Relationships between Techniques and Outcomes for Borderline Personality Disorder

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Although a number of psychotherapeutic modalities for borderline personality disorder (BPD) have empirical support, it is unclear what aspects of treatment are responsible for improvement. The present study analyzes the relationships between different techniques and outcomes in a randomized controlled trial of dynamic deconstructive psychotherapy (DDP) for comorbid BPD and alcohol-use disorders. Video recordings of psychotherapy sessions at 3-month intervals were rated to measure therapeutic alliance and the relative frequencies of specific treatment interventions. Outcomes included measures of borderline symptoms, depression, dissociation, social support, alcohol misuse, parasuicide, and institutional care. Discrete sets of techniques were associated with reliable changes in specific outcomes, indicating that treatments for BPD should be tailored to the specific constellation of symptoms presenting in a given individual. The study findings suggest that treatments with a specified set of techniques, such as DDP, dialectical behavior therapy, mentalization-based treatment, schema therapy, supportive therapies, and transference-focused psychotherapy, may be helpful for different individuals, depending on their particular set of symptoms.

KEYWORDS: borderline personality disorder; psychodynamic; techniques; process; outcome

RELATIONSHIPS BETWEEN TECHNIQUES AND OUTCOMES FOR BORDERLINE PERSONALITY DISORDER

The "horse race" approach to psychotherapy process and outcome research, in which complete treatment packages are compared to determine which treatment is the more efficacious, has drawn considerable criticism

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from many (e.g., Wampold, 2001). Some have suggested that by instead linking specific therapeutic processes or techniques with improvements in client functioning, one might better understand what is efficacious about a given therapy for a given client (e.g., Lambert & Ogles, 2004; Westen, Novotny, & Thompson-Brenner, 2004).

Although there are several psychotherapy modalities for BPD that are supported empirically, the treatment techniques employed overlap considerably. Dynamic Deconstructive Psychotherapy ([DDP] Gregory & Remen, 2008) is advantageous as a treatment method for studying process variables because it employs a broad range of techniques organized into four discrete sets of interventions (*association, attribution, ideal other, and alterity-real other)* and can be assessed with a reliable and valid adherence measure. Emerging research supports the efficacy of DDP for BPD (Gregory et al., 2008; Gregory, Delucia-Deranja, & Mogle, 2010), and client improvements in DDP can be attributed largely to treatment-specific processes (Goldman & Gregory, 2009). We undertook the present study to clarify which components of treatment might account for specific aspects of client change.

Dynamic Deconstructive Psychotherapy is a manual-based, individual psychotherapy approach for treating clients diagnosed with borderline personality disorder (BPD) who are particularly resistant to treatment, such as those with co-occurring substance use disorders (the complete treatment manual can be viewed at www.upstate.edu/ddp). The DDP model posits that people with BPD lack three specific neurocognitive capacities needed for adaptive processing of emotional experiences. The first, *association*, is the capacity to identify, acknowledge, and sequence emotional experiences. Clients with BPD experience difficulties identifying and differentiating emotions (Levine, Marziali, & Hood, 1997), which severely limits their ability to label these emotional experiences (Ebner-Priemer et al., 2007). Clients with BPD often experience difficulties linking together emotional experiences in a temporal sequence to form simple narratives (Levy et al., 2006; Westen, Nakash, Cannon, & Bradley, 2006). Dynamic Deconstructive Psychotherapy attempts to remediate these deficits by fostering verbalization of recent interpersonal encounters in organized narratives. A complete narrative can be described as having three components: a wish or intention, a response from the other or "RO", and a response from the self or "RS" (Luborsky & Crits-Christoph, 1998). Thus, DDP therapists often work to remediate *association* deficits by encouraging clients to identify and label emotions and to identify the wish, RO, and RS in specific interpersonal encounters.

The second neurocognitive capacity that is hypothesized to be compromised in BPD is *attribution*, or the ability to view oneself and others as having ambiguous, multifaceted, and/or complex motivations and emotions. Clients with BPD are often noted for a need for certainty and an intolerance of ambiguity (Bateman, 1996; Shapiro, 1992). One common clinical manifestation of *attribution* deficits in BPD is the splitting defense: black-and-white categories eliminate ambiguity and create an artificial sense of certainty for the BPD client. DDP therapists listen for evidence of poorly integrated attributions and remediate these with comments or questions that bring split-off or disavowed attributions into consciousness.

The third major neurocognitive deficit in the DDP model is a lack of *alterity*, or the ability to reflect on oneself and others from an outside or "objective" perspective. *Alterity* deficits can lead a client with BPD to make false assumptions about others' motivations and intentions, which are based on the client's idealized and devalued attributions (King-Casas et al., 2008). The DDP therapist first establishes him-/her-self as an *ideal other* providing an empathic mirror for the client's experiences and containing the client's affects. Gradually, however, the therapist fosters the client's recognition of the therapist as a *real other,* from whom the client can begin to differentiate, who can provide a frame of reference beyond the client's projections and a novel interpersonal experience that challenges the client's pathological expectations.

Based on the above propositions about client deficits and the techniques that are designed to remediate them, one can hypothesize particular changes in client functioning that might result from these interventions. For example, one might imagine that regular use of *attribution* interventions would result in decreased use of splitting, less mood lability, and acceptance of imperfections in self and others, while regular use of *alterity* interventions would result in more realistic appraisals of important people in the client's life. One might further anticipate that such changes could correspond to measurable outcomes, such as improved social functioning, self-assertiveness, and decreased impulsivity. This was the task of the present study: to determine which symptom and functional improvements were related to specific treatment components.

METHOD

Participants

The present sample ($N=10$) includes clients who completed 12 months of treatment in a previously published randomized controlled

trial of DDP for co-occurring BPD and alcohol-use disorders (Gregory et al., 2008). More than 100 clients were assessed for eligibility, 30 were selected and randomized, and the 10 included in the present analyses were those who continued in the DDP treatment condition to completion (Gregory et al., 2008). All participants met criteria for BPD as well as a comorbid alcohol-use disorder (abuse or dependence) based on the Structured Clinical Interview for DSM–IV Axis I (First, Spitzer, Gibbon, & Williams, 2002) and Axis II Disorders (First, Gibbon, Spitzer, Williams, & Smith, 1997). Participants were predominantly female (90%), never married (70%), with a mean age of 27.40 years (SD=6.85). The mean years of education was 13.50 (SD=3.06).

The second author (an expert therapist and the author of the DDP manual) and four psychiatry residents in their third year of training provided the treatment. Each therapist treated between one and three clients, with three clients being seen by the expert therapist and seven by the trainees. After achieving competency, treatment integrity for resident therapists was assured through weekly group supervision and biweekly individual supervision with the expert therapist.

Process Measures

DDP Techniques

Relative use of each group of DDP techniques was evaluated using a 25-item observer measure (a copy of this measure is included in the DDP treatment manual at www.upstate.edu/ddp). Sixteen of the items refer to *association, attribution, ideal other,* and *alterity-real other* techniques, and the remaining 9 items refer to techniques that are contraindicated in the DDP model (e.g., completing a narrative for the client, asserting that a given feeling or action was justified or unjustified). A previous examination of this measure within this sample found that it demonstrated excellent inter-rater and test-retest reliability (Goldman & Gregory, 2009). For each item, the number of occurrences of that intervention was recorded. To yield proportional scores the numbers of DDP interventions in each category (association, etc.) were divided by the total number of contraindicated interventions.

Working alliance

Therapeutic alliance was measured using the observer version of the Working Alliance Inventory short form (WAI-O-S; Tichenor & Hill, 1989; Tracey & Kokotovic, 1989).

Outcome Measures

BPD Severity. The Borderline Evaluation of Severity Over Time (BEST; Pfohl & Blum, 1997) is a 15-item, self-report questionnaire designed to assess change in the severity of the core symptoms of BPD, including thoughts, feelings, and behaviors, over the course of treatment.

Parasuicide Behavior. The Lifetime Parasuicide Count (LPC; Linehan & Comtois, 1996) is a structured interview designed to assess frequency of self harm and suicide attempts.

Heavy Drinking. The Addiction Severity Index (ASI; McLellan et al., 1992) is a semi-structured interview that assesses substance use as well as resultant health and social problems. In the present study, heavy drinking was defined as consuming five or more drinks on a single occasion.

Institutional Care. The Treatment History Interview (THI; Linehan & Heard, 1987) is a structured interview for assessing use of psychiatric and medical treatment. In the present study, the number of days spent in psychiatric inpatient units, inpatient detoxification and/or rehabilitation facilities, emergency departments, partial hospitalization programs, and group homes or halfway houses was combined to form a single, continuous variable.

Depression. The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, & Erbaugh, 1961) is a 21-item self-report measure for assessing depressive symptoms.

Dissociation. The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) is a 28-item self-report questionnaire designed to assess dissociative experiences.

Social Support. The Social Provisions Scale (SPS; Cutrona & Russell, 1987) is a 24-item questionnaire that assesses dimensions of perceived social support.

Procedures

Clients were seen weekly in individual DDP for 12 months. Outcome measures were administered by research assistants at baseline, 3 months, 6 months, 9 months, and 12 months. Reliable change scores were calculated for each outcome measure using the following formula:

$$RC = \frac{x_{post} - x_{pre}}{\sqrt{2(s_{pre}\sqrt{1 - r_{test/retest}})^2}}.$$

where $x_{post} - x_{pre}$ is the difference between baseline and 12-month scores, s_{pre} is the standard deviation of the baseline scores, and $r_{test/retest}$ is the test-retest reliability of the measure. Test-retest reliabilities were calculated

using the correlations between 3-month and 6-month scores for each measure.

Two observers independently provided process ratings of DDP techniques from video recorded sessions at each of five time points (baseline, 3 months, 6 months, 9 months, and 12 months). A third rater was added for the Working Alliance Inventory shortened observer-rated version (WAI-O-S) because of difficulties achieving interrater reliability with the first two raters. The WAI-O-S ratings were taken from the same video clips as the DDP process ratings. Raters' scores were averaged together within each process measure and then across each time point.

Due to the limited sample size ($N=10$ for all analyses), which resulted in violations of the assumption of normality, nonparametric tests were calculated as an alternative to the standard parametric statistics in accordance with recommendations by Pallant (2005).

RESULTS

Table 1 summarizes means and standard deviations for each outcome index at the start of treatment. Baseline scores indicate a severely impaired treatment population. For example, the average BEST score in the Systems Training for Emotional Predictability and Problem Solving (STEPPS) study was only 40, as compared to 47 in our own (Blum et al., 2008). Moreover, clinical presentations varied considerably, especially on behavioral measures such as parasuicide, institutional care, and alcohol misuse. As previously reported, all outcomes (with the exception of dissociation, which showed a small but statistically significant effect size) improved over time and demonstrated large treatment effects (Gregory et al., 2008).

Spearman's rho correlations between process and outcome variables are presented in Table 2. The table shows some areas of improvement were related to multiple therapeutic processes (e.g., institutional care), whereas other areas of improvement were related to a much smaller range of interventions (e.g., dissociation). Although only four correlations reached statistical significance, eight correlations were in a range described by Cohen (1988) as moderate ($> .30$) and an additional six correlations were large ($> .50$). There was an especially strong correlation between the use of association techniques and improvement in dissociative symptoms. In addition to specific effects for DDP techniques, therapeutic alliance was also related to improvements in BPD symptoms and alcohol misuse.

Table 1. DESCRIPTIVE STATISTICS FOR OUTCOME MEASURES AT BASELINE

Borderline Symptoms (BEST)	
Mean	46.60
S.D.	8.72
Parasuicide (LPC)	
Mean	4.70
S.D.	8.15
Institutional Care (THI)	
Mean	12.60
S.D.	17.53
Alcohol Misuse (ASI)	
Mean	7.30
S.D.	7.27
Depression (BDI)	
Mean	29.00
S.D.	12.62
Dissociation (DES)	
Mean	33.40
S.D.	22.61
Social Support (SPS)	
Mean	54.50
S.D.	20.27

DISCUSSION

The present study was conducted to determine whether improvement in specific symptoms of BPD was related to the use of specific therapeutic techniques. We assessed the four discrete sets of interventions employed in DDP (*association, attribution, ideal other, and alterity-real other).* Our results indicated that different techniques were effective for different aspects of borderline pathology.

Association techniques, which are designed to help clients build narratives of recent interpersonal encounters and to label the emotions they experienced in such encounters, were strongly and significantly correlated with improvements in dissociation. This finding is consistent with the theoretical basis of DDP, positing that *association* techniques attempt to link the symbolic and reflective capacities of individuals to their experiences (Gregory & Remen, 2008). Dissociation has been defined as the splitting off or dis-association of various aspects of consciousness and experience (APA, 2000) and may, therefore, be selectively targeted by *association* interventions. *Association* techniques were also strongly and

Table 2. SPEARMAN CORRELATIONS BETWEEN PROCESS VARIABLES AND RELIABLE CHANGE IN OUTCOMES

	DDP Interventions				Working Alliance
	Association	*Attribution*	*Ideal Other*	*Real Other*	
Borderline Symptoms	.63*	.49	.23	-.13	.74*
Parasuicide	.26	.10	.01	.38	.28
Institutional Care	-.18	.36	.53	.40	.08
Alcohol Misuse	.35	.24	-.07	-.13	.51
Depression	.24	.35	.01	.01	.28
Dissociation	.79**	-.20	.18	-.04	.30
Social Support	.38	.16	.42	.75*	.13

* $p < .05$, ** $p < .01$

significantly related to improvements in core BPD symptoms and moderately related to improvements in social support and alcohol misuse. These techniques collectively accounted for the broadest range of symptom improvement of the processes studied.

Our finding that *association* techniques were those most strongly associated with improvements in alcohol misuse is unsurprising, given the use of similar techniques in supportive-expressive therapy for various substance disorders (e.g., Crits-Christoph et al., 2008; Woody, McLellan, Luborsky, & O'Brien, 1995). The present study demonstrated that *association* is a particularly important set of techniques for treating substance use disorders that co-occur with BPD.

Other treatments targeting BPD symptoms may sometimes employ techniques consistent with *association* interventions. For instance, dialectical behavior therapy (DBT) helps clients to build sequential narratives of recent self-harm episodes through *behavioral chain analyses* and to label their emotions through *emotion regulation skills* (Linehan, 1993). One would therefore hypothesize that DBT would be helpful for dissociation, which was confirmed in a study by Koons and colleagues (2001) demonstrating improvement in DES scores. Two small controlled studies (Line-

han et al., 1999; 2002) indicated that DBT may also be helpful for co-occurring substance use disorders, though dropout rates were high.

Mentalization-based treatment (MBT) employs techniques consistent with *association* in that it strongly emphasizes exploration of recent interpersonal encounters, including emotional responses, as a way to identify and correct deficits in mentalization. To our knowledge, MBT has not formally assessed dissociation as an outcome, nor has it analyzed outcomes of co-occurring substance use disorders. However, this treatment has been shown to be effective for a broad range of long-term outcomes (Bateman & Fonagy, 2008; 2009) and the use of *association*-related interventions likely account for some of this improvement.

Attribution techniques, which are aimed at deconstructing and integrating clients' polarized and constricted attributions of self and others, were associated with improvements in core BPD symptoms, depression, and institutional care. This finding is consistent with the DDP's theoretical basis of depression, as outlined in a previous paper (Gregory, 2007). Within this conceptualization, clients can enter a very depressed, unreflective state of being, labeled the *guilty perpetrator state*, where attributions of self and other are polarized. In this state, self-attributes are devalued and attributions of others are idealized, but lack agency. While in this state, clients are most likely to attempt suicide and institutional care is often necessitated.

Transference focused psychotherapy (TFP) strongly emphasizes interventions consistent with *attribution* techniques. The primary set of interventions is to identify and integrate split-off and polarized representations of self and other, described as *object relations*. Consistent with the findings in the present study, TFP has been shown to be very effective for core BPD symptoms, depression, and institutional care (Clarkin, Levy, Lenzenweger, & Kernberg, 2007).

Ideal other techniques, such as establishing a treatment contract and employing empathy, mirroring, and psychoeducation, are employed in DDP primarily to facilitate the development of a strong therapeutic alliance. The development of a strong alliance, wherein the therapist becomes a soothing, safe, and containing presence, is the primary task for the first stage of treatment with DDP (Gregory, 2004) and is hypothesized to account for reduction in global distress and early symptom improvement. Reduction in global distress may account for the correlation between the use of *ideal other* techniques and decreased institutional care. Theoretically, *ideal other* techniques also help maintain idealized attributes of

others, which may account for the correlation between use of these techniques and perceived social support.

Ideal other techniques are not specific to DDP, but are widely used in almost every psychotherapy modality and are especially emphasized in supportive therapies. The use of these techniques may partially account for the positive outcomes of manual-based supportive therapies in randomized controlled trials of BPD (Clarkin et al., 2007; McMain et al., 2009)

Alterity-real other techniques also focus on the client-therapist relationship, and are employed when there is a rupture in the alliance. These techniques involve experiential challenge or acceptance at key times and are hypothesized to deconstruct non-reflective states characterized by polarized attributions of self and other, to restore the working alliance, and to promote self-other differentiation and the capacity for more authentic and adaptive relationships. Consistent with this hypothesis, improvement in perceived social support was strongly and significantly related to the use of these techniques.

The concept of *alterity* bears some similarity to mentalization (Gregory & Remen, 2008), in that both concepts focus on the ability to move past stereotyped assumptions about what is "true" and entertain alternative possibilities. This may help explain shared outcomes between the two approaches: *alterity* interventions were related to improvements in institutional care and parasuicidal behaviors in the present study, while mentalization-based therapy was recently shown to decrease institutional care and parasuicidal behaviors (Bateman & Fonagy, 2009).

Schema therapy strongly emphasizes techniques consistent with *ideal other* and *real other* interventions, and these techniques may account for the low dropout rates seen in clinical trials of this modality (Giesen-Bloo et al., 2006). Similar to DDP, schema therapy employs experiential challenge or acceptance to deconstruct maladaptive *schemas*, creating a *corrective emotional experience* (Young, Klosko, & Weishaar, 2003). However, the DDP approach recognizes the problematic implications of therapist as parent substitute included within the concept of the *corrective emotional experience*. An alternative term, the *deconstructive experience*, is suggested instead (Gregory, 2005).

As in all treatments, the therapeutic alliance was an important contributor to positive DDP outcomes. Reduction in BPD symptoms and alcohol misuse were particularly strongly related to the quality of the alliance. Our sample size did not permit us to examine whether alliance was a moderator or mediator of the various outcomes, and further studies are needed to tease apart the relationships among alliance, technique, and outcome.

The most significant limitation of this study was its sample size, which restricted the generalizability of our results and raises the possibility of Type II errors. This is the most likely reason for some correlations in the moderate-to-large effect size not to reach statistical significance. Replication in a larger sample is needed to confirm the present findings. Moreover, though DDP is a broad-based treatment, it is not all inclusive. There are other sets of interventions, such as teaching mindfulness or coping skills, which are not used in this treatment modality, and therefore, not assessed in the study. Similar studies employing different treatment modalities are needed. Other limitations include lack of demographic diversity and lack of control for adjunctive treatments (e.g., group therapy, self-help groups, and medications). However, most participants did not engage in professional or self-help groups, and the use of psychotropic medications actually decreased from baseline during the course of the study (Gregory et al., 2008).

The findings of the present study suggested that BPD may best be viewed as a complex, heterogeneous disorder that requires treatment to be tailored to the specific set of symptoms present. Furthermore, clients in this study presented with a wide variety of symptoms at the start of treatment (see Table 1), suggesting that BPD can manifest in many ways. Depending on the particular constellation of symptoms the various psychotherapies for BPD may be helpful for different individuals. Although there is considerable overlap among the various treatments for BPD, there are also specific differences in technique and emphasis. With further research, it may be possible to refine existing treatments and to develop new strategies which incorporate those techniques shown to be effective for BPD and provide flexibility to individualize interventions.

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