Change in Attachment Patterns and Reflective Function in a Randomized Control Trial of Transference-Focused Psychotherapy for Borderline Personality Disorder

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Changes in attachment organization and reflective function (RF) were assessed as putative mechanisms of change in 1 of 3 year-long psychotherapy treatments for patients with borderline personality disorder (BPD). Ninety patients reliably diagnosed with BPD were randomized to transference-focused psychotherapy (TFP), dialectical behavior therapy, or a modified psychodynamic supportive psychotherapy. Attachment organization was assessed with the Adult Attachment Interview and the RF coding scale. After 12 months of treatment, participants showed a significant increase in the number classified secure with respect to attachment state of mind for TFP but not for the other 2 treatments. Significant changes in narrative coherence and RF were found as a function of treatment, with TFP showing increases in both constructs during treatment. No changes in resolution of loss or trauma were observed across treatments. Findings suggest that 1 year of intensive TFP can increase patients' narrative coherence and RF. Future research should establish the relationship between these 2 constructs and relevant psychopathology, identify treatment components responsible for effecting these changes, and examine the long-term outcome of these changes.

Keywords: attachment, reflective function, borderline personality disorder, randomized controlled trial

Attachment theory and research have proven to be a powerful paradigm for studying development, personality, interpersonal relationships and psychopathology. In recent years, clinical writing about attachment theory has come full circle, back to Bowlby's original interests in clinical intervention, by noting the potential contributions that attachment theory can make to psychotherapy (Blatt & Levy, 2003; Diamond et al,. 1999; Eagle, 2003, in press; Farber, Lippert, & Nevas, 1995; Holmes, 1995, 1996; Levy & Blatt, 1999; Slade, 1999). There has also been a burgeoning research literature addressing the clinical implications of attach-

ment theory for psychotherapy (Cryanowski et al., 2002; Dozier, 1990; Dozier, Cue, & Barnett, 1994; Fonagy et al., 1996; Mallinckrodt, Gantt, & Coble, 1995; Meyer, Pilkonis, Proietti, Heape, & Egan, 2001; Tyrrell, Dozier, Teague, & Fallot, 1999).

Recently, psychopathology researchers and theorists have begun to understand fundamental aspects of borderline personality disorder (BPD), such as unstable, intense interpersonal relationships, feelings of emptiness, bursts of rage, chronic fears of abandonment and intolerance for aloneness, and lack of a stable sense of self as stemming from impairments in the underlying attachment organi-

zation (Blatt & Levy, 2003; Diamond et al., 1999; Fonagy, 1991; Fonagy, Gergely, Jurist, & Target, 2002; Gunderson, 1996; Levy, 2005; Levy & Blatt, 1999). These investigators have noted that the impulsivity, affective lability, and self-damaging actions that are the hallmark of borderline personality typically occur in interpersonal contexts and are often precipitated by real or imagined events in relationships. These theorists have suggested that change in attachment representations, conceptualized as a social-cognitive and affective construct, may be the primary mechanism by which patients with BPD improve. Attachment theory offers a cogent conceptualization of the development and maintenance of the interpersonal difficulties and adaptations that characterize personality pathology while explaining the concomitant development of self-concept and the problems of self-definition and self-regulation.

To date, however, researchers of BPD have not examined change in attachment representations as a function of psychotherapy. The purpose of the present research is to explore changes in attachment representations and organization as a putative mechanism of change in the psychotherapy treatment of borderline personality.

BPD

BPD is a highly prevalent, chronic, and debilitating psychiatric problem characterized by a pattern of chaotic and self-defeating interpersonal relationships, emotional lability, poor impulse control, angry outbursts, frequent suicidality, and self-mutilation (Skodol et al., 2002). Approximately 1%–2% of the population, 10% of psychiatric outpatients, 20% of inpatients, and 6% of primary care patients meet the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; *DSM–IV–TR*; American Psychiatric Association, 2000) criteria for BPD (Gross et al., 2002; Lenzenweger, Loranger, Korfine, & Neff, 1997; Torgersen, Kringlen, & Cramer, 2001), the majority of whom are women.

Individuals diagnosed with BPD suffer from devastating behavioral problems. Self-injurious behaviors are particularly prevalent among these patients, occurring in an estimated 69%–75% of cases (Kjellander, Bongar, & King, 1998). Other common self-destructive behaviors include alcohol and drug abuse, risky sexual behavior, and serious over- or undereating. Patients with BPD are at high risk of suicide, with a completed suicide rate between 3% and 9.5% (McGlashan, 1986; Paris, 1999; Stone, 1983). Additionally, BPD is substantially comorbid with other personality disorders as well as Axis I disorders (Zanarini et al., 1999). Not surprisingly, patients with BPD are notoriously difficult to treat. Patients with BPD use higher levels of services in emergency rooms, day hospital and partial hospitalization programs, and outpatient clinics and inpatient units, and these are often used in chaotic ways with repeated patterns of dropout, erratic psychotherapy attendance, refusal to take medications as prescribed, and pervasive noncompliance (Bongar, Peterson, Golann, & Hardiman, 1990; Zanarini & Frankenburg, 2001). Given these facts, BPD is clearly a major public health problem that is prevalent, painful, debilitating, and deadly.

Attachment Theory

From its inception, John Bowlby conceptualized attachment theory in terms of both normal and psychopathological develop-

ment. Bowlby (1977) believed that attachment difficulties increase vulnerability to psychopathology and can help identify the specific types of psychological difficulties that arise. Bowlby (1977) contended that internal working models of attachment help explain "the many forms of emotional distress and personality disturbances, including anxiety, anger, depression, and emotional detachment, to which unwilling separations and loss give rise" (p. 201). He held that childhood attachment underlies the "later capacity to make affectional bonds as well as a whole range of adult dysfunctions," including "marital problems and trouble with children, as well as . . . neurotic symptoms and personality disorders" (p. 206). Thus, Bowlby postulated that early attachment experiences have long-lasting effects that tend to persist across the life span and are among the major determinates of personality organization.

On the basis of Bowlby's attachment theory, Ainsworth, Blehar, Waters, and Wall's (1978) seminal study identified three major styles of attachment in infancy—secure, avoidant, and anxious–ambivalent—and traced these styles to caregivers' parenting behavior. Subsequent longitudinal studies investigating the influence of infant attachment styles on later functioning and adaptation have found a remarkable stability of attachment classification (Hamilton, 2000; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000; Weinfield, Sroufe, & Egeland, 2000), although this stability is partially mediated by later life experiences (Lewis, Feiring, & Rosenthal, 2000; Waters et al., 2000).

Measurement of Attachment

From the seminal work of Bowlby, attachment theory and research has evolved into two traditions, each with its own methodology for assessing attachment patterns (e.g., self-report and interview). Mary Main and her colleagues (Main, Kaplan, & Cassidy, 1985; Main & Goodwyn, in press) developed the Adult Attachment Interview (AAI), a 1-hr attachment-history interview. The interview (Main et al., 1985) inquires about early attachment relationships as well as the interviewee's sense of how these experiences affected adult personality by probing for specific memories that may corroborate or contradict the quality of attachment history presented by the interviewee. Noting the discourse features in the interviews, Main and colleagues identified three major patterns of adult attachment: secure/autonomous (F), dismissing (D), and enmeshed/preoccupied (E); and more recently, two additional categories have been identified: unresolved/disorganized (U/d) and cannot classify (CC). The first three categories parallel the attachment classifications originally identified in childhood (Ainsworth et al., 1978), the disorganized classification parallels a pattern Main later described in infants (Main & Weston, 1981), and cannot classify parallels the classification from Hesse (1996). These attachment patterns in adults reliably predicted the Strange Situation behavior of their children.

Security on the AAI is characterized by a well-organized, undefended discourse style in which emotions are freely expressed and by a high degree of coherence, are exhibited in the discussion of attachment relationships, regardless of how positively or negatively these experiences are portrayed. These individuals maintain a balanced and realistic-seeming view of early relationships, value attachment relationships, and view attachment-related experiences as influential to their development.

In contrast, dismissing individuals devalue the importance of attachment relationships or portray them in an idealized fashion with few corroborating concrete examples. They have difficulty recalling specific events from their past and usually describe an early history of rejection. These individuals are judged to have low *coherence of mind* because of the vagueness and sparseness of their descriptions as well as the inconsistency between vaguely positive generalizations and "leaked" evidence to the contrary.

Preoccupied individuals have little difficulty talking about attachment and expressing attachment-related feelings. However, these individuals tend to display confusion about past experiences and are unable to gain insight into early events. They often describe early relationships with parents as overinvolved or as guilt inducing. Descriptions of their current relationship with parents are often characterized by pervasive anger, passivity, and attempts to please parents, even when they describe the relationship as positive. Perhaps of most noted importance, preoccupied individuals have a tendency toward incoherence in their descriptions. Specifically, their interviews are often excessively long and are characterized by the use of lengthy, grammatically entangled sentences, jargon and nonsense words, reversions to childlike speech, and confusion regarding past and present relationships. Preoccupied responses often fail to address the interviewer's original questions.

The unresolved/disorganized classification is assigned when an individual displays lapses in the monitoring of reasoning or discourse when discussing experiences of loss and abuse. These lapses include highly implausible statements regarding the causes and consequences of traumatic attachment-related events, loss of memory for attachment-related traumas, and confusion and silence around discussion of trauma or loss.

Main's fifth classification, cannot classify, is assigned when an individual displays a combination of contradictory or incompatible attachment patterns or when no single state of mind with respect to attachment is predominant. This occurs when the patient shifts attachment patterns in midinterview, when the patient demonstrates different attachment patterns with different attachment figures, or when the patient shows a mixture of different attachment patterns within the same transcript or passage.

The Emergence of Mentalization and Reflective Function (RF)

Over the last decade, the social-cognitive and affect concept of *mentalization* has become increasingly important to theory in psychoanalysis and for the conceptualization of the development of BPD. Fonagy and colleagues coined the term mentalization (Fonagy et al., 2002; Fonagy & Target, 1996) to describe the developmental achievement whereby children acquire the capacity to interpret or make sense of behavior in oneself and others in terms of intentional mental states such as thoughts, feelings, and beliefs. Thus, mentalization is the capacity to evoke and reflect on one's own experience to make inferences about behavior in oneself and others. Drawing from developmental theory and research, Fonagy and colleagues contend that the capacity for mentalization is dependent on the quality of interpersonal interactions and the emotional relationship between the infant and caregivers "who are sufficiently benign and reflective" (Fonagy & Target, 1996, p. 218).

RF has been operationalized by Fonagy and colleagues to evaluate the quality of mentalization in the context of attachment relationships (Fonagy et al., 1995), and initial research using the RF scale has been promising. In a study examining the role of the parents' mentalizing skills and its relation to their infant's attachment pattern, Fonagy et al. (1995) found that RF mediated the relationship between parental attachment security and infant attachment security in the Strange Situation (Ainsworth et al., 1978) at 1 year and at 18 months. That is, insecurely attached parents with high RF were more likely to have securely attached babies than insecurely attached parents with low RF.

Consistent with this finding, Slade and colleagues (Grienenberger, Kelly, & Slade, 2005) recently have shown that a mother's RF mediates the relationship between atypical maternal behaviors (e.g., affective communication errors, role/boundary confusion, intrusiveness) and attachment security in their infants. Fonagy et al. (1996) examined the interaction of abuse and RF in a large sample of psychiatric inpatients. They found that among patients reporting abuse, those who scored low on RF were more likely to be diagnosed with BPD compared with those who were abused but scored high on RF. Thus, high RF seems to be a possible buffer against the development of BPD in individuals who have experienced abuse.

Psychotherapy With BPD

Several psychotherapy studies have reported evidence for the efficacy (Bateman & Fonagy, 1999; Clarkin, Levy, Lenzenweger, & Kernberg, 2006; Giesen-Bloo et al., 2006; Koons et al., 2001; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Linehan, Kanter, & Comtois, 1999; Linehan et al., 2002; Linehan, Schmidt, et al., 1999; Turner, 2000; Verheul et al., 2003) and effectiveness (Blum, Pfohl, & St. John, 2002; Brown, Newman, & Charlesworth, 2004; Clarkin et al., 2001; Ryle & Golynkina, 2000; Stevenson & Meares, 1992) of specific treatments for patients with BPD. Furthermore, studies testing the effectiveness and efficacy of new treatments have recently been completed (Gratz & Gunderson, 2006) or are currently underway (Markowitz, Skodol, Bleiberg, & Strasser-Vorus, 2004).

One such treatment that has garnered effectiveness and efficacy data in clinical trials is *transference-focused psychotherapy* (TFP; Clarkin, Yeomans, & Kernberg, 1999, Clarkin et al., 2001, Clarkin, Yeomans, & Kernberg, 2006), a highly structured, twice-weekly modified psychodynamic treatment based on Kernberg's (1984) object relations model of BPD. Recent studies have demonstrated TFP's effectiveness using patients as their own control participants (Clarkin et al., 2001) and in comparison with a treatment-as-usual group diagnosed with BPD (Levy, Clarkin, Foelsch, & Kernberg, 2006). In addition, a randomized control trial (Clarkin, Levy, et al., 2006) comparing TFP, dialectical behavior therapy (DBT), and modified psychodynamic supportive psychotherapy (SPT) found reduced suicidality and anger in patients treated with TFP and DBT but not in those treated with SPT. Whereas all three treatments were effective in reducing depression and anxiety and in improving global functioning and social adjustment, only TFP was consistently related to reductions in aggression (Clarkin, Levy, et. al., 2006).

What is becoming clear is that although BPD is a chronic problem functionally, it is also a treatable disorder (see Leichsen-

ring & Leibing, 2003; Oldham et al., 2001; Perry, Banon, & Ianni, 1999, for reviews). What remains uncertain, however, are the mechanisms in the development and maintenance of BPD, the processes of change within patients during treatment, and the specific therapeutic techniques that bring about such changes. Therefore, despite the support for the effectiveness and even efficacy of existing treatments for BPD, researchers are still confronted with a high degree of uncertainty about the underlying processes of change.

Like other theories of BPD (e.g., Bateman & Fonagy, 2003; Linehan, 1993), TFP includes the conceptualization of the basic etiological elements of BPD as an interaction between constitutional and environmental factors that results in a personality structure or organization characterized by identity disturbance, use of immature or low level defense mechanisms such as projective identification,[1] splitting, omnipotent control (i.e., trying to control the behavior of others, often subtly, although usually feeling as if others are trying to control them), and deficits in social reality testing (i.e., difficulty differentiating one's own thoughts from another's or difficulty perceiving subtle social cues correctly, which often results in transient paranoia and fears of abandonment; perceptual reality testing is generally maintained).

Regarding the interaction between biological constitution and environment, Kernberg (1984) posited that patients with BPD have difficulty integrating disparate representations of themselves and others, in part because negative emotions, particularly aggression, disrupt one's capacity to integrate these representations. These unintegrated disparate representations result in what Kernberg refers to as *part* or *partial* representations; that is, failing to evoke the complete representation but instead only part of it. Strong unmetabolized or unprocessed emotions have the capacity to overwhelm positive representations. Kernberg hypothesized that the individual, therefore, may be unconsciously motivated to keep these representations separate or split in an effort to protect the positive representations of themselves and others (or some combination of self and other representations). These high levels of negative emotionality and aggression can be constitutional or engendered through experience, or some combination of the two. Regardless of origin, high levels of aggression interfere with the normative developmental process of integrating disparate representations, and instead the high levels of aggression result in a division between positive and negative representations. Likewise, Siever and his colleagues (Gurvits, Koenigsberg, & Siever, 2000) pointed out that affective instability may interfere with the ability to develop stable perceptions of self and others. They note that both the specific role of aggression and the more general role of affective lability may make the developmental task of integrating stable representations of self and others more difficult to accomplish. However, Kernberg and colleagues (Clarkin, Yeomans, & Kernberg, 2006) also noted that emotional instability in BPD can be secondary to a lack of differentiation and integration of internal images of self and others, which leads to instability in one's sense of self and ultimately, in affective instability. Thus, the relationship between lack of integration of representations and affective instability may operate in a vicious circle with the intensity of early affects resulting in a split experience of self and others. According to Kernberg, positive and negative representations are split to protect positive representations, however, such splitting may lead to further affective instability by failing to provide a

sufficiently complete and accurate foundation from which to understand oneself and others.

As the patient progresses during the course of TFP moving from split-off contradictory self-states to increased reflectiveness and integration, from impulsive action to active reflection, the patient develops better behavioral control. Over time, increased differentiation and integration is theorized to allow patients with BPD to think more flexibly and benevolently about the mental states (or motives and intentions) of their therapist, significant others (e.g., attachment figures), and themselves. With increased differentiation–integration, impaired and distorted representations of self and others are gradually transformed through new experience with significant others, beginning with the therapist. Over time, this shift in attachment organization and RF is theorized to assist patients in developing intimate relations that are infused with less aggression, greater capacity for intimacy, increased coherence of identity, and decreased self-defeating and destructive behaviors, as well as general improvements in symptoms and functioning.

The Present Study

In the present study, we examined changes in attachment organization as measured by the AAI and changes in RF as measured by the RF coding scale as a function of one of 3 year-long intensive psychotherapies designed specifically for patients with BPD. We hypothesized that the transference-focused psychotherapy, as compared with DBT and SPT, will significantly increase RF and narrative coherence and significantly reduce lack of resolution of loss and trauma.

Method

Participants

Patients with BPD were recruited between November 1999 and July 2002 from within a 50-mile radius of New York City. Patients were referred by private practitioners, clinics, family members, and self-referral, although 97% were referred by mental health professionals. Participants were 90 adults (6 men and 84 women) between age 18 years and 50 years. Patients with comorbid schizophrenia, schizoaffective disorder, bipolar I disorder, delusional disorder, and/or delirium, dementia, and amnesia and other cognitive disorders were excluded because of the influence of brain pathology and thought disorder on the ability to provide meaningful self-report data and complicated response to treatment. At the time that participants were invited to participate in the study, written informed consent was obtained after all study procedures had been explained. The study was approved by the human participant institutional review board.

Of the 207 individuals clinically referred and interviewed for at least one evaluation session, 109 were eligible for randomization. Most exclusions were due to the absence of five criteria for BPD ($n = 34$). Many patients were excluded because of age ($n = 30$) or because they met criteria for

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[1] Filled with an intolerable idea or feeling about the self, a person acts in a way to provoke behavior in another. This allows them to feel justified that the other person is in fact this way and not them. For example, a person filled with rage acts so to enrage another person and then feels relieved of their own anger when they see the other person become angry.

current substance dependence[2] ($n = 9$), schizophrenia or a schizophrenic disorder ($n = 8$), or bipolar I disorder ($n = 6$). Patients were also excluded following dropout from the evaluation process ($n = 8$), IQ lower than 80 ($n = 2$), and scheduling conflict ($n = 1$). Of the 109 eligible for randomization, 90 (83%) were randomized to treatment. There were no differences in terms of demographics, diagnostic data, and severity of psychopathology between those randomized to treatment and those not (Levy, Critchfield, & Clarkin, 2005). See Clarkin and colleagues (Clarkin, Levy, Lenzenweger, & Kernberg, 2004, Clarkin, Levy, et al., 2006) for a full description of the study design.

Treatments, Therapists, and Hypothesized Mechanisms of Change

TFP

TFP is a modified manualized psychodynamic treatment for patients with BPD. The primary goal of TFP is to reduce symptomatology and self-destructive behavior through the modification of representations of self and others as they are enacted in the treatment (Clarkin et al., 1999, Clarkin, Yeomans, & Kernberg, 2006; Kernberg, Selzer, Koenigsberg, Carr, & Appelbaum, 1989). TFP is a highly structured, twice-weekly treatment for 45 min per session that begins with explicit contract setting, which clarifies the conditions of therapy, the method of treatment, hierarchy of target behaviors to be addressed during therapy sessions, the respective roles of patient and therapist during the treatment, and how suicidal urges and behaviors will be managed. The primary focus of TFP is on the predominant affect-laden themes that emerge in the relationship between patients who are borderline and their therapists in the here and now of the transference. During the first year of treatment, TFP focuses on the containment of acting out (parasuicidal) behaviors and the identification and recapitulation of dominant relational patterns as they are experienced and expressed in the here and now of the transference relationship. The therapist uses techniques of clarification, confrontation, and transference interpretation (that is, interpretation of the here and now patient–therapist interactions that demonstrate the patient's disparate perceptions of self and others, including the therapist). In TFP, interpretation is viewed as the route to integration of these disparate perceptions and representations.

DBT

DBT is a manualized cognitive–behavioral treatment with two components: (a) individual therapy and (b) group skills training. The individual treatment focuses on a hierarchy of target behaviors, which the patient tracks on a daily basis with diary cards. Suicidal and self-mutilating behaviors are at the top of the hierarchy and are examined in each session. Behavioral analyses of the pattern and chain of thoughts, emotions, and events resulting in suicidal and self-mutilating acts take place routinely to help the patient identify triggers and alternative strategies for coping. Change strategies such as problem solving and reinforcement techniques are used in combination with acceptance and validation of the patient's experience. Group skills training is used to help patients develop less self-destructive and more adaptive means of coping with intolerable affects. Skills training sessions consist of teaching new skills to patients and practicing these skills through specific assignments between sessions. These skills include awareness of emotions and reactions, interpersonal effectiveness, emotion regulation, and distress tolerance. The skills are then integrated into the individual treatment when problem situations, such as suicidal urges, present themselves. Therapists help patients identify appropriate skills to use instead of maladaptive coping strategies. Eventually, patients can apply the skills on their own and develop more adaptive means of functioning. Therapists are available to patients via pagers between sessions for brief coaching to help patients apply appropriate skillful means of coping with their emotions and stresses and to fight self-injurious

impulses. Individual therapy is provided once weekly for 60 min, and skills training is provided weekly for 2.5 hr. Emergency telephone contact and individual sessions are scheduled as needed.

SPT

SPT is a manualized psychoanalytically oriented treatment for borderline patients (Appelbaum, 2005) adapted from one of the most common SPT treatments (Rockland, 1992). SPT is a once or twice weekly treatment[3] for 45 min per session with the primary goal of bringing about changes through developing a healthy collaborative relationship with the therapist and to replace self-destructive enactments with verbal expression of conflicts. This transformation is thought to occur through the patient's identification with the reflective capacities of the therapist rather than through interpretation as in TFP. Like TFP and DBT, SPT begins with a contract setting phase, and the initial stages of treatment address behaviors that threaten the patient's safety, interfere with therapy, and disrupt the patient's psychosocial functioning. In addition, the initial phases of therapy focus on fostering an atmosphere of safety and security for the patient and a sense of collaboration between patient and therapist. The following techniques are used in SPT: (a) remaining attuned to the dominant affect and type of the transference without interpreting it; (b) accepting and using the positive transference; (c) translating the patient's tendency to act out feelings into a more adaptive verbal expressive mode, which enhances self-acceptance and self-awareness; (d) identifying and describing the significant aspects of self to strengthen identity and sense of self-cohesion and continuity; (e) limiting extreme dependency (inaction) by providing cognitive support and by fostering the patient's sense of self and agency; (f) providing emotional support (encouragement, praise, reassurance, inspiring hope, expressing concern); (g) providing direct environmental intervention when necessary; (h) offering advice and suggestions (indirect environmental support); (i) supporting mastery of impulse and affect; and (j) encouraging sublimations and socially acceptable modes of impulse expression (e.g., exercise, physical sports). The SPT group was conceptualized as a component control condition, with the intended active ingredient (transference interpretation) proscribed.

Therapists

Therapists in each of the three treatment conditions were selected on the basis of prior demonstration of competence in their respective treatment. To ensure ongoing therapist adherence and competence, experts supervised all treatments on a weekly basis. Barbara Stanley, an acknowledged expert in DBT and a National Institute of Mental Health funded researcher in this area, supervised DBT therapists. Frank E. Yeomans, an expert therapist in TFP and contributor to the clinical literature on BPD and TFP, supervised TFP therapists. Ann Appelbaum, expert therapist and contributor to the clinical literature on BPD and SPT techniques, supervised the supportive treatment (Appelbaum, 1994, 1996, 2005). Prior to being assigned patients, all therapists selected for the study were judged by treatment cell leaders to be both adherent to their respective manual and competent in using the specific techniques of their respective modality. Throughout the study, all therapists regularly videotaped their sessions and were supervised in a group on a weekly basis.

TFP therapists. The TFP therapists were 8 experienced individuals with postdoctoral training. Experience level ranged from faculty/staff psy-

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[2] Patients with current substance dependence were referred to substance dependence treatment but were eligible for randomization after the substance dependence was treated or resolved.

[3] Therapists typically see patients once weekly; however, many see patients twice weekly if clinically indicated, if there is an emergency, or to make up a missed session from the prior week.

chiatrists with at least 10 years of experience to faculty/staff psychologists with at least 2 years of experience treating patients with BPD as well as specific training in TFP.

DBT therapists. The DBT therapists were 5 experienced individuals with postdoctoral training. Experience level ranged from faculty/staff psychologist with 10 years of experience to faculty/staff psychologists with at least 2 years of experience treating patients with BPD as well as specific training in DBT (all therapists had attended multiple intensive trainings with Linehan or other certified trainers).

SPT therapists. The SPT therapists were 7 experienced individuals with postdoctoral training. Experience level ranged from faculty/staff psychiatrists with at least 15 years of experience to faculty/staff psychologists with at least 2 years of experience treating patients with BPD as well as specific training in SPT.

Monitoring Treatment Conditions

Treatment integrity was monitored in a number of ways. First, we chose experienced and expert treatment cell leaders who were responsible for recruiting therapists for their respective treatment cell. Therapists were known to the treatment cell leaders and chosen because they were experienced and adherent therapists with proven track records. Second, therapists in each treatment cell attended weekly group supervisions in which treatment cell leaders were able to observe videotaped sessions. Additional feedback to therapists was provided by treatment cell leaders if a therapist fell below an acceptable level of either adherence to the manual or competence. When a therapist's ratings were consistently low for adherence, then ratings were made more frequently (approximately every four sessions) for the succeeding 3-month interval, and supervision focused on the difficulties identified by raters. Additional individual supervision was provided when either adherence and/or competence fell below acceptable levels. When a therapist fell below acceptable levels, no new cases were assigned to them. Third, we asked treatment cell leaders to rate and rank therapists on each case.

Random Assignment

Ninety participants were randomized into TFP, SPT, or DBT. Simple randomization was used to guard against unseen threats to validity rather than stratified or minimization random assignment procedures that match participants on prognostic variables. A study-independent person generated the allocation sequence and assigned participants to their groups. Initial assessments were made after inclusion and before randomization.

Randomization resulted in 31 patients randomized to TFP, 29 patients randomized to DBT, and 30 patients randomized to SPT. Of the patients, 1 in TFP was removed early on from the study because of misdiagnosis when it became apparent that she had a psychotic disorder. In addition, 1 patient was removed from DBT group because of the individual withdrawing from the study prior to attending the first therapy session.

Measures

Diagnostic and Borderline Symptom Instruments

Structured Clinical Interview for DSM–IV–Research Version (First, Gibbon, Spitzer, & Williams, 1997). The Structured Clinical Interview for DSM–IV–Research Version is a structured clinical interview used for making *DSM–IV* Axis I diagnoses in patients older than 18 years.

International Personality Disorder Examination (Loranger, Sartorius, Andreoli, & Berger, 1994). The International Personality Disorder Examination is a semistructured diagnostic interview for diagnosing personality disorders. It consists of 99 items arranged in six categories (e.g., self or work), along with a detailed scoring manual (Loranger et al., 1994). Each item assesses part or all of a *DSM–IV* personality disorder criterion and is rated on a three-point scale ranging between 0 (*absent or normal*),

1 (*exaggerated or accentuated*), and 2 (*meets criteria or pathological*). Items consist of one or several primary questions and follow-up questions. All positive responses are followed by requests for examples. After the provided questions are exhausted, the clinical interviewer is free to ask additional questions until he or she is able to score the item. The International Personality Disorder Examination generates probable (subthreshold number of *DSM–IV* criteria met) and definite diagnoses for each of the *DSM–IV* diagnoses. It also generates dimensional scores for each diagnosis by adding the ratings on all the criteria composing a diagnosis.

Reliability of assessment interviews indicated good to excellent levels of interrater reliability for all Axis I and II disorders with kappas ranging from .59 for anxiety disorders to 1.00 for alcohol/substance dependence. The kappa for BPD was .64 and the intraclass correlation (ICC) for dimensional criteria ratings was .86. All kappa and ICC coefficients were in the good to excellent range (Fleiss, 1971). See Critchfield, Levy, and Clarkin (in press) for more detail regarding diagnostic interviewers, interviewer credentials and training, and reliability procedures.

Assessment of Attachment

AAI (George, Kaplan, & Main, 1985). The AAI is a semistructured clinical interview designed to elicit thoughts, feelings, and memories about early attachment experiences and to assess the individual's state of mind or internal working model with regard to early attachment relationships. The interview consists of 20 questions asked in a set order with standard probes. Individuals are asked to describe their childhood relationship with their parents, choosing five adjectives to describe each relationship and supporting these descriptors with specific memories. To elicit attachment-related information, they are asked how their parents responded to them when they were in physical or emotional distress (e.g., during times when they were upset, injured, and sick as children). They are also asked about memories of separations, loss, experiences of rejection, and times when they might have felt threatened including, but not limited to, those involving physical and sexual abuse. The interview requires that they reflect on their parents' styles of parenting and that they consider how their childhood experiences with their parents have influenced their lives. The technique has been described as having the effect of "surprising the unconscious" (George et al., 1985, p. 3) and allowing numerous opportunities for the interviewee to elaborate on, contradict, or fail to support previous statements.

The AAI is transcribed verbatim, and trained coders first score the transcripts with subscales ratings, which are then used to assign individuals to one of five primary attachment classifications (secure/autonomous, dismissive, preoccupied, unresolved, and cannot classify). The unresolved classification can be a primary or secondary designation, and a patient classified as unresolved is always given an additional organized style. In addition to attachment classification, we focused on the narrative coherence subscale of the AAI, which has been found to be the best predictor of attachment security, $r = .96$, $p < .001$ (Waters, Treboux, Fyffe, & Crowell, 2001). The AAI is administered and scored by raters who have completed a 2-week training workshop conducted by Mary Main and Eric Hesse and who have achieved reliability on an extensive set of training transcripts. Raters are blind to all identifying characteristics of the participants, including attachment status and the nature and purpose of the study. After training was completed and reliability was established, the coders coded a subset of each other's transcripts ($n = 22$). Raters agreed on 86% of the categorical classifications, $\kappa = .80$, $t(20) = 6.11$, $p < .001$. The ICC for dimensional ratings of narrative coherence was .88

RF. The AAI was also scored with the RF scale (Fonagy, Steele, Steele, & Target, 1998), an 11-point scale that evaluates the quality of mentalization in the context of attachment relationships. The RF scale 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). Coders were trained by Kenneth N. Levy, who had received training from the developers of the

Table 1
Distribution of Attachment Patterns With the Five-Way Classification System at Time 1

Classification	Five category		Four category		Three category	
	Frequency	%	Frequency	%	Frequency	%
Secure	3	5	3	5	3	5
Preoccupied	9	15	13	21.6	29	48.3
Dismissing	18	28.3	25	41.7	28	46.7
Unresolved	19	33.3	19	31.7		
Cannot classify	11	18.3				
Total	60	100	60	100	50	100

coding manual. Reliability was obtained between the coders and one of the developers of the coding manual on practice sets. After training was completed and reliability was established, the two coders coded a subset of each other's transcripts ($n = 28$, ICC $= .86$). As with the AAI coding, coders were blind to both time and treatment condition.

Results

In the original outcome report (Clarkin, Levy, et al., 2006) examining the efficacy of TFP in this sample, we reported intent-to-treat (ITT) analyses for all primary and secondary outcome variables. However, in the current article we only report completer analyses because the goal of the study was to identify mechanism of change rather than to test the efficacy of the treatment. ITT analyses are less relevant for the study of mechanisms of change, in which it is more important ensure that participants receive a sufficient dose of the treatment and to guard against threats to validity from insufficient or diluted doses of treatments.[4]

Distribution of Attachment Patterns at Time 1

As shown in Table 1, with the five-category system (i.e., secure, preoccupied, dismissing, unresolved, and cannot classify), we found 5% of our patients were classified as secure with respect to attachment. This rate is similar to other studies examining attachment patterns in samples of patients with BPD (Barone, 2003; Diamond et al., 1999; Fonagy et al. 1996; Stovall-McClough & Cloitre, 2003).[5] With regard to the insecure attachment patterns, we found that 31.7% of patients were classified as unresolved with respect to attachment, and 18.3% were classified in the cannot classify category. Thirty percent of patients were classified as dismissing with respect to attachment, and 15% of patients were classified as preoccupied with respect to attachment. Table 1 also shows the three-way classifications of attachment patterns on the basis of secondary classifications. By using the secondary classifications, we found that 50% of patients can be classified into the preoccupied category and 45% into the dismissing category. These findings represent a more even distribution between the different attachment categories than was found in two earlier studies (Fonagy et al., 1996; Patrick, Hobson, Castle, Howard, & Maughan, 1994), both of which found that patients with BPD predominately were classified as unresolved and preoccupied with respect to attachment. Our patterns of findings are more consistent with those of Barone (2003), who also found a more even distribution of

attachment patterns in a sample of outpatients diagnosed with BPD. It is interesting to note that we found that secondary classifications for patients in the cannot classify group were mostly dismissive and for unresolved patients were mostly preoccupied, with all but 3 of the 11 patients in the cannot classify group having a secondary best-fitting classification of dismissive and all but 2 of the 19 unresolved patients having a secondary best-fitting classification of preoccupied. Chi-square analyses indicated that these associations are significant.

Change in the Distribution of Attachment Patterns Between Time 1 and Time 2

As shown in Table 2, there were significant changes in attachment patterns during the course of the year of psychotherapy. Overall, there were increases in the percentage of patients now classified as securely attached. Whereas at Time 1 there were only 3 patients (5%) classifiable as secure with respect to attachment, at Time 2 there was a threefold increase in attachment security, with 9 patients (15%) now classifiable as secure with respect to attachment. This difference was significant, McNemar's $\chi^2(1, N = 60) = 34.03$, $p < .001$. Although there was a decrease in the number of patients classified with unresolved attachment ($n = 19$, 31.6%, vs. $n = 13$, 21.6%), this decrease was nonsignificant, McNemar's $\chi^2(1, N = 60) = 0.90$, $p > .05$.

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[4] Noncompliance and dropout in the treatment of BPD is common, and therefore ITT analysis may underestimate the real benefits of treatment. Completer analyses are also especially important if there is differential dropout. A number of recent studies that had differential dropout have neglected to report completer analyses (Giesen-Bloo et al., 2006; Linehan et al., 2006), which limits conclusions about relative efficacy (Levy, 2006).

[5] Although this finding is consistent across a number of studies, it is obviously particular that one can be diagnosed with BPD, a disorder characterized by extreme insecurity, and rated as securely attached on the AAI. There are a number of possibilities. First, the finding may simply represent measurement error. On the AAI, if one can describe experiences of insecurity or behaving insecurely in a coherent manner, all other things equal, that individual would most likely be classified as securely attached. Those borderline patients classified as securely attached often were coherent, albeit moderately, in describing what could be classified as insecure behaviors in relationships with others.

Table 2
Association Between Attachment Patterns at Time 1 (T1) and Time 2 (T2)

T2 attachment	Secure			Preoccupied			Dismissive			Unresolved			Cannot classify			Total			χ^2 (16, $N = 60$)
	n	T1	T2	n	T1	T2	n	T1	T2	n	T1	T2	n	T1	T2	n	T1	T2	
Secure	3	100	33	2	22.2	22.2	2	11.1	22.2	0	0	0	2	18.2	22.2	9	15.0	100.0	75.32[****]
Preoccupied	0	0	0	7	77.8	53.8	0	0	0	5	26.3	38.5	1	9.1	7.7	13	21.7	100.0	
Dismissive	0	0	0	0	0	0	13	72.2	76.5	1	5.3	5.9	3	27.3	17.6	17	28.3	100.0	
Unresolved	0	0	0	0	0	0	2	11.1	15.4	10	52.6	76.9	1	9.1	7.7	13	21.7	100.0	
Cannot classify	0	0	0	0	0	0	1	5.6	12.5	3	15.8	37.5	4	36.4	50.0	8	13.3	100.0	
Total	3	100.0	5.0	9	100.0	15.0	18	100.0	30.0	19	100.0	31.7	11	100.0	18.3	60	100.0	100.0	

[****] $p < .001$.

Change in the Distribution of Attachment Patterns Between Time 1 and Time 2 as a Function of Treatment Group

As shown in Table 3, we also examined change in attachment classification as a function of treatment group. In the TFP group, 1 (4.5%) of the 22 patients was classified as secure with respect to attachment at Time 1; however, 7 (31.8%) of the 22 patients were classified as secure with respect to attachment at Time 2. This difference was significant, McNemar's $\chi^2(1, N = 22) = 4.17, p < .04$. There was no change, however, for both DBT and SPT in the number of patients who went from insecure to secure attachment. One patient in each treatment (6.3% and 4.5%, respectively) was classified as securely attached at both Times 1 and 2. The difference in the number of securely attached patients between the TFP and DBT and SPT cells was obviously not significant at Time 1, $\chi^2(2, N = 60) = 1.46, p > .05$, but was significant at the end of treatment, $\chi^2(2, N = 60) = 8.25, p < .02$.

Relationship Between Attachment Coherence, RF, and Lack of Resolution of Loss and Trauma

Table 4 shows the relationship between the dimensional ratings of attachment coherence, RF, and lack of resolution of loss and trauma. As can be seen, Time 1 coherence and RF were significantly positively correlated at a moderate level, suggesting that the two constructs are related but are not necessarily measuring the same construct. The correlation between coher-

ence and RF at Time 2 was also significant and in the same direction and of about the same magnitude. It is important to point out that although the two constructs are significantly associated, the magnitude of the correlation is much less than in previous studies, in which correlations as high as .73 were found (Fonagy, Steele, Moran, Steele, & Higgitt, 1991). Coherence was significantly related to lack of resolution of loss and trauma; however, RF was not. This finding is in contrast to a previous finding that found high RF was related to higher resolution of trauma (Fonagy et al., 1996). This previous study involved severely disturbed inpatients with high rates of severe trauma and loss; it may be that in cases of severe trauma the buffering effects of high RF become more apparent.

Change in RF, Coherence, and Lack of Resolution of Loss and Trauma From Time 1 to Time 2

With respect to attachment coherence, the covariate, Time 1 coherence, was significantly related to participants' Time 2 coherence, $F(1, 54) = 32.94, p < .05, r = .97$. There was also a significant effect of treatment group on Time 2 coherence after the effects of Time 1 coherence were controlled for, $F(3, 54) = 6.28, p < .05, r = .64$. Planned contrasts (TFP = 2, DBT = −1, SPT = −1) revealed that those in the TFP condition significantly increased coherence compared with both the DBT, $t(54) = 2.06, p < .05, r = .26$, and SPT groups, $t(54) = 2.72, p < .05, r = .34$. Means and standard deviations are shown in Table 5.

Table 3
Association Between Attachment Security Time 1 and Time 2 as a Function of Treatment Group

Time 2 attachment	TFP		DBT		SPT		Total	χ^2
	Secure	Insecure	Secure	Insecure	Secure	Insecure		
Secure	1 (100%)	6 (28.6%)	1 (100%)	0 (0%)	1 (100%)	0 (0%)	9	8.25[**]
Insecure	0 (0%)	15 (71.4%)	0 (0%)	14 (100%)	0 (0%)	22 (100%)	51	
Total	1	21	1	15	1	21	60	

Note. TFP = transference-focused psychotherapy; DBT = dialectical behavior therapy; SPT = supportive psychotherapy. Percentages are for the columns.
[**] $p < .02$.

Table 4
Correlations Between Dimensional Measures of Attachment

Measure	1	2	3	4	5	6	7	8
1. RF T1	—	.22	.48***	.21	.02	.03	.01	.06
2. RF T2		—	.29*	.52***	−.06	−.13	−.03	−.08
3. Coherence T1			—	.56***	−.28*	−.29	−.26*	−.17
4. Coherence T2				—	−.32*	−.25	−.07	−.17
5. Resolution of Loss T1					—	.72***	.32*	.38***
6. Resolution of Loss T2						—	.30*	.33*
7. Resolution of Trauma T1							—	.82***
8. Resolution of Trauma T2								—

Note. RF = reflective function; T1 = Time 1; T2 = Time 2.
* $p < .05$. *** $p < .01$.

With respect to RF, the covariate, Time 1 RF, was significantly related to the participants' Time 2 RF, $F(1, 54) = 7.23$, $p < .01$, $r = .69$. There was also a significant effect of treatment group on Time 2 RF after the effects of Time 1 RF were controlled for, $F(3, 54) = 15.05$, $p < .05$, $r = .89$. Planned contrasts (TFP = 2, DBT = −1, SPT = −1) revealed that those in the TFP condition significantly increased RF compared with both the DBT, $t(54) = 2.10$, $p < .05$, $r = .27$, and SPT groups, $t(54) = 3.24$, $p < .05$, $r = .39$. Means and standard deviations are shown in Table 5.

With respect to lack of resolution of loss, Time 1 lack of resolution of loss was significantly related to the participants' Time 2 scores, $F(1, 54) = 63.50$, $p < .01$, $r = .99$. However, the effect of treatment group on Time 2 lack of resolution of loss after the effects of Time 1 scores were controlled for, $F(3, 54) = 1.14$, $p > .05$, $r = .15$, was not significant. With regard to lack of resolution of trauma, Time 1 lack of resolution of trauma, was significantly related to the participants' Time 2 lack of resolution of trauma, $F(1, 54) = 43.05$, $p < .01$, $r = .98$. However, the effect of treatment group on Time 2 lack of resolution of trauma after the effects of Time 1 lack of resolution of trauma were controlled for, $F(3, 54) = 1.34$, $p > .05$, $r = .89$, was not significant. Means and standard deviations are shown in Table 5.

Discussion

In addition to relevant domain specific outcomes (reported elsewhere in Clarkin, Levy, et al., 2006), we examined changes in

attachment organization and RF during one of three (TFP, DBT, or SPT) year-long intensive psychotherapies for patients diagnosed with BPD. On the basis of prior theorizing, we conceptualized these constructs as putative mechanisms of change within patients with BPD (Fonagy et al., 2002; Levy, 2005; Levy, Clarkin, Yeomans, et al., 2006).

RF, attachment coherence, and security of attachment were found to increase over the year of treatment as a function of treatment group. Specifically, we found that those patients treated with TFP evidenced significant increases in RF, attachment coherence, and rates of being classified as secure with respect to attachment as compared with the other treatment conditions. However, there were no significant changes in terms of resolution of loss or trauma across treatment groups. There were no adverse events or side effects in any of the intervention groups. It is important to also note that our sample size was relatively small, and this may have limited ability to defect effects.

The findings from this study, coupled with our other work (Clarkin, Levy, et al., 2006), show that TFP is not only an efficacious treatment for BPD but works in a theoretically predicted way and that TFP does better on those variables than DBT and SPT. Our findings are especially important given the literature suggesting that many treatments do not show specific effects on theory-driven mechanisms (Ablon & Jones, 1998; Ablon, Levy, & Kazenstein, 2006; Castonguay, Goldfried, Wiser, & Raue, 1996; DeRubeis & Feeley, 1990; DeRubeis et al., 1990; Ilardi & Craighead, 1994; Jones & Pulos, 1993; Shaw et al., 1999; Trepka, Rees, Shapiro, Hardy, & Barkham, 2004).

Table 5
Change in RF, Coherence, and Lack of Resolution of Loss and Trauma From Time 1 to Time 2

	TFP (N = 22)				DBT (N = 15)				SPT (N = 23)			
	Time 1		Time 2		Time 1		Time 2		Time 1		Time 2	
Measure	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
RF	2.86	1.16	4.11	1.38	3.31	0.95	3.38	1.15	2.80	0.80	2.86	1.28
Coherence	2.93	1.34	4.02	1.69	3.00	1.64	3.25	1.41	3.25	1.33	3.16	1.20
Resolution of Loss	2.39	2.62	1.80	2.11	2.63	2.80	2.78	3.02	1.52	1.98	1.68	2.08
Resolution of Trauma	2.09	2.22	1.41	1.48	2.44	2.54	2.06	1.96	1.61	2.29	1.23	2.10

Note. TFP = transference-focused psychotherapy; DBT = dialectical behavior therapy; SPT = supportive psychotherapy; RF = reflective function.

These findings also have implications for available treatment choices for patients with BPD. Although Linehan's (Linehan et al., 1991) seminal randomized clinical trail of DBT was a breakthrough for the research on BPD, and DBT has marshaled a large amount of evidence for its efficacy (more evidence than any other treatment for BPD), clinicians now have two additional efficacious treatments available in Mentalization Based Therapy (Bateman & Fonagy, 1999) and in TFP. Given the heterogeneity seen in patients with BPD, future research might focus on the prescriptive implications of client factors as well as which patients might be most responsive to a particular treatment (Clarkin & Levy, 2003).

The Meaning of Attachment Security in the Context of BPD

One of the more provocative findings in our study was the increased percentage of those patients classified as secure with respect to attachment; we found a threefold increase in those patients classified as securely attached. This finding is striking because insecurity in interpersonal relationships is theorized to be central to borderline pathology (Gunderson, 1996). This finding raises the broader question of the meaning of security with respect to attachment in this context; specifically, have this subset of patients achieved secure attachment in the course of 1 year of psychotherapy? According to Bowlby, the hallmarks of attachment security are secure base behavior (the use of an attachment figure as home base from which the individual can explore the world) and safe haven behavior (to seek support, comfort, and protection from an attachment figure in the face of danger or distress). Thus, if these patients with BPD were secure with respect to attachment, there would be an accompanying shift in their interactions with their attachment figures. The individual would be able to turn to others as a safe haven in times of distress though when not in distress, would use attachment figures as a secure base from which to explore both the physical and psychological world. Security with respect to attachment in these patients would also accompany a shift in their interactions with their own children, as the most consistent finding with regard to security of attachment on the AAI is that it predicts the interviewees' infants' Strange Situation behavior.

Clearly, some patients with BPD in our study were more coherent with respect to their attachment representations during the course of 1 year of psychotherapy. However, we do not have data to speak to either of these interpersonal behavioral markers of attachment security. Thus, future research will need to establish these individuals are evidencing both safe haven and secure base behaviors that would indicate secure attachment. It is possible that these individuals, despite increased narrative coherence, continue to engage in self-destructive behaviors. Regardless, over time it is predicted that this increased coherence will result in better integration of experience, increased flexibility of thought processes, and better self-regulation, and this may put these patients on the road to eventually developing secure attachment behaviors. Additionally, regardless of their own secure-like behaviors, those patients showing increased coherence and indicators of secure attachment organization may be more likely to have children that evidence secure attachment behavior in the Strange Situation. That is, the increased coher-

ence is predicted to result in more sensitive, responsive parenting and less oscillations between intrusive and neglectful parenting. The AAI and the Strange Situation were developed and, until relatively recently, used almost exclusively within nonclinical samples. A finding in which patients treated for BPD, and showing increased coherence as well as indicators of secure attachment organization, have children that evidence secure attachment behavior in the Strange Situation would provide needed validity for both the AAI and Strange Situation procedures.

Changes in RF

The changes observed in RF in this study represent a significant shift in patients' capacity to mentalize the thoughts, feelings, intentions, and desires of self and others. Patients in the TFP group entered the study with a mean RF score of 2.86, which is similar to findings from an earlier study examining RF in a sample of participants with BPD (Fonagy et al., 1996). According to Fonagy and colleagues (Fonagy et al., 1998), a score of 3 on the RF scale is considered questionable or low and indicates naive or simplistic reflections on the mental states of self and others. A score of 3 on the scale may also indicate an overanalytic or hyperactive style. In such cases, attributions may appear at face value quite reflective and may show greater depth than expected but, on closer inspection, may be diffuse and unintegrated in a manner that does not create links between disparate aspects of the individual's experience or result in increased understanding. Instead, these individuals tend to discuss internal thoughts and feelings with a certainty about others' mental states in a manner that belies the open, flexible, and integrative processes found in high RF individuals (Fonagy et al., 1991, 1996; Grienenberger et al., 2005). In our study, only 4 of the 22 TFP patients (15%) entered the study with a score higher than 3 on the RF scale. As compared with the other treatment conditions, patients in TFP showed a significant increase over the course of treatment in RF, with a mean score of 4.11 posttreatment (approaching ordinary or adequate RF) and almost two thirds of the patients scoring 4 or better (72.7%, with 31.8% scoring 5 or above). A score of 5 on the RF scale is the most common rating in nonclinical samples and is characterized by instances of reflective thinking in the context of otherwise ordinary or adequate attributions of the thoughts, feelings, intentions, and desires of self and others. Individuals in this range may reflectively discuss internal thoughts and feelings, but such thinking may not be exhibited spontaneously and may be limited when tackling complex social situations in which there is conflict and ambivalence. Those receiving scores of 4 on the RF scale may have a model of the mind similar to those who score a 5 but with less integration.

Resolution of Loss and Trauma

There was little change in patient unresolved/not unresolved status during treatment (63% maintained their unresolved classification). This is less change than was found in an earlier study examining stability of attachment representations in adults transitioning to marriage (Crowell, Treboux, & Waters, 2002), with only 46% of participants initially classified as unresolved retaining the

classification. In our study, we also found that 7.3% of patients with BPD who were not unresolved became unresolved over the course of 1 year of treatment; a similar finding to Crowell et al. (2002) who found that 9% of individuals who were not unresolved become unresolved. Thus, although patients with BPD appear to be at greater risk for unresolved status over the course of 1 year of treatment, it does not appear that they are at any greater risk above and beyond their initial risk of becoming unresolved over a 1-year period.

Nevertheless, our findings, if replicated, suggest that patients with BPD may be particularly resistant to the resolution of loss and trauma, even with intensive interventions. Additionally, both TFP and DBT explicitly hold off on addressing trauma until later in treatment because of the tendency of borderline patients to become disorganized, dysregulated, and at times dissociated in the context of discussing these issues. Further, TFP and DBT both deemphasize past experiences in the service of understanding what is occurring for the patient in the here and now. In may be the case that because of this emphasis on the present there is less time spent discussing past traumatic experiences as compared with SPT; future research exploring treatment-specific mechanisms of change should address this question.

The Relationship of RF to Lack of Resolution of Trauma

Unexpectedly, we found that RF was not significantly related to lack of resolution of loss and trauma. This finding is surprising given the centrality of both constructs for thinking about BPD (Fonagy et al., 2002; Holmes, 2003, 2004; Liotti & Pasquini, 2000). Our finding suggests that low RF and lack of resolution of trauma may operate relatively independently.

Studying Mechanisms of Change in the Psychotherapy for BPD

Future research should seek to establish the hypothesized link between increased narrative coherence and RF over the course of TFP treatment and improvements in level of symptomatology and global functioning. In addition, it will be important to identify the psychotherapy processes related to these observed changes in RF and narrative coherence. On the basis of Kernberg's (1984) developmentally based theory of BPD, the hypothesized mechanism of change in TFP stems from the integration of polarized affect states and representations of self and other into a more coherent whole. Through the exploration and integration of these "split-off" cognitive–affective units of self- and other representations, Kernberg postulated that the patient develops the capacity to think more coherently and reflectively, with more realistic, complex, and differentiated appraisals of the thoughts, feelings, intentions, and desires of self and others. This integration in psychological structure is hypothesized to allow for increased modulation of affect and coherence of identity, a greater capacity for intimacy in relationships, a reduction in self-destructive behaviors, and general improvement in functioning.

Summary and Conclusion

In a sample of patients with BPD, we studied the differential effect of TFP on changes in attachment organization, RF, and lack of resolution of loss and trauma. Consistent with our hypotheses, we found that TFP resulted in unique changes in narrative coherence and RF not observed in other treatment conditions. However, there was little support for an effect on lack of resolution of loss or trauma. These findings have implications for conceptualizing the mechanism by which patients with borderline personality may change. Howard et al. (Howard, Kopta, Krause, & Orlinsky, 1986) distinguished between three levels of change in psychotherapy: remoralization, remediation, and rehabilitation. *Remoralization* is characterized as the initial improvement in mood that patients show when they first enter treatment because of expectancies and the instillation of hope. *Remediation* is characterized by symptom improvement, which depending on the treatment and the disorder can occur relatively quickly, between 4 and 16 weeks of beginning treatment. *Rehabilitation* is characterized by personality change. We hypothesize that changes in RF and narrative coherence are akin to rehabilitative changes in the internal structure of representations of self and other that will provide patients with buffers against internal and external stressors. These patients may be less likely to create stress (e.g., acting in ways that gets one fired) and better able to withstand natural stressors (e.g., bad economy or natural disaster). Thus, patients who have made rehabilitative changes may be better suited to interact with the world at large. Of course, confirmation of these speculations in follow-up studies is needed.

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