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Examining Challenging Behaviors of Clients with Borderline Personality Disorder

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Abstract

Few studies have examined effects of challenging behaviors of clients with borderline personality disorder (BPD) on psychotherapy outcomes. Dialectical behavior therapy (DBT) is an evidence-based treatment designed to treat chronic suicidality, self-directed violence (SDV), and emotion dysregulation, while targeting challenging behaviors. DBT has been shown to be effective with clients with BPD. We evaluated whether therapist reported challenging behaviors, such as high volume phone contacts or violating the therapist's limits, during DBT would be associated with dropping out of DBT, severity and frequency of SDV, emotion regulation deficits, and client's and therapist's satisfaction of treatment. The current study examined challenging behaviors reported by therapists in a sample of 63 psychiatrically disabled outpatient DBT clients diagnosed with BPD (73% women, average age 37 years). More frequent phone contacts were associated with a decrease in dropout and psychological symptoms, and an increase in client and therapist satisfaction. More avoidance/disengagement behavior was associated with more than twice the risk of SDV and a decrease in therapist satisfaction. Findings suggest that the phone coaching might serve to maximize client satisfaction and reduce the likelihood of dropout.

Keywords

therapy-interfering behaviors; challenging behaviors; Borderline Personality Disorder; Dialectical Behavior Therapy

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Introduction

Borderline Personality Disorder

Borderline personality disorder (BPD) is a complex psychiatric disorder characterized by emotional instability and impulsivity. Clients with BPD are often high utilizers of acute psychiatric services, including inpatient admissions, crisis, and emergency services (Bateman & Fonagy, 2009; Bender et al., 2001; Comtois, Elwood, Holdcraft, Simpson, & Smith, 2007; Zanarini, Frankenburg, Hennen, & Silk, 2004a). It is also common for clients with BPD to be diagnosed with one or more Axis I comorbidities, especially mood or anxiety disorders (Fyer, Frances, Sullivan, Hurt, & Clarkin, 1988; Grant et al., 2008; Zanarini et al., 1998; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2004b). A desire for more treatment is characteristic of clients with BPD (Goodman et al., 2010), and there is often over-treatment with minimally effective results (Gunderson et al., 2011; Linehan & Heard, 1999; Skodol et al., 2002).

At the same time, clients with BPD are more likely to dropout of treatment prematurely (American Psychiatric Association, 2001; Ben-Porath, 2004). Clients with BPD have a poor response to traditional community outpatient treatments, and research has found that they consume up to 40% of mental health services provided in a given setting even on an outpatient basis (Geller, 1986; Surber et al., 1987; Widiger & Weissman, 1991; Woogh, 1986).

There are many behaviors that can disrupt the course of psychotherapy and pose problems for both the therapist and client. These challenging behaviors, called therapy-interfering behaviors (TIBs) by Linehan (1993), have been defined as client or therapist behaviors that interfere with the client receiving or benefiting from the therapy offered. Clients with BPD tend to engage in multiple challenging behaviors that interfere with receiving therapy, such as calling the therapist at unreasonable hours outside of session (Dimeff & Linehan, 2001), behaving ineffectively on phone calls (Linehan, 2008), being non-collaborative (e.g., arguing with the therapist), and quitting therapy (Bados, Balaguer, & Saldaña, 2007; Espinosa, Grynberg, & Mendoza, 2009; Farrand, Booth, Gilbert, & Lankshear, 2009; Oumaya et al., 2010). This, paired with emotional and behavioral dyscontrol, including suicidal and non-suicidal self-directed violence (SDV), results in these individuals being difficult-to-treat, BPD being a highly stigmatized disorder, and trepidation by clinicians to provide treatment for clients with BPD (Gunderson et al., 2011; Linehan, Cochran, Mar, Levensky, & Comtois, 2000; Paris, 2005).

Dialectical Behavior Therapy

Dialectical behavior therapy (DBT; Linehan, 1993) is the dominant evidence-based treatment for borderline personality disorder in the community (Koons et al., 2001; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Linehan et al., 2002; Linehan et al., 2006; Lynch, Morse, Mendelson, & Robins, 2003; Telch, Agras, & Linehan, 2001; Verheul et al., 2003). DBT consists of five treatment components, including 1) weekly individual psychotherapy, 2) weekly skills training groups, 3) skills coaching via telephone, 4) therapist

consultation team, and 5) ancillary treatments to help structure the environment (e.g., case management) as needed.

Skills coaching via telephone is a component of DBT designed to help strengthen behavioral skills learned in DBT. Skills coaching is not “telephone therapy” (Linehan, 1993) but instead utilizes specific strategies to generalize skills use to the client’s natural environment (Linehan, 1993; Linehan, 2008; Manning, 2011). Calls are generally brief and focused on helping clients use specific skills in the moment. As with many other DBT strategies, clients are oriented to the use of skills coaching and how to use it effectively (e.g., calling prior to engaging in SDV rather than after). DBT therapists are directed to observe their personal limits regarding the frequency, content, and timing of telephone calls (Ben-Porath, 2014). Limits around skills coaching in DBT are seen as fluid rather than static; that is, they may change throughout the course of treatment or differ between clients (Linehan, 1993). (For more information on skills coaching, see Linehan, 1993 and Ben-Porath, 2004).

The structure of DBT offers therapists strategies to directly address challenging behaviors, including suicidal behaviors and therapy-interfering behaviors (TIBs). DBT utilizes a treatment hierarchy of behavioral targets that explicitly includes TIBs as the second highest priority for treatment, following only suicidality, SDV, and violent behaviors. In DBT, TIBs can include behavior of both the therapist and the client. Therapist TIBs include behaviors such as having an imbalance of treatment strategies (e.g., too much change or too much acceptance), being disrespectful (e.g., being late, forgetting important information), or not knowing what to do in response to particular behaviors. Client TIBs include behaviors such as non-attendance, non-compliance, and non-collaboration, such as missing or arriving late to a therapy session, and not returning phone calls. Behaviors that do not follow therapist’s observed limits, such as calling for coaching outside of agreed upon times, are also targeted as client TIBs (Dimeff & Linehan, 2001).

The broader treatment literature has focused on challenging client behaviors related to dropout and phone contacts between the client and therapist. Dropout is considered to be the most serious form of TIBs and research in this area has shown that DBT is more effective at reducing dropout than treatment as usual (Dimeff & Linehan, 2001; Harley, Baity, Blais, & Jacobo, 2007; Koons et al., 2001; Linehan, et al., 1991; Linehan & Heard, 1999; Linehan et al., 2002; Linehan et al., 2006; McMain et al., 2009; Verheul et al., 2003). Beyond dropout, few studies have examined what predicts challenging client behaviors or the effect of these behaviors on the outcome of psychotherapy. Within the first randomized controlled trial of DBT, no significant correlation was found between the number of telephone calls and frequency of SDV in the DBT condition, whereas clients who engaged in more SDV had more telephone calls with their therapist in the treatment- as-usual condition (Linehan et al., 1991; Linehan & Heard, 1993). One article offers case examples to explore the difficulties in problematic telephone consultation in DBT (Koons, 2011). Allen (1997) examined four diverse paradigms and suggested techniques of handling TIBs in a BPD population, though none of the techniques have been empirically tested. While not a challenging behavior itself, therapeutic alliance ruptures certainly can be an outcome of such behaviors. A review of the literature on therapeutic alliance and treatment outcome found evidence that repairing rupture therapeutic alliances is related to positive outcomes (Safran, Muran, & Eubanks-

Carter, 2011). Other than the first randomized clinical trial of DBT (Linehan et al., 1991; Linehan & Heard, 1993), no published studies have examined the impact of challenging behaviors on key DBT outcomes such as suicidal behavior or emotion regulation.

Current Study

There is a clear need to increase engagement, effectiveness, and efficiency and decrease dropout in treatments for clients with BPD, including in evidence-based treatments such as dialectical behavior therapy (DBT; Linehan, 1993). The current study examined how a wide range of challenging behaviors was associated with treatment outcomes.

The current study describes DBT therapists' report of challenging behaviors amongst a sample of psychiatrically disabled clients with BPD in an outpatient DBT program. Four types of potentially challenging client behaviors were examined: (1) interpersonal negativity (e.g., the client behaving in an inflexible or defiant manner toward the therapist) and avoidant/disengaged behaviors (e.g., missing a session without calling), (2) extreme behavioral dysregulation (e.g., engaging in SDV in a way that is not medically serious), (3) the frequency of out-of-session contacts, regardless of whether it was described as a challenging behavior by the therapist, and (4) whether the therapist's limits were observed in relation to each client. We examined the impact of these potentially challenging client behaviors on treatment outcomes. We hypothesized that more client challenging behaviors would be associated with seven outcomes: (1) premature dropout, (2) frequency of SDV, (3) severity of SDV, (4) emotion regulation deficits over the course of treatment, (5) the client's satisfaction of treatment, (6) the therapist's satisfaction of treatment, and (7) psychological symptom severity.

Methods

Setting

XXX is a large outpatient community mental health clinic with a DBT program serving psychiatrically disabled clients with BPD. XXX is a clinic within XXX, a large county medical center serving underserved individuals within XXX County. The DBT provided in this program adhered closely to the DBT manual (Linehan, 1993) including all DBT functions and modes of treatment (Comtois et al., 2007).

Participants

Client participants—All clients were psychiatrically disabled as determined by the state or federal government, an employer, or otherwise unable to work due primarily to psychiatric or emotional reasons for greater than six months. All clients met the XXX County definition of "severely impaired and for whom lack of treatment would result in serious dysfunction, failure in functioning, or involvement in more restrictive treatment" representing the most severe 4% of clients in the county mental health system.

There were 63 clients in the study. Clients were 19–58 years old (M = 37.2, SD = 10.4) and met criteria for borderline personality disorder as determined by the Structured Clinician Interview for the DSM-IV Axis-II (SCID-II). Following the process of consent and

completion of pre-treatment assessments, standard DBT was offered to all clients for one year.

Therapist participants—There were a total of seven DBT therapists providing treatment within the study with a range of DBT experience from 2–22 years. All therapists were trained and supervised by an expert in DBT (Dr. Linehan and/or author and DBT trainer, [LAST AUTHOR]). Therapists were assigned clients as they had openings to balance the acuity of caseloads and, when this was equivalent, randomly.

The team lead of the DBT team was intensively trained in 1994 and has since served as a research therapist on Dr. Linehan's treatment outcome studies and now trains and supervises DBT internationally. All therapists received intensive DBT training (Landes & Linehan, 2012) or the equivalent of intensive training (e.g., 6 month training course in a residency program) and have received supervision from the team lead or Dr. Linehan for periods of time ranging from 1–10 years.

Treatment adherence or fidelity was rated using the DBT Adherence Rating Scale; this scale generates a single item computed Global Score of DBT adherence that ranges from 1–5. Global scores >4.0 represent DBT adherence; scores below 4.0 signal need for consultation/supervision. 33 tapes from individual psychotherapy sessions were randomly selected for each therapist and coded by three DBT therapists who have received extensive training in DBT and in adherence coding. Scores for all therapists ranged from 3.6 to 4.3, with an average score of 4.0 (*SD* = .17), indicating that therapists were generally at adherence. Supervision and/or consultation was provided for adherence scores lower than 4.0. These scores are similar to scores obtained by Linehan and colleagues (2006) in an RCT of DBT compared to treatment by experts. For individual therapy sessions, adherence scores ranged from 3.6 to 4.3, with a mean ± SD score of 4.0±0.2 (Linehan et al., 2006). Eight tapes from group skills training sessions were also randomly selected and coded. Scores ranged from 4.0 to 4.3, with an average score of 4.1 (*SD* = .11), indicating skills group sessions were adherent.

Procedure

Blind outcome assessments evaluated in this study were conducted at months 4, 8, and 12 after DBT skills training began; treatment information was collected by unblinded research staff at each assessment point. Clients were asked to complete their outcome assessments regardless if they dropped out of treatment. Therapist Interviews were conducted after the therapist completed all treatment with that client. Clients were compensated $15 for the screening interview and an additional $20 for the pre-treatment assessment if accepted. Four and eight month assessments were $25 and 12 month assessments were $40 to provide additional incentive for this key assessment point. Clients were given additional incentive payments of $5 extra if they called to schedule their next appointment and an additional incentive of $5 if they completed their assessment when originally scheduled. Therapists were not compensated for interviews.

Measures

The Brief Symptom Inventory (BSI; Derogatis, 1975) is a 53-item self-report questionnaire designed to assess distress of psychological symptoms. The range of possible scores is 0–212; high scores indicate more distress of psychological symptoms. The BSI has high internal reliability and high test-retest reliability. The BSI has nine subscales to assess different symptoms along with three global scales. The Global Severity Index (GSI) (e.g., the mean of all BSI items) was used in the current study to report the distress change of psychological symptoms from baseline to end of the DBT year with a possible range of 0–4; high scores indicate more change.

The Demographic Data Scale (DDS; Linehan, 1982) was used to obtain a wide range of demographic data. It has high concurrent validity, and was initially established by comparing DDS responses to hospital chart data for a sample of psychiatric inpatients.

The Client Satisfaction Questionnaire (CSQ) is an 8-item measure used to assess clients' satisfaction with their therapy in the previous four months. The range of possible scores is 8–32; higher score indicates greater satisfaction with therapy. This measure has been used widely for evaluating client opinion of standard community mental health care (Attkisson & Zwick, 1982; Gaston & Sabourin, 1992; Nguyen, Attkisson, & Stegner, 1983).

The Difficulty in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item self-report questionnaire designed to assess multiple aspects of emotion dysregulation – an important treatment outcome of DBT. The range of possible scores is 36–180; higher score indicates more difficulty with emotion regulation. The DERS has been found to have high internal consistency and test-retest reliability and adequate construct and predictive validity within a standardization sample (Gratz & Roemer, 2004).

The Structured Clinical Interview for DSM-IV, Axis II (SCID-II) (First, 1997a; First Spitzer, Gibbon, Williams, et al., 1995; First, Spitzer, Gibbon, & Williams, 1995) was used to diagnose borderline personality disorder. This 15-item measure is an interviewer-administered assessment where clients can score 1 = absent or false, 2 = subthreshold, or 3 = threshold or true for each item. A client will meet criteria for borderline personality disorder if at least five of the 15 items are coded as 3 (threshold or true).

The Suicide Attempt Self-Injury Count (SASI-Count; Linehan & Comtois, 1996) is an interviewer-administered assessment of the number and severity of past SDV with and without intent to assess the previous four months. A lifetime version was given at the pre-treatment assessment to assess for all SDVs up to DBT. For each injury type (e.g., cutting, burning, overdosing), a lethality or severity rating is assigned by the assessor based on the client's description of the injury on a scale from one to six (one being "very low" severity and six being "severe") as per the Suicide Attempt Self-Injury Interview (Linehan et al, 2006).

The Therapist Interview (TI) is a brief interview developed by Linehan (1987) in previous DBT studies that asks about the nature of the treatment offered to the client, the therapist's satisfaction with treatment, and ratings of outcome. The measure was completed for each

therapist-client dyad after termination of treatment. Items on the TI include three assessments of challenging behaviors of clients with BPD. First, the TI includes a list of 53 challenging behaviors based on the DBT concept of therapy-interfering behaviors (Linehan, 1993) that may be encountered while conducting therapy. Therapists are asked to endorse whether each challenging behavior occurred during the treatment they provided. Second, the TI assesses the number of out-of-session skills coaching contacts the therapist had with the client during the year of treatment. Out-of-session coaching included phone coaching (the modal method of coaching clients in DBT) as well as coaching by text messaging and email based on the client's and therapist's preference. Third, the TI assesses whether the client followed whatever out-of-session contact limits were established with the therapist (e.g., no calls after 9:00pm, only call if already tried using skills, etc.). The TI also includes three questions on the therapist's satisfaction of the treatment with that client.

Data Analysis

The first task in the data analyses was to determine the dimensionality of the 53 DBT theory-derived challenging behavior items in the Therapist Interview and construct subscales. Because the challenging behavior items were binary (i.e., occurred or did not occur), the variance-covariance matrix of items was estimated using a robust estimation procedure (Schäfer & Strimmer, 2005). Due to the relatively small sample size, the procedure puts a slight constraint on the permissible values of the matrix, which has been shown to lead to more efficient and reliable results. The resulting variance-covariance matrix was factor analyzed and resulting item loadings were rotated using promax rotation for interpretation. Factors were retained that had three or more items with loadings of 0.40 or greater, which resulted in three challenging behavior factors, described below in Results. Subscales based on the three challenging behavior factors were used as associations of treatment outcome in regression analyses. In addition to these challenging behavior-derived subscales, two other potential challenging behaviors were used: frequency of out-of-session contacts and whether or not the therapists' out-of-session contact limits were followed. Due to skew and outliers, the frequency of out-of-session contacts was log transformed. The therapist's satisfaction was determined by calculating the average of three 1 to 5, low to high, scaled items from the TI, which included the overall improvement of the client during the time the therapist saw him/her, how helpful the therapist believed he/she was to the client, and the therapist's own satisfaction level concerning his/her therapy with the client.

Regression analyses were used to examine the association of the potential challenging behaviors with six outcomes. As is standard in DBT (Linehan, 1993), dropout was defined as missing four consecutive weeks of either individual therapy or skills training and evaluated using logistic regression. A total SDV count was calculated by totaling all injuries during the DBT year. SDV is an infrequent count variable with a large stack of zeroes that violates the Poisson distribution assumptions. SDVs were therefore modeled using a hurdle model (Atkins, Baldwin, Zheng, Gallop, & Neighbors, 2013; Hilbe, 2011). A hurdle model (sometimes called a two-part model) simultaneously fits two submodels: (1) a logistic regression for no SDV versus any SDV, and (2) a truncated count regression (negative binomial) for the amount of SDV, given that there is SDV. Severity of SDV was evaluated only for those who made a SDV (n = 23) using linear regression. The DERS and GSI were

evaluated as a change score between the clients' pre-treatment and 12-month DERS total and GSI scores, respectively. The DERS, CSQ, therapist satisfaction, and GSI were modeled via linear regression. Hurdle model analyses were done in R v3.0.2 (R Core Team, 2013) and all other analyses were done in SPSS (Version 19).

Results

A description of sample characteristics can be found in Table 1. The average age was 37 (*SD* = 10.4), almost three-quarters (73%) were female, and over a quarter (28%) of clients had completed college. 76.2% were Caucasian followed by 12.7% Mixed Ethnicity, 4.8% each African-American and Asian or Pacific Islander, then 1.6% Latino/a. Determined by the DSM-IV, primary Axis I diagnosis was determined by consensus between individual therapist and study psychiatrist as the Axis I diagnosis was most relevant to the treatment they were receiving. Most clients met criteria for an Axis I disorder (95.2%), with almost half (49.2%) meeting criteria for a depressive disorder. During the DBT year, four clients changed therapists. The TI data that was used for analyses were from the clients' first therapist for three of the four clients that changed therapists. The fourth client was assigned to their first therapist but never attended sessions with that therapist; therefore, we used the TI data of this client's second therapist.

The factor analysis of the challenging behavior items included in the TI described above yielded three challenging behavior factors. The three factors contain items characterizing: (1) interpersonal negativity (e.g., behaved in an inflexible or defiant manner), (2) avoidance/disengagement (e.g., withdrew of behaved in an inattentive or apathetic manner), and (3) general behavioral dysregulation not directly related to the therapy dynamic (e.g., made a medically serious suicide attempt, got arrested, arrived to treatment intoxicated). Table 2 reports the frequency with which each challenging behavior was endorsed by the therapists during treatment organized by subscale. Out of the three subscales, therapists were most likely to report avoidant and disengaged behaviors seen in their clients. Subscale scores were created by taking the mean of items endorsed for each factor and the descriptive statistics are presented in Table 3.

Table 3 presents the descriptive statistics of the independent and dependent variables. Across all 63 clients, therapists reported a median of 12 out-of-session coaching calls per client during DBT with a range of 0 to 252 calls. 20.3% (n = 19) reported their limits regarding phone calls had been violated at least once.

Thirty-six of the sixty-three clients (57.1%) dropped out of DBT prematurely (i.e., before the 12 months of DBT concluded). A logistic regression of drop-out showed that only (log-transformed) frequency of out-of-session contacts was significantly related to dropout (see Table 4). For each (log) increase in contacts, there was an associated 47% decrease in treatment dropout (OR = 0.47, 95% CI = 0.27, 0.83).

As noted earlier, SDV was fit using a hurdle model given the large stack of zeroes and skewed distribution; this includes a logistic regression for no SDV vs. any SDV, as well as a count regression of mean SDV, where there is SDV. Factor 3 reflecting behavioral

dysregulation was no included in this analysis as the underlying items of the factor were tautological (e.g., made a medically serious suicide attempt). As can be seen in Table 5, Factor 2 reflecting avoidant and disengaged behavior was significantly associated with frequency of SDV in the DBT year. A standard deviation increase in Factor 2 was associated with more than twice the risk of any SDV during DBT (OR = 2.05, 95% CI = 1.06, 3.97). The number of SDV (given some SDV) increased almost three times for every standard deviation increase in Factor 2 (RR = 2.75, 95% CI =1.12, 6.73). No other variables were significantly associated with SDV frequency.

As seen in Table 6, linear regression was used to evaluate whether the challenging behavior variables were associated with severity of SDV during DBT (among the 23 clients who engaged in SDV), change in emotion regulation over the course of DBT using the DERS, client satisfaction at the end of treatment using the Client Satisfaction Questionnaire, therapist satisfaction at the end of treatment using the Therapist Interview, and in the change in severity of psychological symptoms over the course of DBT using the Global Severity Index from the BSI. None of the potential challenging behavior variables were associated with severity of SDV during DBT or change in emotion regulation scores. Higher client satisfaction was significantly associated with more frequent out-of-session contacts (β = 0.45, $t(40) = 2.79$, $p < .01$). Higher therapist satisfaction was significantly associated with more frequent out-of-session contacts ($\beta = 0.66$, $t(53) = 5.70$, $p < .01$). A greater change of psychological symptoms over the DBT year was significantly associated with more frequent out-of-session contacts ($\beta = 0.47$, $t(38) = 3.19$, $p < .01$). For each standard deviation increase in Factor 2 (avoidant and disengaged behaviors) there was an associated .28 decrease in the therapist's satisfaction ($\beta = -0.27$, $t(53) = -2.45$, $p < .05$).

Discussion

This study was to examine the relationship between potentially challenging behaviors and a range of clinical outcomes in a group of individuals with borderline personality disorder. The list of challenging behaviors developed from the DBT theory formed three factors. Avoidant and disengaged behavior was associated with higher frequency of SDV during the treatment year. Avoidant and disengaged behaviors were also associated with a decrease in therapist satisfaction. While general behavioral dysregulation behaviors (e.g., arrived to treatment intoxicated) were not associated with any of the outcomes, client interpersonal negativity behaviors (e.g., criticism and complaining) showed a trend in increasing the odds of SDV during the treatment year. The client behaving outside the therapist's limits in regard to phone calls were not associated with any of the DBT outcomes (although report of this behavior was relatively infrequent). Frequency of out-of-session contacts was associated with lower dropout rates, higher treatment satisfaction by both the client and therapist, and an increased change in psychological symptoms over the DBT year. None of the potential challenging behaviors variables were associated with change in emotion regulation scores.

The dropout rate of 57.1% in the current sample is higher than in many published clinical trials of DBT. Examining reasons for dropout, no single reason stood out. There were a wide range of reasons for dropping treatment and the modal reason for leaving was endorsed by less than one-third of the sample. Grouping reasons for dropping out indicated 31% of the

clients dropped at least in part for a logistical reason (e.g., time, transportation), 40% dropped at least in part because of dissatisfaction with treatment, and 11% dropped because their problems improved and they no longer felt a need for treatment. While this dropout was higher than other clinical trials, it is comparable to other reported dropout rates of DBT in the community, which range from 24% to 58% (Comtois et al., 2007; Feigenbaum et al., 2012; Priebe et al., 2012; Turner, 2000). The current study was conducted with a community-based outpatient DBT program serving psychiatrically disabled clients with severe BPD with varying comorbid Axis I disorders as shown in Table 1. Therefore, the results may or may not be generalized to a higher functioning sample.

Anecdotal data across various DBT trainings suggests that many clinicians are concerned about therapeutic limits being crossed by clients with BPD, which is likely to contribute to negative attitudes and trepidation among therapists providing treatment. Other treatment modalities shown to be effective in the treatment of clients with BPD, like Schema-Focused Therapy (Giesen-Bloo et al., 2006), have found out-of-session contacts to be a taxing component (Giesen-Bloo et al., 2006; Nadort et al., 2009a) and show no added benefit to therapy outcomes (Nadort et al., 2009a; Nadort et al., 2009b). The results of the current study found that in DBT the base rate of therapist limits regarding phone calls not being observed was about one in five clients, and that violating therapists' limits were not associated with any clinical outcomes and were not associated with any other challenging behavior. Future studies of therapist responses to BPD clients should further evaluate this question and determine whether therapists have a fear out of proportion to the problem or whether the few cases where limits are violated that is so intolerable that therapists are inclined to avoid out-of-session contact in general.

Increased contact with the therapist via phone coaching was associated with four of the study's outcomes: decreased odds of premature dropout, increased client and therapist satisfaction, and increased change of psychological symptoms. Though the effect size was small, the positive relationship between client and therapist satisfaction and increased frequency of phone calls suggests that clients and therapist are more satisfied with treatment when they have increased contact via phone coaching. Given these findings and the low occurrence of therapists reporting that they felt their limits about phone calls had been violated, out-of-session phone contact in DBT and the way it is structured may serve a variety of functions, including generalizing skills, increasing client satisfaction, and either not increasing or possibly reducing therapist burnout. This may also enhance the therapeutic relationship between the client and therapist. While more out-of-session contacts were associated with fewer dropouts, greater treatment satisfaction by both client and therapist in this study, and increased change of psychological symptoms, these contacts were not necessarily out of scheduled work hours. So this study could not determine whether greater availability outside of work hours is related to DBT outcomes. Interestingly, increased phone contacts was associated a greater change in psychological symptoms over the DBT year but there was no association of emotion regulation change. Additional research on the frequency of therapeutic contacts should examine whether the associations between frequency of contacts and satisfaction with treatment by both client and therapist are moderated by factors such as therapeutic alliance or whether the out-of-session contacts were within or outside of scheduled work hours. Future research should also examine why

the frequency of therapeutic contacts may be associated with psychological symptoms but not emotion regulation, and these findings should be replicated in a larger sample.

Clients with BPD are often associated with challenging behaviors, which were categorized for the purpose of this study. Three challenging behavior factors were created from TI items and characterized: 1) interpersonal negativity (e.g., behaved in an inflexible or defiant manner), 2) avoidance/disengagement (e.g., withdrew of behaved in an inattentive or apathetic manner), and 3) behavioral dysregulation (e.g., made a medically serious suicide attempt, got arrested, arrived to treatment intoxicated). Avoidance/disengagement was associated with the frequency of SDV and therapist satisfaction. These challenging behaviors, which often disrupt the course of psychotherapy, were not associated with dropout or client satisfaction with treatment. Negative interpersonal behaviors or behavioral dysregulation, while likely interfering with the experience of the treatment and perhaps weakening the therapeutic alliance, were not associated with DBT outcomes. Future research is needed on which challenging behaviors are most relevant and perhaps creating a psychometrically strong measure of these behaviors.

Limitations

There were several important limitations of the study. First, these phenomena are only associations and, therefore, do not prove that challenging behaviors result in more negative outcomes. Second, the TI only assesses the presences or absence of challenging behaviors, not the frequency through treatment or the severity. However, it could be potentially problematic to obtain an exact count of challenging behaviors looking back over the treatment year, so to account for this, the TI has been updated to include a ordinal scale to capture a more representative frequency and severity of challenging behaviors (i.e., how often did the specific challenging behavior occur: never, once, a few times, or repeatedly). While most individuals who engaged in challenging behaviors did so starting early in treatment and challenging behaviors were less likely over time as they improved in treatment, this limitation exists and can only be addressed with replication in similar larger samples. Third, only information about client challenging behaviors was included and was gathered from the therapist, not the client. Future research should include therapist and client report, as well as information about potential therapist TIBs. Additionally, due to the modest sample size, the presented factor structure of the challenging behaviors items and scale itself should be considered preliminary until replicated in a larger sample. Next, several measures were not completed by study clients at the follow-up assessment resulting in missing data on some outcome measures. In addition, because of the high dropout rate, there was less possible time for clients who dropped out to engage in challenging behaviors. Finally, there was no comparison condition and future studies examining challenging behaviors should consider including a comparison.

Future Directions

This study examined the presence of challenging behaviors in a community mental health DBT program with psychiatrically disabled clients with BPD in a large urban county. It is the first published research showing an increase in out-of-session contact as an association of positive client outcomes in DBT. This should be replicated in other studies. Strong

measures of challenging behaviors showing feasibility, reliability, and validity across treatment and client populations and therapist vs. client perspectives are clearly needed. Additional research is also needed on the association between potential challenging behaviors and other outcomes in treatment, such as therapeutic alliance, clinical burnout, and a broader range of clinical outcomes.

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Highlights

- Frequent phone contacts were associated with a decrease in dropout
- Frequent phone contacts were associated with an increase in client satisfaction
- Frequent phone contacts were associated with an increase in therapist satisfaction
- Avoidance behavior was associated with a higher risk of SDV
- Avoidance behavior was associated with a decrease in therapist satisfaction

Table 1

Client Demographic and Diagnostic Characteristics

Variable	*n*	% M (SD)
Gender		
Female	46	73.0
Male	17	27.0
Transgender	0	0
Ethnicity		
White/Caucasian	48	76.2
Mixed	8	12.7
Black/African American	3	4.8
Asian or Pacific Islander (includes Chinese, Japanese, Korean, Malaysian, Pakistani, Filipino, Indian, East Indian, Middle Eastern/Arab, Native Hawaiian or other Pacific Islander)	3	4.8
Latino or Latina (includes Mexican, Mexican American or Chicano, Puerto Rican, other Hispanic/Latino/Latina)	1	1.6
Education		
Less than a high school graduate	4	6.3
High school graduate or GED	15	23.8
Some college or vocational technical college	26	41.3
College graduate	8	12.7
More than a college education (includes some graduate school, Master's degree, Professional degree)	10	15.9
Primary Clinical Axis I Diagnosis[a]		
Depressive Disorder	31	49.2
Bipolar Disorder	15	23.8
Anxiety Disorder	14	22.2
No Axis I Disorder	3	4.8

[a]Primary Axis I diagnosis determined by consensus between individual therapist and study psychiatrist via the DSM-IV as the Axis I diagnosis most relevant to the treatment they were receiving.

Table 2

Challenging Behavior Factors Endorsed During Treatment

Factor 1: Interpersonal negativity		Factor 2: Avoidant/disengaged		Factor 3: Behavioral dysregulation	
Challenging Behavior		**Challenging Behavior**		**Challenging Behavior**	
Behaved in an inflexible or defiant manner	39.7%	Missed session without calling	77.8%	Engaged in SDV in a way that is not medically serious	30.2%
Behaved in a non-responsive manner to your interpretations, solutions, etc.	36.5%	Failed to complete homework assignments	66.7%	Made a medically serious suicide attempt	12.7%
Criticized, argued with or made sarcastic comments toward you	27.0%	Failed to return phone calls or hung up on you	61.9%	Got arrested	11.1%
Acted in an angry or hostile manner toward you	25.4%	Arrived late or left early from sessions	55.6%	Arrived at sessions under the influence of drugs or alcohol	4.8%
Criticized or complained about your colleagues to you	22.2%	Failed to make eye contact	19.0%	Threatened to harm someone	4.8%
Behaved in a demanding way	17.5%	Withdrew of behaved in an inattentive or apathetic manner	19.0%		
Criticized or complained about you to your colleagues or others	14.3%				
Screamed, yelled, or cursed at you	12.7%				
Blamed you for his/her problems	11.1%				
Behaved in a condescending manner	7.9%				
Threatened to terminate therapy	7.9%				
Threatened to report you to your superiors or the authorities	4.8%				

Note. Because items were yes/no binary data, percent endorsed (comparable to mean of a binary variable) is reported instead of a factor score. For a complete list of all 53 items, contact the first author.

Table 3

Challenging Behaviors and Study Outcomes

Independent Variables	M (SD), % or Median	n
Factor 1: Interpersonal negativity	0.18 (.25)	63
Factor 2: Avoidant/disengaged	0.50 (.29)	63
Factor 3: Behavioral dysregulation	0.08 (.20)	63
Frequency of out of session coaching	12.00	59[a]
Therapist's out of session limits observed	79.70%	59[b]
Dependent Variables		
Treatment Dropout	57.10%	63
Frequency of Self-Directed Violence	10.98 (33.29)	54[c]
Severity of Most Severe Self-Directed Violence	2.75 (1.48)[d]	58[e]
Deficits in Emotion Regulation (DERS) Change Score from Baseline to Follow-up	34.93 (36.44)	44[f]
Client Satisfaction (CSQ) Score	27.08 (5.41)	50[g]
Therapist Satisfaction	2.58 (1.12)	63
Global Severity Index Change	0.8 (1.1)	46[h]

[a] 4 clients' out of session coaching calls are missing because the therapist could not remember.

[b] 4 clients' out of session limits are missing because the therapist could not remember.

[c] 2 clients' data were not possible to determine based on their report, 7 clients refused to complete at least one interview during the follow-up period.

[d] Severity rated by interview between 1 "very low" severity and 6 "severe"; M (SD) calculated on clients (N=24) that made a self-directed violence.

[e] 1 client's data was not possible to determine based on their report, 4 clients refused to complete at least one interview during the follow-up period.

[f] 19 clients did not complete the DERS at the follow-up point (generally due to completing abbreviated interview), so a DERS change score was not able to be calculated.

[g] 11 clients did not complete the CSQ during the follow-up period, 2 clients' data were incomplete and could not be scored.

[h] 17 clients did not complete the BSI at the follow-up point (generally due to completing abbreviated interview), so a GSI change score was not able to be calculated.

Table 4

Relationship Between Challenging Behaviors and Treatment Dropout Using Logistic Regression Analyses

	Treatment Dropout		
	OR	**Lower**	**Upper**
Factor 1: Interpersonal negativity (z-score)	0.82	0.46	1.48
Factor 2: Avoidant/disengaged (z-score)	1.23	0.69	2.19
Factor 3: Behavioral dysregulation (z-score)	1.32	0.73	2.40
Frequency of out of session coaching (log-transformed)	**0.47***	**0.27**	**0.83**
Were therapist's out of session limits observed	3.79	0.72	20.06

Note. Bold indicates significant difference.

* p= <.05

Table 5

Relationship Between Challenging Behaviors and Frequency of Self-Directed Violence Using Hurdle Model

	Zero (logistic regression)			Count (negative binomial regression)		
	OR	**Lower**	**Upper**	**RR**	**Lower**	**Upper**
Factor 1: Interpersonal negativity[a]	0.55†	0.26	1.12	1.37	0.47	4.02
Factor 2: Avoidant/disengaged[a]	**2.05***	**1.06**	**3.97**	**2.75***	**1.12**	**6.73**
Frequency of out-of session coaching[b]	1.45	0.79	2.67	0.82	0.33	2.04
Were therapist's out-of-session limits observed	1.63	0.30	8.89	0.45	0.07	2.76

Note. Bold indicates significant difference.

[a] For ease of comparison given different item counts in challenging behavior subscale scores, analysis was conducted on z-scored subscale scores.

[b] Because of outliers and skew, frequency of out of session coaching was log-transformed.

* p <. 05

† p <. 10

Table 6

Relationship Between Challenging Behaviors and Highest Severity of Self-Directed Violence (SDV) during DBT, Emotion Regulation Deficits (DERS), Client Satisfaction (CSQ), Therapist Satisfaction, and Global Severity Index (GSI) Using Linear Regression Analyses

	Highest Severity of Self-Directed Violence (SDV) during DBT[a]			**Emotion Regulation Deficits (DERS)**			**Client Satisfaction (CSQ)**			**Therapist Satisfaction**			**Global Severity Index (GSI)**		
	B	**SE(B)**	**β**	**B**	**SE(B)**	**β**	**B**	**SE(B)**	**β**	**B**	**SE(B)**	**β**	**B**	**SE(B)**	**β**
Factor 1: Interpersonal negativity[b]	0.38	0.43	0.22	−8.75	7.07	−0.22	−0.73	0.93	−0.12	−0.15	0.12	−0.14	−0.13	0.17	−0.12
Factor 2: Avoidant/disengaged[b]	−0.20	0.38	−0.13	−3.87	5.71	−0.12	−0.61	0.80	−0.12	**−0.28**	**0.12**	**−0.27***	−0.06	0.15	−0.06
Factor 3: Behavioral dysregulation[b]	NA[c]	NA[c]	NA[c]	−5.50	5.55	−0.16	−0.44	0.80	−0.08	−0.13	0.12	−0.12	−0.25	0.14	−0.25
Frequency of-out-of session coaching[d]	−0.13	0.32	−0.11	8.53	6.03	0.24	**2.21**	**0.79**	**0.45****	**0.59**	**0.10**	**0.66****	**0.47**	**0.15**	**0.47****
Were therapist's out-of-session limits observed	0.23	0.92	0.06	−7.56	14.93	−0.08	−1.25	2.23	−0.09	−0.30	0.30	−0.11	−0.72	0.37	−0.28

Note. Bold indicates significant difference.

[a] Only those with any SDV during DBT included in this analysis (n=23). Severity rated by interview between 1 "very low" severity and 6 "severe."

[b] For ease of comparison given different item counts in challenging behavior subscale scores, analysis was conducted on z-scored subscale scores.

[c] Factor 3 was not included in the highest severity of SDV during DBT because it included the same construct.

[d] Because of outliers and skew, frequency of out of session coaching was log-transformed.

* p <.05

** p<.01