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THE RELATIONSHIP OF EARLY ALLIANCE RUPTURES AND THEIR RESOLUTION TO PROCESS AND OUTCOME IN THREE TIME-LIMITED PSYCHOTHERAPIES FOR PERSONALITY DISORDERS

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This study examined the relationship of early alliance ruptures and their resolution to process and outcome in a sample of 128 patients randomly assigned to 1 of 3 time-limited psychotherapies for personality disorders: cognitive–behavioral therapy, brief relational therapy, or short-term dynamic psychotherapy. Rupture intensity and resolution were assessed by patient- and therapist-report after each of the first 6 sessions. Results indicated that lower rupture intensity and higher rupture resolution were associated with better ratings of the alliance and session quality. Lower rupture intensity also predicted good outcome on measures of interpersonal functioning, while higher rupture resolution predicted better retention. Patients reported fewer ruptures than did therapists. In addition, fewer ruptures were reported in cognitive–behavioral therapy than in the other treatments.

Keywords: therapeutic alliance, rupture and resolution, personality disorders, time-limited psychotherapies, treatment outcome, dropout status

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Although promising psychotherapeutic interventions have been identified for a range of different psychological disorders (e.g., Lambert, 2004), substantial numbers of patients fail to ben-

efit from these treatments, as evidenced by significant patient dropout rates. Estimates of patient attrition rates average about 47% and range as high as 67% (Wierzbicki & Pekarik, 1993; Sledge, Moras, Hartley, & Levine, 1990). Despite the many advances made in psychotherapy treatments and techniques, as Barrett, Chua, Crits-Christoph, Gibbons, and Thompson (2008) observe, these high dropout rates are comparable to those found over 50 years ago. Even without consideration of the longstanding problem of attrition, the evidence indicates that there is still considerable room for improvement. For example, in their meta-analysis of randomized clinical trials for major depression, generalized anxiety disorder, and panic disorder, Westen and Morrison (2001) found that only 63% of panic disorder patients, 52% of generalized anxiety disorder patients, and 54% of depressed patients who completed treatment were considered improved at termination. It is important to note that these findings are based on rather lenient criteria for improvement.

It is also important to note that estimates of retention and improvement are probably inflated by the fact that many patients are screened out of research protocols due to the presence of complicated diagnostic profiles. In their critical review, Westen and Morrison (2001) found that the exclusion rates of patients who presented with multiple diagnoses typically ranged from 60% to 70%. The majority of patients who seek treatment in our mental health clinics or private practices, however, do present with multiple diagnoses, with estimates of comorbidity ranging from 40% to 70% (see Kessler et al., 1994). Patients who present with comorbid personality disorders have been found to be particularly treatment resistant (Benjamin & Karpiak, 2001; Clarkin & Levy, 2004; Piper & Joyce, 2001). These challenging patients are commonly encountered in outpatient settings: the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project, the largest clinical epidemiological study using semistructured interviews in an outpatient setting, found that almost half (45.5%) of patients presented with a personality disorder diagnosis (Zimmerman, Chelminski, & Young, 2008). Similarly, a study of patients seen by a community mental health team in the United Kingdom found that 52% met criteria for one or more personality disorders (Keown, Holloway, & Kuipers, 2002).

Given this perspective on the effectiveness of psychotherapy, it seems critical to identify variables that may mediate treatment outcome. One such variable that has received considerable attention is the therapeutic alliance, which has consistently been shown to be a robust predictor of outcome regardless of treatment modality (Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000). A number of clinical researchers have noted that because personality-disordered patients present with longstanding and inflexible patterns of emotional and interpersonal difficulties (Benjamin, 1993; Livesley, 2001; Millon & Davis, 1996), they invariably pose great challenges to therapists, especially with regard to the therapeutic alliance (e.g., Benjamin & Karpiak, 2001; Muran, Segal, Samstag, & Crawford, 1994). Therapists are more likely to encounter problems in the alliance with such patients, given their emotional lability or constriction that makes empathy difficult, as well as their restricted range of interpersonal behavior that exerts a strong pull for certain behavioral responses from therapists, which in turn confirm and perpetuate patients' pathogenic beliefs (Kiesler, 1996).

The research on problems, or ruptures, in the therapeutic alliance is a still developing literature, especially with regard to the prevalence of ruptures and the relevance of their resolution for outcome (see Safran, Muran, Samstag, & Stevens, 2002). There is, however, ample evidence that weakened alliances are correlated with unilateral termination by the patient (Samstag, Batchelder, Muran, Safran, & Winston, 1998; Tryon & Kane, 1990, 1993, 1995), as well as the related finding that poor outcome cases show greater negative interpersonal process (i.e., hostile and complex interactions) than good outcome cases (e.g., Coady, 1991; Henry, Schacht, & Strupp, 1986; Samstag et al., 2008). These findings suggest that the process of recognizing and resolving ruptures in the therapeutic alliance may play an important role in treatment retention and outcome.

Several studies that have examined patient-rated alliance patterns across time have also yielded findings that suggest that rupture resolution is related to good outcome. Some studies have found evidence of U-shaped (high-low-high) patterns predicting good outcome (Kivlighan & Shaugnessy, 2000; Patton, Kivlighan, & Multon, 1997), while others have identified briefer, more localized V-patterns related to good outcome (Stiles et al., 2004; Strauss et al., 2006). These efforts can be understood as *indirect* as-

sessments of ruptures and their resolution over the course of treatment by means of examining levels and patterns in repeated self-report measures of the quality of the therapeutic alliance.

By contrast, the present study examined the relationship of ruptures and their resolution to outcome by means of *direct* assessments: specifically, patient- and therapist-report measures designed to assess ruptures and their resolution within treatment sessions. Our aim was to examine the relation of these measures to standard psychotherapy process measures, such as those assessing therapeutic alliance and session quality, and to treatment outcome, including dropout status. The focus was on early psychotherapy process—postsession ratings of the first six sessions of 30-session treatment protocols—because the quality of the alliance as measured early in treatment has been shown to be the most predictive of outcome (Horvath & Symonds, 1991) and because the preponderance of dropouts occur within the first few sessions of treatment, with several studies finding a median length of treatment of about six sessions (Garfield, 1994). Given the challenges noted above in developing a good alliance with personality-disordered patients, the treatment cases in this study involved patients with personality disorder diagnoses. Analyses also included examination of differences between patient and therapist perspectives of ruptures and their resolution, as well as differences in rupture intensity and resolution among three time-limited treatment conditions: a short-term dynamic psychotherapy, cognitive–behavioral therapy (CBT), and an integrative relational model. This data set was previously examined with regard to relative treatment efficacy, and the three treatments were generally found to be equally effective (Muran, Safran, Samstag, & Winston, 2005).

Method

Participants

Both patients and therapists provided informed consent with respect to the parameters of the research protocol. Patient and therapist demographics are provided in brief below (see Muran et al., 2005, for elaboration). Patients paid a nominal fee per session based on an income-sensitive sliding scale in order to approximate a naturalistic treatment setting; these fees ranged from $20 to $80 per session.

Patients. The patients included 60 men and 68 women ($N = 128$), ranging in age from 21 to 65 years ($M = 41.33$, $SD = 10.52$). Fifty percent of the patients were single, never married; 28% married or remarried; 21% divorced or separated; and 1% widowed. Nineteen percent were high school graduates, 50% college graduates, and 31% had graduate degrees. Eighty-one percent were employed. Ninety percent were White, 1% Black, 5% Latino, and 4% other. Thirty-seven percent were Jewish, 34% Christian, and 29% other. The patients presented with a myriad of longstanding difficulties related to depression, anxiety, and interpersonal functioning. Fifty-five percent met criteria for a current primary diagnosis of Mood Disorder, 28% Anxiety Disorder, 13% V-Code, and 4% Adjustment Disorder on Axis I of *DSM–IV* (American Psychiatric Association, 1994); and 35% met criteria for multiple Axis I diagnoses. The principal inclusion criterion was a diagnosis of Personality Disorder (PD) Cluster C or Not Otherwise Specified on Axis II. We focused on Cluster C patients rather than Cluster A or B personality-disordered patients, because of a concern that patients meeting criteria for Cluster A or B diagnoses would be more likely to need a longer term therapeutic approach. Sixty-six percent met criteria for a diagnosis of PD NOS, 22% Avoidant PD, 10% Obsessive-Compulsive PD, and 2% Dependent PD; and 19% met criteria for multiple noncluster A or B diagnoses. Patient diagnoses were reliably established with the *Structured Interview for DSM–IV*-Axis I & II (SCID: First, Spitzer, Gibbon, & Williams, 1995) administered by trained research assistants (see Muran et al., 2005, for details).

Therapists. Seventy therapists (36% men and 64% women) treated the 128 patients in this study. Therapists ranged in age from 25 to 65 years ($M = 38.14$, $SD = 8.89$) and included clinical psychologists (41%), psychiatry attending physicians (12%) and residents (7%), social workers (11%), and psychology interns (17%), and externs (12%) in a psychiatry department at a major metropolitan medical center. Clinical experience ranged from one to 35 years, with an average experience level of 4.77 years ($SD = 7.50$). Ninety-six percent of the therapists were White, 2% Asian, and 2% Black or Latino. Forty-five percent were single, never married; 50% married or remarried; and 5% divorced or sepa-

rated. Fifty-nine percent of therapists were Jewish, 18% Christian, 8% other, and 15% reported no religious affiliation. All therapists attended a 90-min weekly case seminar throughout their participation in the study. They also received 1-hr weekly individual supervision for their first case, and continued in individual supervision if they were unlicensed. In preliminary analyses (Muran et al., 2005), it was determined that there was a statistically significant difference among the treatment conditions with respect to training degrees, but this had no significant relation to treatment outcome, including dropout status; in addition, there was no statistically significant therapist effect on outcome (see Muran et al., 2005 for details regarding case assignments by therapist for each treatment condition). The therapists selected which treatment condition they would participate in; their choices were generally consistent with their own preexisting orientations.

The 128 patients were admitted into this study during an 8-year period from 1992 to 2000 and did not include 18 patients (13 in the short-term dynamic therapy and 5 in the CBT from an original overall sample of 146) who were determined to be at risk for treatment failure based on postsession ratings completed by patients and therapists on a number of dimensions, and were offered the opportunity to be reassigned to another treatment condition as part of another study (Safran, Muran, Samstag, & Winston, 2005). Of the 128 patients in this study, 84 completed the treatment protocol and 44 did not, terminating prematurely.

Treatment Models and Training Procedure

The three treatment models were manualized and designed to treat personality disordered patients in a fixed 30-session, one-session-per-week format. All sessions were videotaped and conducted at an outpatient mental clinic in a general hospital setting. Fifty-six (44%) of the 128 cases were randomly sampled to evaluate treatment adherence (i.e., the extent to which the therapists conducted the treatments according to the respective manuals); adequate adherence was established (see Muran et al., 2005, for details). Brief summaries of the models are provided below (see Safran et al., 2005, for elaboration). Previously reported findings generally indicated that the three treatments were equally effective, but there was a significant difference regarding dropout rates, favoring Brief Relational Therapy (Muran et al., 2005).

Short-term dynamic psychotherapy. Short-Term Dynamic Psychotherapy (STDP: Pollack, Flegenheimer, Kaufman, & Sadow, 1992; also referred to as Brief Adaptive Psychotherapy) is a time-limited dynamic model similar in many respects to the approaches of Strupp and Binder (1984) and Luborsky (1984). The general approach to the technique is one in which therapists help patients gain insight into maladaptive transactional patterns or core conflictual relationship themes through interpretation. The treatment process begins with the establishment of a case formulation and identification of a major maladaptive pattern that the therapist and patient contract to make the focus of treatment. The balance of treatment is marked by interpretation of patient transference material, exploring the details of the pattern, and making links to both in-session and extrasession material. The treatment goal is the resolution of the conflict inherent in the pattern.

CBT. The CBT treatment employed in this study (Turner & Muran, 1992) is a schema-focused model, in that personality and behavior is understood as being organized by underlying belief systems about the self that have become "structuralized." The general technical principle involves constructing differential learning experiences that challenge the content of maladaptive schemas. Like STDP, the treatment process begins with establishing a case formulation, which includes defining a problem list and clarifying core belief systems (Persons, 1989). The course of treatment then involves the application of various cognitive and behavioral tasks, including those assigned as homework, to challenge and correct the patient's irrational or dysfunctional beliefs. The therapeutic relationship is founded on the principle of "collaborative empiricism" (Beck, Rush, Shaw, & Emery, 1979), whereby the patient and therapist collaborate to test the validity and viability of the patient's beliefs.

Brief relational therapy. Brief relational therapy (BRT: Muran & Safran, 2002; Safran & Muran, 2000; Safran, 2002) is a model that integrates principles emerging out of contemporary relational developments of psychoanalysis (see Mitchell & Aron, 1999) with findings derived from our research on rupture resolution (Safran & Muran, 1996). A central assumption in BRT is that therapists can never stand completely outside

of the interpersonal field and look at the patient objectively, and that to various degrees they unwittingly participate in vicious interpersonal cycles with their patients. A key technical principle is therapeutic metacommunication, which is an attempt to disembed from these cycles by communicating about the communication process (Kiesler, 1996). In contrast to the other two treatment models, BRT places greater emphasis on exploring interpersonal process and eschews establishing a case formulation early in treatment. It is oriented toward cultivating awareness of the self in relation to the other, rather than resolving a central conflict or correcting an irrational belief. Its primary task is to track alliance ruptures as markers of vicious cycles and to engage the patient in a collaborative inquiry about these cycles. BRT is essentially based on a social constructionist model of the therapeutic relationship, whereby ruptures and their resolution are understood as coparticipatory processes involving both patient and therapist.

Measures and Assessment Procedure

Patients and therapists were asked to complete various measures in the research program that can be considered indices of treatment process and outcome (see Muran, 2002; Muran et al., 2005). Some of these measures are described below because of their relevance for this study.

Treatment process. After every session, patients and therapists were asked to complete parallel forms of a postsession questionnaire (PSQ: Muran, Safran, Samstag, & Winston, 1992), which consists of several measures assessing session impact and the therapeutic alliance. Patients were assured that their therapists would not have access to their responses to the PSQ. They were also provided with identification numbers, a private area to complete the measure, and a deposit system of locked mailboxes for completed questionnaires in order to ensure the confidentiality of their reports and to increase the probability of accurate reporting. PSQ data collected from the first six sessions were used in this study as evidence of early psychotherapy process. Completion rates for the PSQ across the first six therapy sessions ranged from 70–86% for patients and 74–92% for therapists.

The PSQ includes two measures that have been widely used in psychotherapy research and have demonstrated sound psychometric properties, including internal consistency and predictive validity with regard to a variety of overall outcome indices. One is the 12-item version of the *Working Alliance Inventory* (WAI: Tracey & Kokotovic, 1989), from which an overall mean score can be calculated. The other is the 12-item *Session Evaluation Questionnaire* (SEQ: Stiles, 1980), which is scaled according to a semantic differential and yields two subscales regarding session smoothness and session depth of exploration. The overall mean of the WAI, and the SEQ smoothness and depth subscales (SEQ/S and SEQ/D), were used as standard measures of psychotherapy process in this study. These measures were averaged across the six sessions.

The PSQ has other measures that have more limited psychometric support. These include three direct questions regarding ruptures and their resolution, all scaled in a five-point Likert-type format, plus an open-ended description: *Did you experience any tension or problem, any misunderstanding, conflict or disagreement, in your relationship with your* _____ [therapist/patient] during the session (Rupture Presence)*? If yes, please rate how tense or upset you felt about the problem during the session* (Rupture Intensity)*? Please describe the problem* (Rupture Description). *To what degree do you feel this problem was resolved by the end of the session* (Rupture Resolution)*?*

The following Rupture Descriptions, provided by patients in this sample, illustrate the range of problems that patients reported as ruptures:

"Toward the end of the session, when I seemed to run out of things to say, there were periods of silence, and I began to feel intimidated because of the silence. I also felt judged because she just stared at me and didn't say anything." (STDP)

"When I was asked about what it would take for me to feel comfortable with her and I said that it would depend on if she liked me. I felt vulnerable." (BRT)

"I felt she was preaching to me and not letting me discover things myself. I needed time to absorb new ideas." (CBT)

In this study, Rupture Presence (RPP) was examined as part of preliminary analyses to describe our data set. Patients' Likert scale ratings of RPP were reduced to two categories: no rupture (ratings of 1 on the Likert scale) or rupture (ratings of 2 through 5). Rupture Intensity (RPI) was averaged across the six sessions, (zero was recorded if no rupture was reported). Patient-

rated RPP in our dataset was significantly related to RPI, $r(124) = .84$, $p < .001$; and therapist-rated RPP was significantly related to RPI, $r(128) = .55$, $p < .001$. In order to limit the experiment-wise error rate, we used these large and significant correlations to justify focusing exclusively on RPI as the rupture index in our main analyses. Rupture Resolution (RES) was also examined as a predictor variable. For each case, patient-rated RES was summed across the six sessions and then divided by the number of sessions in which the patient reported a rupture.

Treatment outcome. Treatment outcome was assessed on multiple dimensions, including measures of subjective distress or symptomatology, level of adaptive functioning, and interpersonal or personality style, which is consistent with recommendations regarding the assessment of change in personality disorders (Shea, 1997). Patients completed a battery of measures that tapped these dimensions at different intervals during the treatment, including intake and termination. Therapists also completed a number of outcome measures after the third session of treatment (in order to establish intake levels of patient functioning) and then again at termination. Completion rates, for patient-rated and therapist-rated outcome measures were 86% and 95%, respectively, in this study. These outcome measures included the following:

The *Symptom Checklist-90 Revised* (SCL-90R: Derogatis, 1983) is a patient-rated self-report inventory developed to assess general psychiatric symptomatology. It consists of 90-items scaled in a Likert-type format on degree of severity. Normative data and adequate psychometric properties have been reported. In this study, the Global Severity Index (GSI), which is an overall mean score, was used.

The *Target Complaints* (TC: Battle et al., 1966) measure is an idiographic instrument developed to assess patients' presenting problems. Space is provided for three problems per patient, and each problem is rated on a Likert-type scale in terms of degree of severity. Patients identify the problems, and then both patients and therapists independently rate problem severity. In this study, patients' ratings of the three problems were averaged for an overall patient target complaint (PTC) index, and therapists' ratings were averaged for an overall therapist target complaint (TTC) index.

The *Global Assessment Scale* (GAS: Endicott, Spitzer, Fleiss, & Cohen, 1976) is a clinician-rated scale for evaluating the overall mental health of a patient. It involves a single rating on a continuum ranging from 1, which represents the hypothetically sickest individual, to 100, the hypothetically healthiest. All therapists were trained to reliable standards (i.e., intraclass correlation $\geq .90$).

The *Inventory of Interpersonal Problems* (IIP: Horowitz, Alden, Wiggins, & Pincus, 2000) is an inventory developed to assess patient social adjustment and interpersonal difficulties. A short-form to be rated by the patient was developed from factor analytic procedures. It consists of 64 items scaled in a Likert-type format on degree of distress. Normative data and adequate psychometric properties have been reported. In this study, the overall mean score was used to determine outcome.

The *Wisconsin Personality Inventory* (WISPI: Klein et al., 1993) is a 214-item self-report questionnaire scaled in a Likert-type format and derived from an interpersonal perspective on the *DSM-IIIR* model of PDs. It includes 11 PD subscales. Some normative data and adequate psychometric properties have been reported. In this study, the overall mean score was used to determine outcome.

In order to reduce the number of statistical tests and experiment-wise error rate, as well as to limit the impact of shared method variance by combining patient- and therapist-report, these outcome measures were submitted to a data reduction procedure that began by calculating standardized residual gain scores for each measure based on intake and termination reports and then conducting a principal components analysis with varimax rotation. We extracted two factors with eigenvalues exceeding 1.00 and with a substantial percentage of the variance accounted for: one factor that can be interpreted as measuring Axis I (symptomatology), the other as Axis II (interpersonal functioning) of *DSM–IV*. We then calculated outcome composites for each interval by averaging the standardized residual gain scores of the measures that loaded $\geq .45$ on the respective factors and by applying the yielded factor scores as weights. As reported in Muran et al. (2005), no statistically significant differences between the treatment conditions were found on these two outcome factors.

In addition to determining outcome based on the measures described above, treatment outcome was also measured by treatment completion (i.e.,

completion of all 30 sessions of the treatment protocol). In this regard, cases were categorized as completed or dropped out; dropouts were not included in the analyses of outcome measures. Dropout status was defined as termination before the contracted 30 sessions and unilaterally determined by the patient; premature termination resulting from a change in location of residence was not considered dropout, and cases that terminated for this reason were not included in this sample of 128 (see Samstag et al., 1998; Wierzbicki & Pekarik, 1993, for rationale regarding definitional parameters). As reported in Muran et al. (2005), a statistically significant difference was found among the three treatment conditions with regard to dropout: 46% of the patients (19 of 41) dropped from STDP, 37% (17/46) from CBT, and 20% (8/41) from BRT. Post hoc analyses indicated that the significant difference was between STDP and BRT; the difference between CBT and BRT only approached statistical significance ($p < .10$).

Results

Preliminary Analyses

A number of preliminary analyses were conducted to describe our data set and establish its consistency with previous research efforts that have focused on comparable variables.

Table 1 presents the frequencies and percentages of patient- and therapist-reported RPPs for the three treatment conditions during each of the first six sessions. A series of multilevel logistic regression analyses were performed in order to assess effects due to sessions (within-dyad factor), patient- versus therapist-report (within-dyad factor), and treatment condition (between-dyad factor).[1] An initial model using all three factors indicated no session effect: that is, there were no statistically significant session-to-session differences in rupture frequencies across the first six sessions. Therefore, a simpler model analyzing patient- versus therapist-report and treatment condition was conducted. The results indicated statistically significant effects for both factors. Therapists were significantly more likely to report ruptures than were their patients (Wald $\chi^2[1] = 15.39$, $p < .001$). There was also a statistically significant difference among the treatment conditions (Wald $\chi^2[2] = 8.19$, $p < .05$). Post hoc analyses using a Bonferroni correction indicated that the CBT condition had fewer rupture reports than did BRT and STDP, with no significant difference between BRT and STDP. Finally, there was a significant interaction between reporter and treatment condition in which the effect of the treatment on ruptures reported was significantly stronger for therapists than for patients (Wald $\chi^2[2] = 6.32$, $p < .05$).

Means and standard deviations for the process variables used in this study are presented in Table 2. Statistically significant differences were found among the treatment conditions for several of these variables. Post hoc Scheffé tests indicated that patients reported lower RPI in CBT than STDP, which replicates in part what was found with rupture frequency. This was the only patient-rated process variable that was significantly different by treatment—although the patient-rated alliance as measured by the WAI approached significance ($p = .084$). Therapists also reported significantly lower rupture intensity in CBT than in STDP and BRT. Significant differences were found among the treatment conditions on therapist-rated RES, WAI, SEQ/S, and SEQ/D, with post hoc tests indicating that the CBT therapists reported more rupture resolution, better working alliance, more session smoothness, and greater depth of exploration than their counterparts in the other conditions.

Table 3 presents Pearson product–moment correlation coefficients of patient- by therapist-ratings of all the psychotherapy process measures administered in this study. A large, significant correlation was found with the WAI, and a significant but modest correlation was found with the SEQ/D. These findings indicate that early in the treatment process, patients and therapists could agree on the quality of their alliance and the depth of exploration in their work together. It is interesting to note that patients and therapists were generally not consistent in their perspectives on rupture intensity and resolution, with small to medium correlations, only one of which—the correlation of ratings of rupture intensity—reached statistical significance.

[1] In order to analyze these data, the investigators employed the logistic regression program in STATA, Version 9 (StataCorp, 2007, *http://www.stata.com*) using a clustering option and robust standard errors to control for the non-independence of observations within dyads. Dummy variables for each of the factors and their interactions were constructed through the use of the STATA supplementary program DESMAT.

TABLE 1. Frequency and Percentage of Patient- and Therapist-Reported Ruptures by Treatment Condition and Treatment Session ($N = 128$)

	Patient rated				Therapist rated			
Session	STDP	CBT	BRT	Total	STDP	CBT	BRT	Total
1	10/34 (29%)	13/44 (30%)	13/34 (38%)	36/110 (33%)	30/34 (88%)	15/44 (34%)	22/40 (50%)	67/118 (57%)
2	18/32 (56%)	8/38 (21%)	14/35 (40%)	40/105 (38%)	29/32 (91%)	8/41 (20%)	28/40 (70%)	65/113 (56%)
3	12/31 (39%)	10/38 (26%)	12/29 (41%)	34/98 (35%)	26/28 (93%)	9/41 (22%)	23/37 (62%)	58/106 (55%)
4	17/29 (59%)	8/30 (27%)	14/32 (44%)	49/91 (54%)	23/26 (88%)	12/38 (32%)	21/33 (64%)	56/97 (58%)
5	11/27 (41%)	11/33 (33%)	10/29 (34%)	32/89 (36%)	23/27 (85%)	13/38 (34%)	17/32 (53%)	53/97 (55%)
6	13/29 (45%)	4/32 (13%)	9/29 (31%)	26/90 (29%)	21/24 (88%)	7/40 (18%)	21/31 (68%)	49/95 (52%)
Mean	14/30 (47%)	9/36 (25%)	12/31 (39%)	36/97 (37%)	25/29 (86%)	11/40 (28%)	22/36 (61%)	58/104 (56%)

Note. The table includes in each column the number of rupture events reported/number of postsession questionnaires submitted. BRT = brief relational therapy; CBT = cognitive behavioral therapy; STDP = short-term dynamic psychotherapy.

Pearson correlations between the standard psychotherapy process measures (WAI, SEQ/S, and SEQ/D) and treatment outcome indices are presented in Table 4. Generally, the results provide support for the predictive validity of the standard process measures, consistent with the literature (e.g., Horvath & Greenberg, 1989; Stiles, 1980). More specifically, they indicate that the patient- and therapist-rated versions of these measures were especially predictive of change in symptomatology (i.e., Factor 1), and that patient- and therapist-rated WAI were the most predictive measures, significantly related to both change on Factor 1 and dropout (dropout status was treated as a continuous variable, ranging from 1 to 2). These results support the use of the WAI and the SEQ as measures of suboutcome in our main analyses of the RPI and RES.

TABLE 2. Means, Standard Deviations, and Results From Tests of Between-Condition Differences on the Psychotherapy Process Variables

	Treatment condition			Total			
Process variables	STDP ($n = 41$), *M* (*SD*)	CBT ($n = 46$), *M* (*SD*)	BRT ($n = 41$), *M* (*SD*)	($N = 128$), *M* (*SD*)	*F* value (*df*)	Alpha level	Post hoc Scheffé test
Patient rated							
RPI	1.31 (.89)	.65 (.85)	1.12 (1.11)	1.01 (.98)	5.47 (2, 121)	.005***	STDP > CBT**
RES	3.03 (1.10)	3.02 (1.26)	3.25 (.93)	3.11 (1.07)	.36 (2, 64)	ns	
WAI	4.74 (.90)	5.11 (.81)	4.79 (.74)	4.90 (.82)	2.53 (2, 114)	.084*	
SEQ/S	4.22 (.84)	4.57 (.92)	4.32 (.75)	4.38 (.85)	1.95 (2, 120)	ns	
SEQ/D	5.00 (.57)	4.88 (.83)	4.93 (.69)	4.93 (.71)	.32 (2, 120)	ns	
Therapist rated							
RPI	2.81 (.82)	1.83 (1.50)	2.52 (1.07)	2.37 (1.24)	8.05 (2, 125)	.001****	STDP < CBT > BRT**
RES	2.52 (.90)	3.41 (1.02)	2.54 (.93)	2.76 (.97)	9.30 (2, 95)	.001****	STDP < CBT > BRT**
WAI	4.41 (1.01)	4.86 (.53)	4.32 (.66)	4.50 (.77)	6.88 (2, 118)	.001****	STDP < CBT > BRT**
SEQ/S	4.17 (.55)	4.52 (.68)	4.01 (.65)	4.25 (.66)	7.27 (2, 124)	.001****	STDP < CBT > BRT**
SEQ/D	4.51 (.51)	4.92 (.65)	4.60 (.46)	4.69 (.57)	6.83 (2, 124)	.001****	STDP < CBT > BRT**

Note. Factor 1 (Symptomatology) and Factor 2 (Interpersonal Functioning) reflect composite residual gain scores with positive sign indicating positive direction for outcome. BRT = brief relational therapy; CBT = cognitive behavioral therapy; RES = rupture resolution; RPI = rupture intensity; SEQ/D = Session Evaluation Questionnaire–Depth of Exploration Subscale; SEQ/S = Session Evaluation Questionnaire–Smoothness Subscale; STDP = short-term dynamic psychotherapy; WAI = Working Alliance Inventory (Overall Mean); ns = not significant.
* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

TABLE 3. Pearson Correlations of Patient by Therapist Ratings of Psychotherapy Process Measures ($N = 128$)

	Therapist rated				
Patient rated	RPI	RES	WAI	SEQ/S	SEQ/D
RPI	.36**				
RES		.15			
WAI			.57**		
SEQ/S				.10	
SEQ/D					.25**

Note. RES = rupture resolution; RPI = rupture intensity; SEQ/D = Session Evaluation Questionnaire–Depth of Exploration Subscale; SEQ/S = Session Evaluation Questionnaire–Smoothness Subscale; WAI = Working Alliance Inventory.
* $p < .05$. ** $p < .01$.

Main Analyses

As described above, our main analyses concerned examining the relationships between our measures of RPI and RES and standard measures of psychotherapy process and outcome.

Pearson correlations of RPI and RES to the standard psychotherapy process measures, the WAI and SEQ, are presented in Table 5. The results indicate statistically significant negative correlations between patient-rated RPI and patient-rated WAI and SEQ/S, likewise between therapist-rated RPI and therapist-rated WAI and SEQ/S, such that lower RPI was correlated with higher ratings of the alliance and of session smoothness. Significant positive correlations were found between patient-rated RES and patient-rated WAI and SEQ/D, as well as between therapist-rated RES and therapist-rated WAI and SEQ/D, such that greater rupture resolution was correlated with higher ratings of the alliance and of session depth. It should be noted that in these instances, there was the possibility that shared method variance might have inflated the correlations. However, there were also significant negative correlations between patient-rated RPI and therapist-rated WAI, SEQ/S and SEQ/D, as well as between therapist-rated RPI and patient-rated WAI and SEQ/S. Similarly, there were statistically significant positive correlations between patient-rated RES and therapist-rated SEQ/Depth, and between therapist-rated RES and patient-rated WAI—analyses in which there was no shared method variance. A significant negative correlation was found between therapist-rated RES and therapist-rated SEQ/S; however, this finding is qualified by a significant interaction effect of treatment condition, discussed in the additional analyses presented below.

Table 5 also presents Pearson correlations of RPI and RES to the outcome measures. The results indicate that patient-rated RPI significantly predicted outcome as measured on Factor 2 —such that the greater the intensity of ruptures, the poorer the outcome with regard to interpersonal functioning. Therapist-rated RPI also significantly predicted this outcome variable. Patient- and therapist-rated RES significantly predicted dropout: the more rupture resolution,

TABLE 4. Pearson Correlations for Psychotherapy Process (Standard Measures Only) by Treatment Outcome

	Psychotherapy process					
	Patient rated			Therapist rated		
Treatment outcome	WAI	SEQ/S	SEQ/D	WAI	SEQ/S	SEQ/D
Factor 1 ($n = 84$)	.45***	.30**	.54***	.38***	.30**	.21*
Factor 2 ($n = 84$)	.20	.37**	.18	.13	.09	.07
Dropout ($N = 128$)	−.30***	−.04	−.15	−.27***	−.06	−.14

Note. Outcome was established such that the great the change coefficient the better the outcome. Factor 1 = change in symptomatology; Factor 2 = change in interpersonal functioning. SEQ/D = Session Evaluation Questionnaire–Depth of Exploration Subscale; SEQ/S = Session Evaluation Questionnaire–Smoothness Subscale; WAI = Working Alliance Inventory (Overall Mean).
* $p < .10$. ** $p < .05$. *** $p < .01$.

TABLE 5. Pearson Correlations for Rupture Intensity and Resolution by Standard Measures of Psychotherapy Process and Treatment Outcome ($N = 128$)

	Psychotherapy process						Treatment outcome		
	Patient rated			Therapist rated					
Variable	WAI	SEQ/S	SEQ/D	WAI	SEQ/S	SEQ/D	Factor 1	Factor 2	Dropout
RPI									
Patient rated	**−.32****	**−.40****	**−.11**	**−.21***	**−.31****	**−.22***	**−.15**	**−.35****	**.07**
STDP			−.18				−.34		.06
CBT			−.38**				−.49*		.05
BRT			−.09				.00		.24
Therapist rated	**−.34****	**−.18***	**−.08**	**−.38***	**−.39****	**−.15**	**−.08**	**−.32****	**.05**
RES									
Patient rated	**.48****	**−.12**	**.39****	**.08**	**−.01**	**.26***	**.10**	**.13**	**−.29***
Therapist rated	**.22***	**−.03**	**.05**	**.45****	**−.36****	**.42****	**.17**	**.07**	**−.22***
STDP					−.06		.23	.02	−.28
CBT					.61**		.43	.38	−.34
BRT					.39*		.19	.10	−.16

Note. Factor 1 (Symptomatology) and Factor 2 (Interpersonal Functioning) reflect composite residual gain scores, with positive sign indicating positive direction for outcome. BRT = brief relational therapy; CBT = cognitive behavioral therapy; RES = rupture resolution; RPI = rupture intensity; SEQ/S = Session Evaluation Questionnaire–Smoothness Subscale; STDP = Short-Term Dynamic Psychotherapy; SEQ/D = Session Evaluation Questionnaire–Depth of Exploration Subscale; WAI = Working Alliance Inventory (Overall Mean). Correlation coefficients in bold are from main analyses.
$^{*}p < .05$. $^{**}p < .01$.

the better the treatment retention. As noted above, dropout status was treated as a continuous variable, ranging from 1 to 2.

Additional analyses. Because we found differences by treatment condition on some of our process measures, we conducted additional analyses to examine the relationships between the direct rupture and resolution indices and standard measures of process and outcome with treatment condition as a moderator. Specifically, we conducted a moderated multiple regression in which the regression model predicts the dependent variable from the independent variables and yields results regarding moderator effect (i.e., the interaction effect of treatment condition and predictor or independent variable). A logistic regression analysis was conducted in a similar fashion when dropout status was used as the dependent variable. A statistically significant interaction effect was found between patient-rated RPI and treatment condition on patient-rated SEQ/D, $F(2, 117) = 3.99$, $p < .05$, on outcome on Factor 1, $F(2, 56) = 4.97$, $p < .05$; and on dropout status, *Wald* $\chi^2[2] = 6.16$, $p < .05$. To further explore these interactions, Pearson correlations between patient RPI and SEQ/D, Factor 1, and dropout status were conducted separately for each treatment condition. Significant negative correlations between RPI and SEQ/D and between RPI and Factor 1 were found in the CBT condition, such that for patients in CBT, lower rupture intensity was associated with greater session depth and more symptom reduction. Correlations for patients in the other treatment conditions were not significant.

A significant interaction effect was also found between therapist-rated RES and treatment condition on therapist-rated SEQ/S, $F(2, 91) = 3.97$, $p < .05$, outcome on Factor 1, $F(2, 43) = 3.76$, $p < .05$, outcome on Factor 2, $F(2, 49) = 4.20$, $p < .05$, and dropout status, $\chi^2(2) = 4.96$, $p < .05$. Follow-up Pearson correlations within each treatment condition found significant positive associations between therapist-rated RES and therapist-rated SEQ/S for patients in CBT and BRT. That is, for patients in CBT and BRT, higher ratings of resolution by the therapist were correlated with greater session smoothness per the therapist. No other correlations were significant.

Discussion

The results of this study demonstrated that the direct measures of rupture intensity and resolution were significantly related to standard measures of psychotherapy process and outcome.

Specifically, results indicated that lower rupture intensity and higher rupture resolution were associated with better ratings of the alliance and session quality. In addition, lower rupture intensity predicted good outcome on measures of interpersonal functioning, while higher rupture resolution predicted better treatment retention.

It bears noting at the outset that this study had a correlational design, and thus did not prove that ruptures cause poor process and poor outcome, or that resolution processes cause improvements in the alliance and prevent dropout. It is possible that a third variable is responsible for the observed relations: for example, one might expect that patients with more severe personality pathology would report more ruptures and fewer resolutions than higher functioning patients, particularly in the first few sessions of treatment; personality pathology could also contribute to weak alliances and poor treatment outcome, independent of the frequency or intensity of ruptures and resolution processes. Future research could explore ways to address this issue; for example, by conducting close analyses of the relation of ruptures and resolution processes to alliance ratings and intermediate outcome scores within subjects, so that most patient and therapist variables are held constant.

The differences found in this study between patient and therapist perspectives, especially the modest correlation on reports of rupture intensity and low correlation on reports of rupture resolution, underscore that patients and therapists have somewhat separate views of the therapy relationship. The finding that patients reported fewer ruptures than therapists is consistent with research on session impact (e.g., Stiles & Snow, 1984) and studies of ratings of the alliance (e.g., Fitzpatrick, Iwakabe, & Stalikas, 2005; Hatcher, Barends, Hansell & Gutfreund, 1995; Kivlighan & Shaughnessy, 1995; Mallinckrodt & Nelson, 1991), which generally find that patients' reports are more positive than those of therapists. Horvath (2000) has observed that differences between therapists' and patients' perspectives of the therapeutic relationship may stem from the fact that therapists view the relationship through a "theoretical lens": therapists compare the relationship to what they have been taught a good therapeutic relationship looks like, whereas clients compare the relationship to their prior real-world experiences. This difference in perspective could be responsible for the more favorable ratings patients generally provide: for the therapist, a relationship with a patient will usually fall short of a theoretical ideal, whereas for many patients, especially those with personality disorders, a relationship with a therapist will compare favorably to their prior interpersonal experiences.

The possibility that therapists' views were shaped by their theoretical lenses is particularly relevant in a treatment comparison study. Therapists and patients in the CBT condition reported fewer ruptures than the other conditions, which suggests that fewer ruptures occurred in CBT relative to STDP and BRT. However, the interpretation of this finding is qualified by an interaction effect in which the effect of treatment condition was stronger for therapists than for patients, suggesting that therapists' theoretical lenses may have impacted their recognition of ruptures. Consistent with this possibility, whereas patient reports of rupture resolution, working alliance, and session smoothness and depth did not differ by treatment condition, there were significant differences between therapist reports from the three conditions, with CBT therapists providing the most positive reports.

The differences observed between the therapist reports from the three treatment conditions may be due to differences in the theoretical orientations of the therapists. Of course, we cannot assume that therapists in each condition were homogeneous with respect to how they understood and were influenced by the theoretical orientation of that treatment; however, given that therapists were allowed to choose their treatment condition and demonstrated adherence to the model they chose, it is reasonable to consider ways in which theoretical orientation may have impacted therapists' responses to alliance ruptures. It is also important to note that the therapists in this study were relatively inexperienced. Novice therapists may be particularly apt to adhere closely to the theoretical model in which they are being trained, in contrast to more experienced therapists, who have been found to become less orthodox and more integrative over time (Goldfried, 2001; Goldfried, Raue, & Castonguay, 1998).

How might differences in therapists' theoretical lenses lead CBT therapists to report fewer ruptures and provide more positive assessments of therapy process than BRT and STDP therapists? BRT therapists are trained to detect ruptures and to address them by communicating openly about what is transpiring between patient

and therapist. BRT therapists are also taught that ruptures are an inevitable part of therapy, and that they provide an important opportunity to better understand and address patients' maladaptive relational schemas. Given this perspective on ruptures, one would expect that BRT therapists would be particularly aware and tolerant of ruptures. Similarly, STDP therapists' training in the importance of transference interpretations may increase their attention to tensions or strains in the therapy relationship. Furthermore, for both BRT and STDP therapists, greater awareness of ruptures and a belief in the value of addressing them in the session could inadvertently lead to more ruptures: by drawing the patient's attention to tensions or problems in the patient-therapist interaction, therapists might increase the patient's (and the therapist's) anxiety and self-consciousness, which in turn could increase the likelihood of further misunderstandings or strains. In contrast, the emphasis in CBT on collaboration may lead CBT therapists to focus on areas of agreement rather than highlighting moments of tension or strain. As Messer and Winokur (1980) suggested, CBT therapists aim to establish a "facilitative emotional climate" and thereby "ensure that things run along smoothly" (pp. 820–821).

This study found a moderator effect for treatment condition, with lower patient-reported rupture intensity being associated with greater session depth and more symptom reduction in CBT, but not in BRT or STDP. This finding suggests that success in CBT was associated with a reduced intensity of ruptures. The lack of such a correlation in the other two treatments suggests that the relationship between rupture intensity and outcome was more complex, with some ruptures possibly contributing positively to treatment process and outcome. Analyses of rupture resolution also revealed a treatment effect: higher therapist ratings of resolution were associated with therapist report of greater session smoothness for patients in CBT and BRT. This might reflect the particular relief that therapists in these conditions likely experienced when ruptures were resolved—for CBT therapists, relief that obstacles were overcome, and for BRT therapists, relief that they had successfully navigated the central challenge of the treatment. When evaluating differences between the three conditions with respect to ruptures and resolution processes, it is important to bear in mind that outcome among the three treatments did not differ, with the exception of the attrition rate, where BRT was more successful than STDP at retaining patients in treatment. Thus, despite the finding of therapeutic equivalence, rupture intensity apparently had different implications for treatment process in CBT, as compared to the two psychoanalytically oriented treatments that placed greater emphasis on the importance of exploring the therapeutic relationship.

Although they demonstrated meaningful relationships to standard measures of process and outcome, a limitation of the rupture and resolution indices used in this study is the fact that they are single-item measures. Traditionally, psychometrists have discouraged the use of single-item measures, citing concerns that individual items usually correlate poorly with the construct in question and are unreliable (e.g., Nunnally & Bernstein, 1994). However, Wanous, Reichers, and Hudy (1997) argued that single-item measures can be appropriate for measuring psychological constructs of moderate complexity. Single-item measures are more efficient, have greater face validity, and place less of a burden on participants who may be annoyed by multiple-item measures that seem tedious and repetitious. Recent efforts to develop single-item measures have demonstrated that they can be psychometrically sound. For example, Robins, Hendin, and Trzesniewski (2001) demonstrated reliability and convergent validity for a single-item measure of self-esteem. Similarly, Zimmerman et al. (2006) found high reliability, and convergent and discriminant validity for single-item measures of symptom severity, psychosocial functioning, and quality of life for patients with depression.

Another limitation of the rupture and resolution indices is that they are self-report measures. Patients and therapists may be reluctant to recognize ruptures in some instances. Patients, particularly some Cluster C patients with dependent traits, may avoid or deny problems in the relationship because they threaten the patient's hopes that the therapist can help him or her. Therapists, who wish to be successful, and who might be particularly self-conscious about their performance because they are being videotaped for a research study, may also be tempted to overlook or deny certain problems in the therapeutic interaction. Even when patients and therapists do recognize that a rupture has occurred, they may be reluctant to report it. A pilot study in our research

program found that patient failure to complete the entire postsession questionnaire was a better predictor of dropout than patient scores on the WAI (Samstag et al., 1998). If patients who are dissatisfied with treatment, and perhaps experiencing ruptures, are less likely to complete postsession questionnaires, then our findings likely underestimate the frequency of ruptures. Patient reluctance to complete questionnaires is also another possible explanation of the finding that patients reported fewer ruptures than therapists, discussed above. Findings from studies using observer measures of ruptures suggest that relying on patient and therapist reports leads to an underestimation of the frequency of ruptures. Using transcripts of therapy sessions of five patients in psychodynamic therapy, Sommerfeld, Orbach, Zim, and Mikulincer (2008) found that 77% of sessions included at least one rupture marker. A preliminary analysis of an observer-based measure for coding ruptures based on videotapes of 30 therapy sessions drawn from a sample of 10 CBT cases found that every session contained at least one rupture marker (Eubanks-Carter, Muran, Safran, & Mitchell, 2008).

Additional potential limitations of this study include the exclusive focus on ruptures in early sessions as opposed to later in treatment. Future research should look at differences in the nature and predictive value of early and later ruptures. The decision to average the rupture and resolution indices across the six sessions, and the reduction of the outcome measures to two factors, reduced the complexity of the data and afforded some statistical advantages, but also could have resulted in findings that may be different from those derived from multilevel, multivariate procedures that eschew averaging as we did. In addition to employing statistical methods for nested designs, future research should also examine differences between our direct self-report measures and indirect measurement based on repeated postsession ratings of the therapeutic alliance (Stiles et al., 2004; Strauss et al., 2006). For example, in a preliminary analysis of the full 30-session protocols of 20 CBT cases (Muran, Safran, Gorman, Eubanks-Carter, & Banthin, 2008), our research group found that patients reported ruptures in 11.2% of the sessions and in 60% of the cases. By contrast, indirect measurement of ruptures, based on analysis of patients' alliance (WAI) ratings using control charting, identified ruptures in only 8.67% of the sessions, but in 100% of the cases. Closer examination of the differences between direct and indirect assessments will increase our understanding of when and how patients and therapists determine and report that a rupture has occurred, and the relationship between ruptures and patients' and therapists' perceptions of the alliance.

Although this study was embedded in an outpatient mental health clinic in a general hospital setting and focused on a comorbid patient population, the trappings of a psychotherapy research program, including the completion of questionnaires, videotaping, and supervision, may diminish the generalizability of our findings to more naturalistic settings. The fact that the treatment was time-limited introduces artificial constraints that limit ecological validity and may have also impacted the reporting of ruptures. For example, a 30-session protocol might seem brief for some patients (and therapists); a sense of limited time could lead to increased pressure on both members of the dyad to solve the patient's problems, which could contribute to more ruptures. Conversely, knowledge that the treatment will end at session 30 might lead some patients and therapists to avoid challenging issues that seem too complex to deal with adequately in a short time; this could contribute to more efforts to avoid, minimize, or deny problems in the alliance.

Other factors that may limit generalizability include the lack of racial and ethnic diversity among patients and therapists and the focus on Cluster C and Personality Disorder NOS diagnoses, although these are the most prevalent of the personality disorder classifications (Mattia & Zimmerman, 2001). Additional limitations include our modest sample size and sporadic missing data that limited the power necessary to test interactions and to assess the strength of effects within each treatment condition. Finally, the findings should be interpreted in light of the fact that 18 of the most difficult patients were screened out of the CBT and STDP conditions for another study (Safran et al., 2005).

By linking ruptures and resolution processes to process and outcome in three different time-limited treatments for personality disorders, this study demonstrated the relevance and importance of ruptures across different theoretical orientations. This study also highlighted the challenges of identifying ruptures, given differences between patient, therapist, and observer perspectives, and potential differences in the role of

ruptures across various psychotherapy treatments. Alliance ruptures in the first few sessions of treatment are complex phenomena: they can serve as early warning indicators of problems in the therapeutic relationship, but they can also provide opportunities for the employment of resolution processes that may help to strengthen the alliance and retain challenging patients in treatment. Identifying and disseminating effective rupture resolution strategies is an important next step for improving the effectiveness of psychotherapy.

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Correction to Barrett et al (2008)

In the article "Early withdrawal from mental health treatment: Implications for psychotherapy practice" by Barrett, M. S., Chua, W., Crits-Christoph, P., Gibbons, M.B., & Thompson, D. (Psychotherapy: Theory, Research, Practice, Training, 2008, Vol. 45, No. 2, pp. 247–267) the fourth author's name was mistakenly left out of the author byline and table of contents. The correct author listing for this article should be as follows:

Barrett, M. S., Chua, W., Crits-Christoph, P., Gibbons, M.B., D. Casiano, & Thompson, D.

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