These two themes were chosen because the intrapsychic and the interpersonal are central to the psychoanalytic enterprise and because there are a great deal of data on each. We conclude the chapter with recommendations for the future of the relationship between the two disciplines.

Academic Psychology and Psychoanalysis

Academic psychology and psychoanalysis have a long and ambivalent relationship (Hornstein 1992). The pioneers of academic psychology were at odds with one another from the moment they first heard of Freud's work. This dissension can be illustrated through their reactions to his appearance at Clark University in 1909 (which many of them attended). Edward Bradford Titchener thought little of Freud's work. He did not even consider psychoanalysis to be psychology because of its emphasis on unconscious processes and its applied focus. Titchener insisted that psychology be a science of consciousness and that it be "pure" (i.e., have no applied focus) (Hornstein 1992). William James, in contrast, although not an unabashed admirer of Freud's psychoanalysis, had a generally positive reaction. He was even reported to have declared to Freud

that "the future of psychology belongs to your work" (1920). (James is often portrayed as disparaging the entire notion of unconscious processes and therefore of being opposed to Freud's views. This characterization is, however, a misunderstanding of his work; see Weinberger 2000.)

The founder of behaviorism, John Watson, was extremely ambivalent about psychoanalysis. On the one hand, he saw it as unscientific and even closely akin to superstition (Watson 1919); on the other hand, he seemed compelled to try to account for the phenomena identified by Freud in behavioristic terms, thereby acknowledging their reality. B.F. Skinner seemed similarly ambivalent. Skinner (1953) discounted the possibility of any mental entities or organizations such as id, ego, and superego but acknowledged the veracity of Freud's observations qua observations. He told one of us (J.W.) that Freud was the only "mentalistic" theorist he cited favorably because of his brilliant observations of behavior, but that he believed Freud's mentalistic explanations were bogus (B.F. Skinner, personal communication, May 1988).

Views such as those of Watson and of Skinner led to efforts to reformulate psychoanalysis in behaviorist terms. This often took the form of "translating" psychoanalytic concepts into behaviorist terminology. The best-known and most comprehensive example of such an effort at "translation" was probably the work of Dollard and Miller (1950). (This tradition of translating Freud into the current language of academic psychology was revived more recently by Erdelyi [1985] in a wonderful book that tried to translate Freud 's work into more modern cognitive terms.)

Psychoanalytic thinking enjoyed a heyday in academic psychology in the 1950s through a program of research termed the "New Look" (Dixon 1971, 1981). This work employed subliminal presentation of stimuli in an effort to demonstrate unconscious phenomena termed "perceptual defense," "perceptual vigilance," and "subception." *Perceptual defense* referred to difficulty in recognizing threatening stimuli (high recognition threshold), whereas *perceptual vigilance* referred to unusual ease in recognizing such stimuli (low recognition threshold). *Subception* involved physiological reactions to threatening stimuli while denying phenomenal awareness of them. These phenomena seemed to corroborate psychoanalytic thinking. First, unconscious events were apparently being demonstrated, and second, they seemed to be of a psychoanalytic nature. For example, hysterics, who according to psychoanalytic theory employ defenses, demonstrated perceptual defense (Dixon 1981), whereas paranoids, who are said to always be on the lookout for danger, demonstrate perceptual vigilance (Dixon 1981).

The New Look came to a screeching halt in about 1960 as its studies came to be intensively criticized and the psychoanalytic understanding of their results was rejected (Eriksen 1959; Goldiamond 1958). Later reviews of the literature indicated that these criticisms were oversold (Dixon 1981) or that those who made these criticisms bought into the soon-to-be-replaced behaviorist paradigm (Erdelyi 1974; Weinberger, in press). Nonetheless, with a few exceptions (two of which are reviewed below), psychology saw the New Look as a dead end. This ushered in a period of extreme hostility on the part of academic psychology toward psychoanalysis. Consider the following quote from a still prominent psychologist:

> The latter [psychoanalytically oriented clinicians] employ symptom-underlying disease models in which the "disease" is a function of conscious or (more often) unconscious inner agents akin to the supernatural forces that once provided the explanatory concepts of physics, biology, and (more recently) medicine. General medicine has progressed from the demonology that dominated it during the dark ages. As scientific knowledge has increased, magical explanations have been replaced by scientific ones. In contrast, theories of psychopathology, in which demons reappear in the guise of "psychodynamic forces," still reflect the mystical thinking that once predominated in science. (Bandura and Walters 1963, pp. 30–31)

Nor has this hostility abated with time. More recently, Greenwald (1992) pronounced that unconscious phenomena "are limited to relatively minor cognitive feats.... it appears to be intellectually much simpler than the sophisticated agency portrayed in psychoanalytic theory" (p. 766). He concluded that "it will be time, at last, to abandon psychoanalytic theory" (p. 775).

Psychotherapy and Psychoanalysis

As Shakow and Rapaport (1964) pointed out 40 years ago, parts of clinical psychology have achieved much integration with psychoanalysis. However, a gap still exists within applied clinical psychology because of the somewhat unique path that clinical psychologists have followed toward professionalism and the (until recently) exclusionary training practices of the American Psychoanalytic Association. Because of these historical factors, the relationship between psychoanalysis and psychology is a strange one.

Although psychoanalysis relies on empirical evidence to support many of its basic tenets, particularly in this era of evidence-based medicine, thereby demonstrating its connection to academic psychology's pro-research tenets

ckett et al. 1996), psychoanalysts often accept the need lo so only reluctantly, thereby showing their estrange- nt from research-based academic psychology. The few ve collaborations that take place are usually focused on cific findings consistent with a particular author's pre- ceived ideas. Some analysts have asserted the separate- s of psychoanalysis from disciplines like psychology and little need for empirical support or minimize the rel- nce of psychological research.

Nonpsychoanalytic clinicians and theorists have prac- ed their own form of exclusion. Beginning with attacks psychoanalytically oriented psychotherapy by Eysenck 52), who claimed that they lacked scientific credibility, s kind of thinking still reverberates today in the form of -called empirically supported treatments (all of which e short-term and virtually none of which are psychody- mic). Proponents of this view suggest that clinical train- g be restricted to so-called empirically supported treat- ents, which would effectively exclude psychoanalytic eatment from graduate schools and clinical internships. In- rance reimbursement has also been affected by this view.

In fact, with regard to the treatment of borderline per- nality disorder (BPD), a disorder common in psychoan- ytic practice (Doidge et al. 1994; Friedman et al. 1998) d for which psychoanalytic therapy is most promising d most likely to be uniquely effective (Shakow and Ra- aport 1964), many managed care companies (e.g., Mas- chusetts Behavioral Health Partnership, which manages lassachusetts' Medicaid mental health dollars) have de- ied special benefits for a cognitive-behavioral therapy alled Dialectical Behavior Therapy (DBT; Linehan 1993), nd certain companies will only reimburse DBT treat- ent of BPD. In addition, departments of mental health n several states (e.g., Illinois, Connecticut, Massachusetts, New Hampshire, North Carolina, and Maine) have now nthusiastically endorsed DBT as the treatment of choice or clients with BPD. These states have provided funding nd coordination for training in DBT.

Thus, psychoanalysts often critique clinical research- rs for their lack of clinical richness and relevance, whereas clinical researchers often argue that psychoana- ytic treatment is completely without proven effective- ness. Although it is true that psychological research often fails to capture the richness and complexity of human ex- perience, as some psychoanalysts assert, it is untrue that psychoanalysis is not in need of empirical support. As Spence (1994) and others (Fonagy 2000; Masling and Co- hen 1987) point out, not all the evidence needed to sup- port psychoanalytic ideas comes from the consultation room. Fonagy (2000), a psychoanalyst and psychologist, eloquently noted that clinical data offer fertile ground for theory building, but not for distinguishing good theories from either bad or better ones. Fonagy argued further that "the proliferation of clinical theories currently in use, is the best evidence that clinical data are more suitable for generating hypotheses than for evaluating them" (p. 228). It is true that psychoanalysis needs more empirical investigations as some clinical researchers assert. It is not true, however, that psychoanalytic theories are totally devoid of such support, as those working in the Eysenck tradition contend. In fact, one could argue that much of the movement in psychoanalysis has been stoked by empirical findings from developmental attachment research, psychotherapy research, and social and cognitive psychology in areas such as implicit processes. Some of this work has been conducted by psychoanalytically oriented researchers (e.g., attachment), but a significant portion of this research was conducted by nonpsychoanalytic psychologists (e.g., the study of social cognition).

Despite the difficulties and conflicts outlined above, there has been much that scientific/academic psychology and psychoanalysis have provided to each other. It would be impossible to review all of these contributions in one chapter. We therefore offer brief reviews of two areas—unconscious processes and interpersonal relationships (attachment)—to illustrate the cross-fertilization between academic psychology and psychoanalysis. We chose these two areas because, as stated earlier, they are exemplars of intrapsychic and interpersonal functioning. In our review, we focus on relatively recent research. The reader interested in studying a wider corpus is referred to a compendium edited by Barron and colleagues (1992). Especially rewarding is a series edited by Bornstein and Masling (2002a, 2002b) devoted to psychoanalytically oriented research.

Unconscious Processes

Central to psychoanalytic thinking is the concept that much, if not most, human mental functioning can be attributed to unconscious processing. Freud (1926/1959) went so far as to say that psychoanalysis might be characterized as the study of unconscious processes. Subsequent psychoanalytic theorists have retained this emphasis (cf. Westen 1998). Until relatively recently, academic psychology disagreed, abjuring the very existence, and therefore the study of, unconscious processes (Weinberger, in press). Over the past 25 years, this stance has changed, and academic psychology's study of unconscious processes has burgeoned. Psychologists now routinely study such topics as implicit memory, implicit learning, and automaticity. There is also some empirical research on unconscious processes more directly tied to psychoanalytic thinking,

including what has been termed "subliminal psychodynamic activation" and a research program that integrates psychoanalysis with subliminal stimulation and measurement of brain waves spearheaded by Howard Shevrin (Shevrin et al. 1996).

Implicit Memory

Implicit memory is inferred when a person does something indicating that he or she was affected by a prior experience but has no conscious recollection of that experience (Schacter 1987). The memory of the experience is implicit in the person's behavior, hence the term. Academic psychologists tend to study this phenomenon through testing brain-damaged individuals evidencing the amnesic syndrome, much as Poetzl (1917) studied unconscious recall through investigating brain-damaged war-wounded soldiers back in the time of Freud. It can also be investigated in brain-intact individuals through subliminal priming. *Subliminal priming* involves presenting a stimulus too quickly or faintly to be consciously noticed (subliminally). The stimulation nonetheless can affect subsequent judgments, evaluations, and behaviors; it therefore "primes" these reactions (cf. Weinberger, in press).

Implicit memory can be implicated in both fears and preferences. Moreover, it begins much earlier in life than does explicit (conscious) memory. It is at virtually full strength from early childhood (by age 4) and perhaps before language acquisition (Naito and Komatsu 1993; Schacter 1996), whereas explicit memory develops throughout childhood and into adolescence (Kail 1990; Naito and Komatsu 1993). Although it weakens with age, implicit memory does not deteriorate to nearly the same degree as does explicit memory and is powerful even into old age. The effects of implicit memory are also long-lasting. Simple and affectively neutral experiences like word-stem completions and skills learning show evidence of retention for weeks and even months without the need for intervening practice or reminders. (Implicit learning can be analogized to learning to ride a bicycle, in that you never forget.)

No one has systematically investigated implicit memory for emotionally meaningful and charged experiences. It is fair to expect that, if anything, such experiences would be even more strongly retained than would affectively colorless events. Implicit memory may therefore underlie some of the lasting effects of unreported childhood experiences. Defenses would not be implicated in such instances; it is merely the way the mind operates. Experiences would be coded implicitly before explicit memory is well developed. The person would continue to respond to them and to similar events in a way that suggested some memory of them but would legitimately have no recollection of them. Phobias, fears, preferences, and fetishes might be produced in this way.

A clinical vignette, almost a century old, may illustrate this point. In 1911, the great French neurologist Edouard Claparede (1995) hid a pin between his fingers and pricked an amnesic patient (who had Korsakoff's syndrome) when he took her hand. She became upset but quickly forgot the incident. Later, she was fearful of taking Claparede's hand but could not say why. An example more familiar to psychologists and one that illustrates the differential development of implicit and explicit memory is that of "Little Albert." John Watson, the founder of behaviorism, succeeded in causing a preverbal child (Little Albert) to become phobic of white furry objects (and not so incidentally of Watson himself) by banging a loud gong whenever poor Albert reached for a white rat presented to him. It would not be surprising if Little Albert retained his fears but could not consciously explain them. This is exactly what Watson expected, and he used this case to poke fun at psychoanalysis. Albert would have an implicit memory of being terrified, but his explicit memory was not sufficiently developed for him to be able to consciously recollect Watson's abuse of him.

Implicit Learning

Implicit learning involves registering relationships among experiences without any awareness of having done so (Reber 1993). Reber (1993) created artificial grammars to investigate implicit learning. He presented people with strings of letters connected by arbitrary rules. After viewing several such sets of letter strings, his participants were presented with another series of letter strings and asked to determine which of them were consistent with the first series. People were capable of making such determinations even though they had no awareness of the rules governing the associations between the letters. In fact, their performance at this task worsened when they were told that such rules existed and that they should try to determine what they were.

Of more obvious relevance to psychoanalysis were studies conducted by Lewicki and his colleagues, who demonstrated that implicit learning applied to meaningful social stimuli (Lewicki 1986). For example, Lewicki presented participants with a series of behavioral descriptions of people that *implied* but never explicitly referred to certain personality traits. No participant was able to verbalize these connections. Nonetheless, they affected subsequent ratings of the traits of people they knew. Lewicki further showed that people learned these covariations even when they made no logical sense. For example, he presented threatening words auditorally in combination with photos of

people sporting something innocuous like a hat. Participants judged subsequently presented hat-wearing people as threatening. The conclusion to draw from these studies is that the unconscious is very good at forming connections but very poor at critically evaluating them. It picks up covariations in the environment regardless of whether they are sensibly or coincidentally related. In other words, unconscious processes are powerful but are uncritical and do not reality-test. A real-world example of such processes is what has come to be called *implicit prejudice* (Fiske 1998). For example, Caucasians seem to have come to associate African American faces and names with negativity, even when this does not reflect their actual experiences or conscious beliefs (Greenwald et al. 1998). They are quicker to push a button labeled as negative when presented with a black face or a stereotypical African American name than they are a button labeled as positive.

Like implicit memory, implicit learning capabilities are apparent very early in life. Lewicki found that preschool children could easily pick up complex and simultaneous covariations of color, object, and spatial location of experimenter. These abilities are equivalent to those of an adult and are beyond an adult's (let alone a child's) ability to consciously recognize. Implicit learning is also quick and robust. Hill and Lewicki (1997) showed that once a connection between two events has been unconsciously made, people would behave as though that relationship continues to exist long after the two events no longer co-occur. One trial can be enough to pick up a covariation and begin this process. This learning can then bias the processing of subsequent experiences such that the covariations learned are maintained even in the face of subsequent disconfirming experiences.

Implicit learning, like implicit memory, is normative. It is not the result of conflict, defense, or even affective arousal, although all of these may be expected to affect what is attended to and therefore learned unconsciously. Implicit learning simply picks up whatever covaries in the environment, whether it makes sense or not. The fruits of this learning will persist, even if the environment changes. That is, people will continue to act as if something is so even when it is not. And people are unable to report on any of it because it is unconscious. Implicit learning can explain some of the unrealistic and maladaptive connections people seem to evince but have no awareness of and may even deny.

Automaticity

Automaticity is a sophisticated model of habit formation originally investigated by Schneider and Shiffrin (1977; Shiffrin and Schneider 1977). Notions of automaticity practically dominate social psychological writings on unconscious processes. In simple language, automatic processing involves the activation of well-learned behaviors. Once such behaviors have been activated, they proceed mechanically, almost reflexively. There is no need to attend to or monitor them. In fact, once begun, these behaviors are almost impossible to control or stop. They have virtually no flexibility, and in this way resemble an obsessive thought, a compulsion, or a ritual. Changing an automatic process is extremely difficult. Attempts to do so feel unpleasant and even frightening, like trying to resist a compulsion.

Virtually anything can become automatic; all that is required is sufficient practice. Many of our everyday behaviors are automatic (e.g., driving a car, tying our shoelaces). Automaticity makes functioning more efficient and easy until one tries to change. Imagine trying to drive on the left side of the road in England if you are used to driving on the right side in the United States (or vice versa). Even though failure to do so could be life-threatening, it is very difficult to make the change. It is also very unpleasant to try. Automatic processes need not come from conscious practice. They can develop through implicit learning that occurs repeatedly. The result is automatic but the origin of the behavior is unconscious. The person may not even realize that he or she engages in that behavior, but it is just as automatic and hard to change as more mundane automaticity.

Maladaptive behaviors seen in psychotherapy may fall into the category of automated implicit learning. Such behaviors can include enactments and ways of relating as well as manners of speech and carriage. They would be very hard to change simply because they have become automatic, and patients would resist such change. This could help to explain some of the pain and resistance associated with the working-through process. The patient knows what he or she has to do but finds it difficult, frustrating, and unpleasant to do it. It takes a very long time and constant repetition to make such changes permanent.

More Directly Psychoanalytic Research Into the Unconscious

Two research programs employ subliminal priming to investigate specifically psychoanalytic propositions concerning unconscious processes. One approach was conceived by Lloyd Silverman (1976) and is termed *subliminal psychodynamic activation.* The other is a combination of psychodynamic, cognitive, and neurophysiological methods that was spearheaded by Howard Shevrin (Shevrin et al. 1996).

Subliminal Psychodynamic Activation

Subliminal psychodynamic activation involves presenting a person with a subliminal stimulus that is designed to

capture an important psychoanalytic proposition. The person's subsequent responses are assessed to see if he or she is affected by the stimulus in a way that psychoanalytic theory would predict. Most recent work has involved the stimulus MOMMY AND I ARE ONE, or MIO, which was designed to foster a fantasy of merger (Silverman et al. 1982). Studies have demonstrated that this subliminal stimulus was able to improve mood (Weinberger et al. 1998) and, more impressively, led to better outcomes when it preceded psychotherapeutic and educational interventions (Silverman and Weinberger 1985). Several meta-analyses (a statistical way to combine the results of many studies in order to determine whether an effect is genuine and reliable) revealed that the MIO effects were genuine and reliable (Hardaway 1990; Weinberger and Hardaway 1990). They also revealed that the MIO message was more effective than alternative positive messages, even when the latter included references to mother. Another meta-analysis (Bornstein 1990) revealed that the effects were stronger when the stimulation was subliminal (out of awareness) than when it was supraliminal (in awareness). More recent research (Sohlberg et al. 1998) indicates that the message is effective only when the recipient has a relatively positive internal representation of mother. This work shows that the psychoanalytic unconscious can be investigated experimentally using the tools of academic psychology. In such studies, the results support certain psychoanalytic conceptions of unconscious processes.

Activation of Event-Related Potential by Stimuli

The Shevrin group's work, which is more individualized and clinical than is subliminal psychodynamic activation, is comprehensively detailed in a volume by Shevrin and colleagues (1996). Through extensive testing and clinical interviewing, the research team chooses words that seem to best capture a person's conscious conflicts, as well as words that seem to best capture a person's unconscious conflicts. Pleasant and unpleasant words are also chosen for control purposes. These words are then presented both subliminally and supraliminally to the person. Brain responses in the form of event-related potentials (ERPs) are recorded to determine the effects of these stimuli. Findings generally indicate that the unconscious conflict words most easily activated ERPs when presented subliminally, whereas the conscious conflict words produced the most easily discriminable ERP patterns when presented supraliminally. Ordinary pleasant and unpleasant words evinced no particular pattern of ERP response. The results support the psychoanalytic concept of unconscious conflict as well as the analyst's ability to identify important features of it. As Shevrin and colleagues (1996) put it: "The subjective clinical judgments of the psychoanalyst concerning the nature of unconscious conflict in each subject are supported by the objective measurement of unconscious processes and their correlated brain responses" (p. 134).

Interpersonal Relationships (Attachment)

Attachment Theory

Not all contributions relevant to psychoanalysis and psychology have come from the side of non–psychoanalytically oriented researchers. Psychoanalysis has also inspired research that has had a major impact on psychology's view of human functioning. John Bowlby's attachment theory is a major case in point.

Although Bowlby was a psychoanalyst, he clashed with his supervisor Melanie Klein over the issue of whether to involve the mother in the psychoanalytic treatment of a child. This difference in focus was the beginning of Bowlby's eventual estrangement from the psychoanalytic community. In contrast to object relations theorists, such as Winnicott, who retained much of Freud's emphasis on sexual and aggressive drives and fantasies, Bowlby, in his attachment theory, focused on the affective bond in close interpersonal relationships. Bowlby believed that Klein and other psychoanalysts overestimated the role of infantile fantasy, neglecting the role of actual experiences. Additionally, in contrast to most psychoanalysts of the time, Bowlby was also empirically minded. Rather than draw inferences about childhood from the free associations, dreams, transferences, and other mental productions of adults primarily seen in psychoanalytic treatment, Bowlby wanted to study and work directly with children. His focus was on the observable behavior of infants and their interactions with their caregivers, especially their mothers, and he encouraged prospective studies of the effects of early attachment relationships on personality development. In this sense he was again different from many of his object relations colleagues, who focused instead on adults' mental representations of self and others in close relationships, often revealed during psychoanalysis and psychotherapy, although these colleagues also believed that these representations were the result of early relationships with parents. Nevertheless, although Bowlby was critical of certain aspects of classic psychoanalytic formulations, he always considered himself a psychoanalyst, and his work clearly falls within the framework of psychoanalysis because he retained and extended many of Freud's clinical and developmental insights.

Attachment theory and research provide a powerful and valuable heuristic framework for conducting psychoanalytic research, testing psychoanalytic hypotheses, and enriching the perspective of psychoanalytic clinicians and investigators. They also help us to understand normative development and the operation of interpersonal functioning. Although Bowlby was a psychiatrist and psychoanalyst, much of the work in attachment theory has been carried out by clinical and developmental psychologists. The landmark research by Ainsworth and colleagues (1978) on the relationship of maternal sensitivity to attachment patterns, and the subsequent research by Sroufe, Hamilton, and Waters (Hamilton 2000; Waters et al. 2000; Weinfield et al. 2000) on the continuity of infant attachment into adolescence and young adulthood, have provided strong empirical evidence for two basic psychoanalytic tenets: 1) early childhood relationships are important in shaping adult relationships, and 2) meaning systems are important in understanding an individual's unique life and living perspective and resulting behavior. Additionally, the seminal work of Mary Main and her colleagues in developing the Adult Attachment Interview (AAI) and relating mothers' and fathers' attachment representations to their children's attachment patterns, as well as Fonagy and Target's creative research on reflective function, provides fertile ground for the future growth of psychoanalysis and its scientific evolution.

Basing their approach on Bowlby's attachment theory, Ainsworth and colleagues conducted a seminal study to observe the effects of childrearing behaviors employed by mothers on the development of attachment patterns in their offspring. They developed a measurement technique called the Strange Situation (Ainsworth et al. 1978). The Strange Situation involves a series of standard episodes staged in a playroom during which the infant, the caregiver, and a "stranger" interact in a comfortable setting and the behaviors of the infant are observed. First, the baby has the chance to explore toys while the mother is present. Then a stranger enters, converses with the mother, and invites the baby to play. Next, the mother leaves the baby with the stranger for a few minutes and then reenters the room to reunite with the baby. After this reunion, the mother leaves the baby a second time, this time all alone, followed by the stranger's return, and finally the mother's return for a second reunion. Ainsworth was able to categorize infants into three distinct groups on the basis of their reunion behavior with their mothers after this brief separation. From their observations of infants and caregivers, Ainsworth and colleagues (1978) identified three distinct patterns or styles of infant-mother attachment: secure (63% of the dyads tested), avoidant (21%), and anxious-ambivalent (16%). Later, a fourth category, disorganized/disoriented, was added (Main and Solomon 1990).

All four categories of infants are *attached* to their mothers, yet there are significant individual differences in the quality of these attachment relationships, and these differences can be reliably measured. The *avoidant* dyad is characterized by quiet distance in the mother's presence, often acting unaware of the mother's departure and avoiding the mother upon reunion. The *anxious-ambivalent* dyad (sometimes called *anxious-resistant*) is characterized by much emotional protest and anger on the part of the infant, who becomes extremely distressed on the mothers' departure, and often continues crying long after his or her mother's return. These reunions are also characterized by the infant's seeking attention, yet being unable to experience the mother's ministrations as soothing and comforting. The *disorganized/disoriented* dyad is characterized by disorganized or disoriented behaviors in the parent's presence, suggesting a temporary collapse of behavioral strategy. For example, the infant may freeze with a trancelike expression and hands in the air or may approach the parent but then fall prone and huddled on the floor. The *secure* dyad is characterized by the confident use of the mother as a "secure base" to explore the playroom with considerable ease and comfort in the mother's presence. Although a secure infant may experience distress on the mother's departure, on her return, the secure baby approaches her for comfort and is soothed more readily. The secure baby seeks proximity and interaction with the mother and then resumes his or her exploration of the environment. The Ainsworth (1978) study has been replicated and extended by many subsequent investigators (see, e.g., van IJzendoorn and Bakermans-Kranenburg 1996 for a review) and replicated with samples of children from other nations (van IJzendoorn 1995).

In addition, consistent with Bowlby's theory, the attachment patterns identified by Ainsworth are closely associated with differences in caregiver warmth and responsiveness (Ainsworth et al. 1978; see Main 1995 for a review). Ainsworth and colleagues (1978), and Grossmann and colleagues (1985) in a German sample (see also Grossmann and Grossmann 1991), found that maternal sensitivity during infancy strongly predicted the security of infants' attachments to their mothers. For example, Ainsworth and colleagues (1978) observed child-mother interactions at home and found that children's behaviors in the Strange Situation were related to mothers' general responsiveness. Mothers of children who displayed secure behaviors in the laboratory setting were found to be most responsive to infant signals at home. Mothers of anxious-ambivalent children were found to respond to their children inconsistently, belatedly, or inappropriately, so that the children could never be certain of their mother's availability. Mothers of avoidant children disliked physical contact

with their babies and were selectively unresponsive to their infants' distress signals. Ainsworth and colleagues (1978) drew the conclusion that a child's expectations about mother's responsiveness were influenced not only by actual physical separation from the mother but also by the child's everyday relationship with her. Other studies have also provided strong support for the link between maternal sensitivity and attachment security. For example, mothers of securely attached infants, in contrast to mothers of insecurely attached infants, tend to hold their babies more carefully, tenderly, and for longer periods of time during early infancy (Main et al. 1985). Additionally, mothers of securely attached infants respond more frequently to crying, show more affection when holding the baby, and are more likely to acknowledge the baby with a smile or conversation when entering the baby's room compared with mothers of babies who are later independently deemed insecurely attached.

Several longitudinal studies have investigated the influence of these infant attachment styles on subsequent functioning and adaptive potential (Hamilton 2000; Waters et al. 2000). In terms of stability, Hamilton (2000) found a 75% correspondence for secure-insecure attachment status between infancy and late adolescence, with the strongest stability in the preoccupied group. Waters and colleagues (2000) followed 50 individuals for 20 years, finding 64% stability in attachment classification. There was greater than 70% stability for individuals with no major negative life events, and less than 50% stability for those who, for example, lost a parent or endured parental divorce. Thus, longitudinal research, although preliminary, indicates that attachment patterns remain relatively stable over time, even into early adulthood (age 20). When attachment styles do change, they appear to change in ways that are predictable and consistent with attachment theory (Fraley and Spieker 2003; Lewis 2000).

Employing Ainsworth's typology of attachment patterns, Main and colleagues (1985) developed the Adult Attachment Interview to assess aspects of adults' internal working models of attachment with regard to their parents. The AAI is a semistructured interview designed to elicit thoughts, feelings, and memories about early attachment experiences, and to assess the individual's state of mind with regard to early attachment relationships (C. George, N. Kaplan, M. Main, "The Berkeley Adult Attachment Interview," unpublished manuscript, Department of Psychology, University of California, Berkeley, 1985). Main and her co-workers found that parents' narrative reports of interactions with their own parents could predict their children's attachment security classification in a laboratory procedure with about 80% accuracy and thus demonstrated a link between parents' internal working models and the behavior of their infants. These laboratory associations extended to observations in the home. Similar levels of association also have been found in 21 of 24 studies that have assessed both mother and child attachment patterns (van IJzendoorn and Bakermans-Kranenburg 1996).

Over the last several years, Peter Fonagy and colleagues (1998) have been developing a complex and subtle scale to assess individuals' ability to comprehend feelings, beliefs, intentions, conflicts, and other psychological states in their accounts of current attachment experiences. This capacity, termed *reflective function* (RF) by Fonagy, refers to awareness of mental process in the self and in the other—that is, the ability to take account of one's own and others' mental states in understanding why people behave in specific ways. Briefly, the Reflective Function Scale is a clinical scale that ranges from −1 (negative RF, in which interviews are overly concrete, totally barren of mentalization, or grossly distorting of the mental states of others) to 9 (exceptional RF, in which interviews show unusually complex, elaborate, or original reasoning about mental states). The midpoint of the scale is 5 (or ordinary RF, in which interviews indicate fairly coherent, if somewhat one-dimensional or simplistic, reasoning about mental states).

RF can be reliably coded and has been found to be independent of social class, socioeconomic status, ethnic background, education, or verbal intelligence (Fonagy et al. 1991, 1996; Levy 2003). Fonagy and colleagues (1991) found that parental RF mediated the relationship between parental attachment organization and the child's attachment security assessed in Ainsworth's Strange Situation. When both father and mother were rated as having ordinary or high RF, they were three to four times more likely to have secure children than were parents whose RF was rated as low. Fonagy and colleagues (1996) found that BPD patients were rated significantly lower on RF than other psychiatric patients. In addition, in abused psychiatric patients, high RF was a protective factor against the diagnosis of borderline personality disorder.

Attachment and Psychopathology

A number of studies have linked insecure attachment and disorganized attachment status to a range of clinical disorders and conditions, including emotional distress and substance abuse (Riggs and Jacobvitz 2002), BPD (e.g., Fonagy et al. 1996), psychiatric hospitalization (e.g., Allen et al. 1996), and suicidal ideation (e.g., Adam et al. 1996). Attachment constructs have increasingly been used to understand the etiology, treatment, and prognosis of borderline pathology (e.g., Fonagy et al. 1995). For example,

mental aspects of borderline conditions, such as unstable, intense interpersonal relationships, feelings of emptiness, bursts of rage, chronic fears of abandonment, and intolerance for aloneness, as stemming from insecure attachment organization (e.g., Gunderson 1996; Levy and Blatt 1999). These theorists have noted that attachment constructs provide a comprehensive model for assessing the representational world of borderline patients.

Attachment and Psychotherapy Outcome

The clinical applications of attachment theory have recently begun to be explored through theory development (Blatt and Levy 2003; Diamond et al. 1999; Eagle 2003; Holmes 1996, 1996; Slade 1999) and empirical methods (Dozier et al. 1994; Fonagy et al. 1996). This research has suggested that patient attachment patterns are both a prognostic indicator of outcome and a vehicle for understanding aspects of the psychotherapeutic process.

Psychotherapy Outcome as a Function of Attachment Status

In the discussion that follows, we should keep in mind that different terms are used in the child and adult attachment literatures to describe conceptually similar patterns. In the infant research, the term *avoidant* is used to describe infants who avoid approaching the caregiver upon her return during the Strange Situation procedure, whereas in the research based on the Adult Attachment Interview, the terms *dismissing* and *dismissively attached* are used. These terms describe individuals who dismiss or devalue attachment relationships. The anxious-ambivalent pattern outlined in infant research is referred to as *preoccupied* in the adult literature. This category is characterized by anxiety about relationships and intense longing. Some self-report measures of attachment have also distinguished between two types of avoidant attachment in adults, dismissing and fearful. *Fearful* avoidant individuals strongly desire close relationships but avoid them out of fear of rejection or disappointment. Lastly, the disorganized/disoriented pattern described in infant literature is referred to as *unresolved/disorganized* in adult literature.

Fonagy and colleagues (1996) found that whereas securely attached patients functioned better than other patients both at admission and on discharge, dismissively attached patients had the greatest amount of relative therapeutic improvement in long-term, intensive, psychoanalytic therapy. Meyer and colleagues (2001), in contrast, found that "securely attached" outpatients had significantly greater improvement in psychosocial functioning over 6 months of treatment than did patients with other attachment patterns. Meyer et al. found that a secure attachment style, in contrast to insecure attachments, was associated with fewer symptoms prior to treatment and with greater therapeutic improvement. Likewise, Mosheim and colleagues (2000) found that securely attached inpatients—patients rated as comfortable and confident in past and present relationships—tended to benefit more than other patients from 7 weeks of inpatient treatment. Cryanowski and colleagues (2002), in a naturalistic study of 162 men and women treated for major depression with interpersonal psychotherapy, found no attachment pattern differences in the recovery rate. They did, however, find that fearful avoidance was related to a longer time to recovery. In contrast, Kilmann and colleagues (1999), using a three-session attachment-focused group for insecurely attached women, found that fearful avoidance predicted the greatest treatment gains. Thus, securely attached patients appear to benefit more than other patients from brief treatment.

Among insecurely attached patients—the dismissively attached—more severely impaired patients appear to do better in long-term intensive treatment (Fonagy et al. 1996; see also Blatt 1992; Blatt and Ford 1994). Meyer and Pilkonis (2002) speculate that patients with "dismissing attachment may require more concentrated interventions, helping them overcome their characteristic detachment. Once they do connect emotionally with a therapist, however, improvement might be all the more dramatic."

Psychotherapy Process as a Function of Attachment Status

With regard to the impact of attachment on psychotherapy process, Hardy and colleagues (1998) examined responses to patient attachment patterns and found that therapists tended to adopt more affective and relationship-oriented interventions in response to clients with preoccupied interpersonal styles and more cognitive interventions with patients characterized by dismissing styles. Hardy and colleagues (1999) studied 16 patients in psychodynamic interpersonal therapy. Consistent with predictions, they found that "therapists responded to preoccupied styles with reflection and to dismissing styles with interpretation" (Hardy et al. 1999, p. 51). Eames and Roth (2000) found that a self-report assessment of attachment patterns of 30 adult outpatients correlated with the quality of their therapeutic alliance and with ruptures in the alliance. Securely attached patients tended to form an effective alliance, whereas fearful avoidant patients tended to rate their alliance as weaker. Interestingly, some evidence also suggested that preoccupied and dismissive attachment styles were both associated with more positive alliance ratings, but for different reasons:

> Patients who yearn for intimacy and fear abandonment might strive with particular persistence to establish a close alliance, given their concerns about a possible rejection. In contrast, patients with dismissive styles might defensively deny problems in the alliance or establish only a superficial relationship while remaining reluctant to connect and self-disclose on a more genuine, personal level. (Eames and Roth 2000)

Consistent with this interpretation, preoccupied attachment was associated with more ruptures, and dismissing attachment was associated with fewer ruptures.

Dozier (1990) found that dismissing patients are often resistant to treatment, have difficulty asking for help, and retreat from help when it is offered. Dismissing individuals often become more distressed and confused when confronted with emotional issues in therapy (Dozier et al. 2001). This observation led Dozier and colleagues to study, using the AAI, patterns of relationship between patient and therapist attachment styles. Patients in treatment with therapists who were dissimilar to them on the preoccupied to dismissing dimension of attachment on the AAI had better therapeutic outcomes and stronger therapeutic alliances than their counterparts (Dozier et al. 1994; Tyrell et al. 1999). Clinicians classified as secure/autonomous on the AAI tended to challenge the patient's interpersonal style, whereas clinicians classified as insecure on the AAI were more likely to complement the patient's interpersonal style (Dozier et al. 1994; Tyrell et al. 1999). Patients had the best outcome if treated by securely attached clinicians (defined on the AAI) or by clinicians at the opposite side of the secure/autonomous continuum from the patient (based on AAI classification) (e.g., patient rated preoccupied on AAI and therapist rated at the dismissing end of the autonomous category) (Dozier et al. 1994).

In a second study, Tyrell and colleagues (1999) conducted adult interviews with 54 severely disturbed patients and 21 of their case managers. Patients were usually classified as insecurely attached, whereas most case managers were classified as securely attached. Interactions were found between the attachment styles of patients and case managers on measures of the quality of the alliance, life satisfaction, and psychosocial functioning. Those interactions involved a preoccupied versus dismissive attachment style, indicating that complementary combinations regarding case managers and patients' attachment styles worked best. Preoccupied patients fared best when they worked with dismissing case managers, and dismissing patients fared best with preoccupied managers.

Finally, Rubino and colleagues (2000) had 77 therapists-in-training review video vignettes of simulated ruptures in the therapeutic alliance and then asked them how they would respond when interacting with actual patients. Generally, therapists with anxious-attachment styles tended to respond with less empathy, especially to patients with secure and dismissive attachment. Rubino and colleagues (2000) have speculated that "more anxious therapists may interpret ruptures as an indication of their patients' intentions to leave therapy, and their own sensitivity towards abandonment might diminish their ability to be empathetic" (p. 416).

Consistent with prior research on client-clinician match (e.g., Beutler et al. 1991), the dissimilarities between patients and therapists interpersonal style appear to be advantageous, indicating that patients benefit from interventions that counteract their problematic style of relating to others. Overly emotional patients may require emotion-containing interventions, whereas emotionally detached patients may need interventions that facilitate their affective expression and connection (cf. Hardy et al. 1999; Stiles et al. 1998). Different interpersonal or attachment styles of patients pull for different types of interventions from the therapist (Hardy et al. 1998, 1999). Although preoccupied patients pull for emotional-experiential interventions, they appear to benefit from a more cognitive-behavioral strategy that helps them modulate overwhelming feelings. Likewise, avoidant patients pull for rational-cognitive interventions but appear to benefit from strategies that facilitate emotional engagement (Hardy et al. 1999). Therapists need to recognize how a patient's attachment style influences their response to the patient and their ability to establish a therapeutic alliance.

Attachment Status as a Psychotherapy Outcome Measure

Three studies have employed attachment constructs as a psychotherapy outcome measure. Levy and colleagues (Levy 2003; Levy and Clarkin 2002; Levy et al. 2002) used the AAI to assess change in attachment status and reflective function in 45 patients over the course of a long-term, randomized clinical trial or in patients diagnosed with BPD. Levy et al. found that all but two patients were initially rated as insecure, with the majority having a primary AAI classification of "unresolved" for trauma and/or loss. The majority of patients showed a change in attachment status after 1 year of treatment—some patients shifted from "unresolved" and "insecure" to "secure," others to "cannot classify" or to a mixed attachment. In addition, they found a significant increase in patients' reflective function.

Fonagy and colleagues (1995) reported on changes in attachment status on the AAI amomg 35 nonpsychotic inpatients following 1 year of intensive psychodynamic psychotherapy. Although all 35 inpatients were classified as having insecure attachment during their initial Adult Attachment Interview, 14 (40%) of them showed a shift to a

secure classification on discharge. Travis and colleagues (2001) examined change in attachment patterns over the course of time-limited dynamic psychotherapy in 84 clients and found that a significant number of clients changed from an insecure to a secure attachment pattern. Also, significant relationships were also found among changes in attachment, Global Assesment of Functioning scores, and symptom levels.

In summary, the attachment literature suggests that attachment patterns of both patients and therapists influence the process and outcome of psychotherapy. The attachment organization of the patient is expressed in his or her response to the therapist, and these in turn influence the therapist's response to the patient. In addition, the study of attachment organization and the underlying cognitive-affective interpersonal representations of self and other, and evaluation of their change in the therapeutic process, could facilitate further understanding of the mechanisms of therapeutic change (see, e.g., Blatt et al. 1996).

Conclusion and Recommendations

Notwithstanding an often-conflicted relationship between psychology and psychoanalysis and the many obstacles to integration, significant pockets within academic psychology have evolved to contribute both directly and indirectly to psychoanalysis. We have briefly reviewed two areas: unconscious processes and interpersonal relationships (attachment). In addition, as we have seen, psychoanalysis has also contributed much to the richness of psychology. Nevertheless, the relationship between psychoanalysis and psychology is in serious need of repair. Medical psychoanalysis either ignored or was indifferent to academic psychology for many decades. Although there has been a sea change in recent years, with increased interest in the implications of cognitive psychology and neuroscience for psychoanalysis (Westen and Gabbard 2002a, 2002b), and as a result more clinically relevant diagnostic (Westen and Shedler 1999) and psychotherapy research (Clarkin and Levy 2003; Fonagy et al. 1996; Milrod et al. 2000), the neglect has taken a toll on the presence of psychoanalytic viewpoints in academic psychology.

In the 1960s and 70s many psychology departments included psychoanalytically oriented faculty members. A review of the editorial board of the journal *Psychoanalytic Psychology* in the mid-1980s revealed that more than two-thirds of the members were faculty in academic psychology departments and many others held positions in medical schools. Today, less than a handful of the editorial board members have an academic position. Bornstein and Masling (2002a) note that increasingly fewer psychology departments have psychodynamic clinical faculty members and ever fewer programs list themselves as psychodynamic. Of related interest, in 2001 the American Psychoanalytic Association sponsored a symposium on the relationship between psychoanalysis and academic psychology. Many distinguished psychoanalyst-psychologists participated. When asked about the future of academic psychology, one distinguished participant suggested it might be too late to save psychoanalysis within academic psychology. Another prominent psychologist, an institute director, suggested it might be time for psychoanalysts to abandon psychology departments in favor of humanities departments. Although we appreciate the important perspectives our colleagues from the humanities bring to psychoanalysis, we also believe that psychology brings an important perspective to psychoanalysis and contributes immeasurably to its richness.

In light of the contributions of psychology to psychoanalysis, we believe it is important for psychoanalytic institutes not only to tolerate, accept, and embrace psychological research but to encourage training in cutting-edge research designs and methods. In addition, psychoanalysis has to be more open to findings from scientific disciplines such as psychology. Given the current state of psychoanalytic psychology in academic psychology, we believe it is important to increase the number of psychoanalytically oriented faculty in psychology departments, which can now (with only a few exceptions) be counted on two hands. These faculty will need to become highly sophisticated in basic research methods and constructs, and this may require highly sophisticated nonclinical training. Seed money from psychoanalytic associations will need to be available so that pilot data for larger federally funded grants can be obtained. These psychoanalytic funding sources need to expand the kinds of questions they fund so that instead of individual studies, the infrastructure for research programs can be developed. In addition, we recommend that institutes develop more flexible training programs so that those with both clinical and research-oriented career goals can obtain analytic training. The steps outlined will allow for more direct mentoring of psychology students into both psychoanalytic research and clinical training, and will greatly enrich psychoanalysis.

We end with a quote from Noble laureate Eric Kandel (1998) that we think is relevant:

> The future of psychoanalysis, if it is to have a future, is in the context of an empirical psychology, abetted by imaging techniques, neuro-anatomical methods, and human genetics. Embedded in the sciences of human cognition, the ideas of psychoanalysis can be tested, and it is here that these ideas can have their greatest impact. (p. 468)

References

Adam KS, Sheldon-Keller AE, West M: Attachment organization and history of suicidal behavior in clinical adolescents. J Consult Clin Psychol 6:264–272, 1996

Ainsworth MDS, Blehar ME, Wall S, et al: Patterns of Attachment: A Psychological Study of the Strange Situation. Hillsdale, NJ, Lawrence Erlbaum, 1978

Allen JP, Hauser ST, Borman-Spurrell E: Attachment theory as a framework for understanding sequelae of severe adolescent psychopathology: an 11-year follow-up study. J Consult Clin Psychol 64:254–263, 1996

Bandura A, Walters RH: Social Learning and Personality Development. New York, Holt, Rinehart, & Winston, 1963

Barron JW, Eagle MN, Wolitzky DL (eds): Interface of Psychoanalysis and Psychology. Washington, DC, American Psychological Association Press, 1992

Beutler LE, Engle D, Mohr D, et al: Predictors of differential response to cognitive, experiential, and self-directed psychotherapeutic procedures. J Consult Clin Psychol 59:333–340, 1991

Blatt SJ: The differential effect of psychotherapy and psychoanalysis on anaclitic and introjective patients: The Menninger Psychotherapy Research Project revisited. J Am Psychoanal Assoc 40:691–724, 1992

Blatt SJ, Ford RQ: Therapeutic Change: An Object Relations Perspective. New York, Plenum, 1994

Blatt SJ, Levy K: Attachment theory, psychoanalysis, personality development, and psychopathology. Special issue: attachment research and psychoanalysis, III: further reflections on theory and clinical experience. Psychoanalytic Inquiry 23:102–150, 2003

Blatt SJ, Stayner DA, Auerbach JS, et al: Change in object and self-representations in long-term, intensive, inpatient treatment of seriously disturbed adolescents and young adults. Psychiatry 59:82–107, 1996

Bornstein RF: Critical importance of stimulus unawareness for the production of subliminal psychodynamic activation effects: a meta-analytic review. J Clin Psychology 46:201–210, 1990

Bornstein RF, Masling JM (eds): Empirical Perspectives on the Psychoanalytic Unconscious: Empirical Studies in Psychoanalytic Theories, Vol 10. Washington, DC, American Psychological Association, 2002a

Bornstein RF, Masling JM (eds): The Psychodynamics of Gender and Gender Role: Empirical Studies in Psychoanalytic Theories, Vol 10. Washington, DC, American Psychological Association, 2002b

Claparade E: Recognition and selfhood. Conscious Cogn 4:371–378, 1995

Clarkin JF, Levy KN: A psychodynamic treatment for severe personality disorders: issues in treatment development. Psychoanalytic Inquiry 23:248–267, 2003

Cyranowski JM, Bookwala J, Feske U, et al: Adult attachment profiles, interpersonal difficulties, and response to interpersonal psychotherapy in women with recurrent major depression. J Soc Clin Psychol 21:191–217, 2002

Diamond D, Clarkin JF, Levine H, et al: Attachment theory and borderline personality disorder. Psychoanalytic Inquiry 19: 831–884, 1999

Dixon NF: Subliminal Perception: The Nature of a Controversy. London, McGraw-Hill, 1971

Dixon NF: Preconscious Processing. New York, Wiley, 1981

Doidge N, Simon B, Gillies LA, et al: Characteristics of psychoanalytic patients under a nationalized health plan: DSM-III-R diagnoses, previous treatment, and childhood trauma. Am J Psychiatry 151:586–590, 1994

Dollard J, Miller NE: Personality and Psychotherapy: An Analysis in Terms of Learning, Thinking, and Culture. New York, McGraw-Hill, 1950

Dozier M: Attachment organization and treatment use for adults with serious psychopathological disorders. Dev Psychopathol 2:47–60, 1990

Dozier M, Cue KL, Barnett L: Clinicians as caregivers: role of attachment organization in treatment. J Consult Clin Psychol 62:793–800, 1994

Dozier M, Lomax L, Tyrrell CL, et al: The challenge of treatment for clients with dismissing states of mind. Attach Hum Dev 3:62–76, 2001

Eagle M: Clinical implications of attachment theory. Special issue: attachment research and psychoanalysis, III: further reflections on theory and clinical experience. Psychoanalytic Inquiry 23:27–53, 2003

Eames V, Roth A: Patient attachment orientation and the early working alliance: a study of patient and therapist reports of alliance quality and ruptures. Psychotherapy Res 10: 421–434, 2000

Erdelyi MH: A new look at the new look: perceptual defense and vigilance. Psychol Rev 81:1–25, 1974

Erdelyi MH: Psychoanalysis: Freud. New York, WH Freeman, 1985

Eriksen CW: Unconscious processes, in Nebraska Symposium on Motivation, 1958. Edited by Jones MR. Lincoln, University of Nebraska Press, 1959

Eysenck HJ: The effects of psychotherapy: an evaluation. J Consult Psychol 16:319–324, 1952

Fiske ST: Stereotyping, prejudice and discrimination, in Handbook of Social Psychology, 4th Edition, Vol 2. Edited by Gilbert DT, Fiske ST. New York, McGraw-Hill, 1998, pp 357–411

Fonagy P: On the relationship of experimental psychology and psychoanalysis. Comment on "Experimental psychology and psychoanalysis: what we can learn from a century of misunderstanding." Neuro-Psychoanalysis 2:222–232, 2000

Fonagy P, Steele M, Steele H, et al: The capacity for understanding mental states: the reflective self in parent and child and its significance for security of attachment. Infant Ment Health J 12:201–218, 1991

Fonagy P, Steele M, Steele H, et al: Attachment, the reflective self and borderline states: the predictive specificity of the Adult Attachment Interview and pathological emotional development, in Attachment Theory: Social, Developmental, and Clinical Perspectives. Edited by Goldberg S, Muir R, Kerr J. Hillsdale, NJ, Analytic Press, 1995, pp 233–279

Fonagy P, Leigh T, Steele M, et al: The relation of attachment status, psychiatric classification and response to psychotherapy. J Consult Clin Psychol 64:22–31, 1996

Fonagy P, Steele M, Steele H, et al: Reflective-Functioning Manual: Version 5.0. For Application to the Adult Attachment Interviews. Unpublished manuscript, University College London, 1998

Fraley RC, Spieker SJ: Are infant attachment patterns continuously or categorically distributed? A taxometric analysis of strange situation behavior. Dev Psychol 39:387–404, 2003

Freud S: Inhibitions, symptoms and anxiety (1926), in Standard Edition of the Complete Psychological Works of Sigmund Freud, Vol 20. Translated and edited by Strachey J. London, Hogarth Press, 1959, pp 75–175

Freud S: Concluding remarks on the question of lay analysis. Int J Psychoanal 8:392–401, 1927

Friedman RC, Bucci W, Christian C, et al: Private psychotherapy patients of psychiatrist psychoanalysts. Am J Psychiatry 155:1772–1774, 1998

Goldiamond I: Indicators of perception, I: subliminal perception, subception, unconscious perception: an analysis in terms of psychophysical indicator methodology. Psychol Bull 55:373–411, 1958

Greenwald AG: New Look 3: unconscious cognition reclaimed. Am Psychol 47:766–779, 1992

Greenwald AG, McGhee DE, Schwartz JLK: Measuring individual differences in implicit cognition: the Implicit Association Test. J Pers Soc Psychol 74:1464–1480, 1998

Grossmann KE, Grossmann K: Attachment quality as an organizer of emotional behavioral responses in a longitudinal perspective, in Attachment Across the Life Cycle. Edited by Parkes CM, Steveson-Hinde J, Marris P. London, Tavistock/Routledge, 1991, pp 93–114

Grossmann K, Grossmann KE, Spangler G, et al: Maternal sensitivity and newborns' orientation responses as related to quality of attachment in Northern Germany. Monogr Soc Res Child Dev 50(1–2):233–256, 1985

Gunderson JG: Borderline patients' intolerance of aloneness: insecure attachments and therapist availability. Am J Psychiatry 153:752, 1996

Hamilton C: Continuity and discontinuity of attachment from infancy through adolescence. Child Dev 71:690–694, 2000

Hardaway R: Subliminal symbiotic fantasies: facts and artifacts. Psychol Bull 107:177–195, 1990

Hardy GE, Stiles WB, Barkham M, et al: Therapist responsiveness to client interpersonal styles during time-limited treatments for depression. J Consult Clin Psychol 66:304–312, 1998

Hardy GE, Aldridge J, Davidson C, et al: Therapist responsiveness to client attachment styles and issues observed in client-identified significant events in psychodynamic-interpersonal psychotherapy. Psychotherapy Research 9:36–53, 1999

Holmes J: "Something there is that doesn't love a wall": John Bowlby, attachment theory, and psychoanalysis, in Attachment Theory: Social, Developmental, and Clinical Perspectives. Edited by Goldberg SM. Hillsdale, NJ, Analytic Press, 1995, pp 19–43

Holmes J: Attachment, Intimacy, and Autonomy. Using Attachment Theory in Adult Psychotherapy. Northvale, NJ, Jason Aronson, 1996

Hornstein GA: The return of the repressed: psychology's problematic relations with psychoanalysis, 1909–1960. Am Psychol 47:254–263, 1992

James W: The Letters of William James, Vol 2. Boston, MA, Atlantic Monthly Press, 1920

Kail R: The Development of Memory in Children, 3rd Edition. New York, WH Freeman/Times Books/Henry Holt, 1990

Kandel ER: A new intellectual framework for psychiatry. Am J Psychiatry 155:457–469, 1998

Kilmann PR, Laughlin JE, Carranza LV, et al: Effects of an attachment-focused group preventive intervention on insecure women. Group Dynamics: Theory, Research, and Practice 3(2):138–147, 1999

Levy KN: Change in attachment organization in treated patients diagnosed with borderline personality disorder. Invited presentation, Rapaport-Klein Study Group, Austen Riggs Center, Stockbridge, Massachusetts, June 2003

Levy KN, Blatt SJ: Psychoanalysis and attachment theory: developmental levels of attachment. Psychoanalytic Inquiry 19:541–575, 1999

Levy KN, Clarkin JF: Change in social cognition and behavior in borderline personality disorder: a preliminary report. Invited presentation, NIMH, New Directions in Personality Disorder, Minneapolis, Minnesota, May 2002

Levy KN, Clarkin JF, Diamond D: Change in attachment representations in patients with borderline personality disorder during the course of long-term psychotherapy treatment. Paper presented at the Society for Psychotherapy Research, Santa Barbara, CA, June 2002

Lewicki P: Nonconscious Social Information Processing. San Diego, CA, Academic Press, 1986

Lewis M, Feiring C, Rosenthal S: Attachment over time. Child Dev 71:707–720, 2000

Linehan MM: Cognitive-Behavioral Treatment of Borderline Personality Disorder. New York, Guilford, 1993

Main M: Attachment: overview, with implications for clinical work, in Attachment Theory: Social, Developmental, and Clinical Perspectives. Edited by Goldberg S, Muir R, Kerr J. Hillsdale, NJ, Analytic Press, 1995, pp 233–279

Main M, Solomon J: Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation, in Attachment in the Preschool Years: Theory, Research, Intervention. Edited by Greenberg M, Cicchetti D, Cummings E. Chicago, IL, University of Chicago Press, 1990, pp 95–124

Main M, Kaplan N, Cassidy J: Security in infancy, childhood and adulthood: a move to the level of representation. Monogr Soc Res Child Dev 50:66–104, 1985

Masling J, Cohen IS: Psychotherapy, clinical evidence, and the self-fulfilling prophecy. Psychoanalytic Psychology 4:65–79, 1987

Meyer B, Pilkonis PA: Attachment style, in Psychotherapy Relationships That Work. Edited by Norcross JC. New York, Oxford University Press, 2002

Meyer B, Pilkonis PA, Proietti JM, et al: Attachment styles and personality disorders as predictors of symptom course. J Personal Disord 15:371–389, 2001

Milrod B, Busch F, Leon AC, et al: Open trial of psychodynamic psychotherapy for panic disorder: a pilot study. Am J Psychiatry 157:1878–1880, 2000

Mosheim R, Zachhuber U, Scharf L, et al: Quality of attachment and interpersonal problems as possible predictors of inpatient-therapy outcome (in German). Psychotherapeut 45:223–229, 2000

Naito M, Komatsu S: Processes involved in childhood development of implicit memory, in Implicit Memory: New Directions in Cognition, Development, and Neuropsychology. Edited by Graf P, Masson MEJ. Hillsdale, NJ, Lawrence Erlbaum, 1993, pp 231–264

Poetzl O: The relationship between experimentally induced dream images and indirect vision. Psychological Issues 3 (no 7):41–120, 1960

Reber AS: Implicit Learning and Tacit Knowledge: An Essay on the Cognitive Unconscious. New York, Oxford University Press, 1993

Riggs SA, Jacobvitz D: Expectant parents' representations of early attachment relationships: associations with mental health and family history. J Consult Clin Psychol 70:195–204, 2002

Rubino G, Barke C, Roth T, et al: Therapist empathy and depth of interpretation in response to potential alliance ruptures: the role of therapist and patient attachment styles. Psychotherapy Research 10:408–420, 2000

Sackett DL, Rosenberg WM, Gray JA, et al: Evidence based medicine: what it is and what it isn't. BMJ 312:71–72, 1996

Schacter D: Implicit memory: history and current status. J Exp Psychol 13:501–518, 1987

Schacter DL: Searching for Memory. New York, Basic Books, 1996

Schneider W, Shiffrin RM: Controlled and automatic human information processing, I: detection, search, and attention. Psychol Rev 84:1–66, 1977

Shakow D, Rapaport D: The influence of Freud on American psychology. Psychological Issues 4 (no 13), 1964

Shevrin H, Bond JA, Brakel LAW, et al: Conscious and Unconscious Processes: Psychodynamic, Cognitive, and Neurophysiological Convergences. New York, Guilford, 1996

Shiffrin RM, Schneider W: Controlled and automatic human information processing, II: perceptual learning, automatic attending and a general theory. Psychol Rev 84:127–190, 1977

Silverman LH: Psychoanalytic theory: "the reports of my death are greatly exaggerated." Am Psychol 31:621–637, 1976

Silverman LH, Weinberger J: Mommy and I Are One: implications for psychotherapy. Am Psychol 40:1296–1308, 1985

Silverman LH, Lachman FM, Milich RH: The Search for Oneness. New York, International Universities Press, 1982

Skinner BF: Science and Human Behavior. New York, Free Press, 1953

Slade A: Representation, symbolization, and affect regulation in the concomitant treatment of a mother and child: attachment theory and child psychotherapy. Psychoanal Inquiry 19:797–830, 1999

Sohlberg S, Billinghurst A, Nylen S: Moderation of mood change after subliminal symbiotic stimulation: four experiments contributing to the further demystification of Silverman's "Mommy and I are one" findings. J Res Pers 32:33–54, 1998

Spence DP: The special nature of psychoanalytic facts. Int J Psychoanal 75:915–925, 1994

Stiles WB, Honos-Webb L, Surko M: Responsiveness in psychotherapy. Clinical Psychology: Science and Practice 5:439–458, 1998

Travis LA, Binder JL, Bliwise NG, et al: Changes in clients' attachment styles over the course of time-limited dynamic psychotherapy. Psychotherapy: Theory, Research, Practice, Training 38:149–159, 2001

Tyrell CL, Dozier M, Teague GB, et al: Effective treatment relationships for persons with serious psychiatric disorders: the importance of attachment states of mind. J Consult Clin Psychol 67:725–733, 1999

van IJzendoorn MH: Adult attachment representations, parental responsiveness, and infant attachment: a meta-analysis on the predictive validity of the AAI. Psychol Bull 117:387–403, 1995

van IJzendoorn MH, Bakermans-Kranenburg MJ: Attachment representations in mothers, fathers, adolescents, and clinical groups: a meta-analytic search for normative data. J Consult Clin Psychol 64:8–21, 1996

Waters E, Merrick S, Treboux D, et al: Attachment security in infancy and early adulthood: a twenty-year longitudinal study. Child Dev 71:684–689, 2000

Watson JB: Psychology From the Standpoint of a Behaviorist. Philadelphia, PA, Lippincott, 1919

Weinberger J: William James and the unconscious: redressing a century-old misunderstanding. Psychol Sci 11:439–445, 2000

Weinberger J: The Rediscovery of the Unconscious. New York, Guilford (in press)

Weinberger J, Hardaway R: Separating science from myth in subliminal psychodynamic activation. Clin Psychol Rev 10: 727–756, 1990

Weinberger J, Kelner S, McClelland DC: The effects of subliminal symbiotic stimulation on free-response and self-report mood. J Nerv Ment Dis 185:599–605, 1998

Weinfield N, Sroufe A, Egeland B: Attachment from infancy to early adulthood in a high-risk sample: continuity, discontinuity, and their correlates. Child Dev 71:695–702, 2000

Westen D: The scientific legacy of Sigmund Freud: toward a psychodynamically informed psychological science. Psychol Bull 124:333–371, 1998

Westen D, Gabbard GO: Developments in cognitive neuroscience, I: conflict, compromise, and connectionism. J Am Psychoanal Assoc 50:53–98, 2002a

Westen D, Gabbard GO: Developments in cognitive neuroscience, II: implications for theories of transference. J Am Psychoanal Assoc 50:99–134, 2002b

Westen D, Shedler J: Revising and assessing Axis II, Part I: developing a clinically and empirically valid assessment method. Am J Psychiatry 156:258–272, 1999