

THE EMOTIONAL EXPERIENCE OF CLIENTS IN DIALECTICAL BEHAVIOR THERAPY
FOR BORDERLINE PERSONALITY DISORDER

By

ALEXANDRA M. KING

A thesis submitted to the

School of Graduate Studies

Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of

Master of Science

Graduate Program in Psychology

Written under the direction of

Shireen L. Rizvi

And approved by

New Brunswick, New Jersey

January, 2018

ABSTRACT OF THE THESIS

The Emotional Experience of Clients in Dialectical Behavior Therapy for Borderline Personality Disorder

by ALEXANDRA M. KING

Thesis Director:
Shireen L. Rizvi

This study aimed to address the following questions regarding the emotional experience of Dialectical Behavior Therapy clients with Borderline Personality Disorder: 1) How do positive and negative emotions change in therapy? 2) Does the severity of clients' symptoms relate to affect? 3) Is affect related to clients' perceptions of therapeutic alliance? 4) How are clients' and therapists' affect related? To test these questions, positive and negative affect ratings were collected from clients ($N=77$) and therapists ($N=25$) at the start and end of session. These ratings were tested in relation to alliance and severity ratings using Hierarchical Linear Modeling. Results indicated that clients' positive affect increased while negative affect decreased from the start to the end of session. This pattern was mirrored over the course of treatment, but only the increase in positive affect was statistically significant over that time period. Severity was significantly related to affect, but in an unexpected direction (higher ratings of emotion dysregulation were associated with slight decreases in negative emotion and emotion lability). Additionally, clients' positive emotion significantly predicted therapeutic alliance ratings, and therapist positive affect was significantly, positively related to clients' positive emotion. These results indicate that client affect appears to change in treatment and may be related to severity,

alliance, and therapist affect. Further exploration is needed to clarify these complex relationships given the differences between positive and negative affect and the surprising direction of the association between negative affect and emotion dysregulation.

Keywords: Borderline Personality Disorder, Dialectical Behavior Therapy, emotion dysregulation, therapeutic alliance, positive and negative affect

Table of Contents

Title Page	i
Abstract	ii
Table of Contents	iv
List of Tables	v
List of Figures	vi
Section I: Introduction	1
Section II: Method	6
Participants	6
Intervention	7
Measures	7
Procedures	9
Data Analyses	10
Section III: Results	12
Descriptive Analyses	12
Changes in Client Positive Affect and Negative Affect	13
Severity of Symptoms and Affect	14
Affect and Working Alliance	15
Relationship between Therapist and Client Affect	15
Section IV: Discussion	16
Section V: Acknowledgement of Previous Publications	20
Section VI: References	21

List of Tables

Table 1.0	Client Demographic Characteristics	28
Table 2.0	Changes in Affect from Start to End of Session	29
Table 2.1	Changes in Post-Session Affect over the Course of Treatment	29
Table 3.0	Changes across assessment points	30
Table 4.0	Client Affect over the Course of Treatment Predicted by Measures of Severity	31
Table 4.1	Client Affect Lability Predicted by Measures of Severity	32
Table 5.0	Client Alliance Predicted by Affect	33
Table 6.0	Client Affect Predicted by Therapist Affect within Session	33

List of Figures

Figure 1.0	Timeline of Study	34
Figure 2.0	Nesting Structure for Testing Within Session Affect	34
Figure 2.1	Nesting Structure for Testing Session Affect over the Course of Treatment	35
Figure 3.0	Bar Graph of Mean PA and NA for Clients with High and Low BSI-GSI Severity	35
Figure 3.1	Bar Graph of Mean PA and NA for Clients with High and Low BSL-23 Severity	36
Figure 3.2	Bar Graph of Mean PA and NA for Clients with High and Low DERS Severity	36
Figure 4.0	Bar Graph of Mean Standard Deviation of NA for Clients with High and Low BSI-GSI Severity	37
Figure 4.1	Bar Graph of Mean Standard Deviation of NA for Clients with High and Low BSL-23 Severity	37
Figure 4.2	Bar Graph of Mean Standard Deviation of NA for Clients with High and Low DERS Severity	38

I. Introduction

Borderline Personality Disorder (BPD) is a severe diagnosis marked by intense emotional instability, tumultuous relationships, identity disturbance, and impulsive, destructive behaviors. This population is complex, with high rates of comorbidity: 72.9% will have a substance use disorder, 75% will have a mood disorder, and 74.2% will have an anxiety disorder at some point in their lifetimes (Grant, et al., 2008). Additionally, although the BPD population is only 0.7% to 5.9% of the general population (Grant, et al., 2008; Lenzenweger, Loranger, & Kessler, 2007; Torgersen, Kringlen, & Cramer, 2001), they are heavy treatment utilizers, making up 10% of all outpatient mental health care users and 15-20% of inpatient psychiatric service users (Swartz, Blazer, George, & Winfield, 1990; Torgersen, et al., 2001; Widiger & Weissman, 1991). This is also a high-risk population – individuals with BPD have high rates of non-suicidal self-injury (60-80%), suicide attempts (70%; Gardner & Cowdry, 1985; Soloff, Lis, Kelly, Cornelius, & Ulrich, 1994), and completed suicide (3% to 10.3%; Paris & Zweig-Frank, 2001; McGlashan, 1986; Stone, Stone, & Hurt, 1987). Although there is variability in estimates of suicide in BPD, even the lowest estimate is considerably larger than the rate in the general population, which is estimated to be .01% (National Center for Health Statistics, 2016).

Emotion dysregulation, or the inability to manage one's emotional experiences or responses to those experiences, is believed to be the underlying feature of BPD (Linehan, 1993; Chapman, Leung, and Lynch, 2008). People with BPD engage in behaviors such as self-harm, drug or alcohol abuse, or other risky behaviors as a means to reduce or distract from their extreme emotional distress (Linehan, 1993; Glen & Klonsky, 2009; Klonsky, 2007; Reitz, et al., 2015). The emotional and behavioral dysregulation associated with BPD is pervasive and can

impair function in multiple areas of clients' lives (Linehan, 1993), as well as the lives of loved ones (Fruzzetti, Shenk, & Hoffman, 2005).

While there has been extensive research on the role of emotion dysregulation in BPD in a variety of contexts (Glen & Klonsky, 2009; Klonsky, 2007; Reitz, et al., 2015), there has been very little research on what BPD clients' experience is like in treatment, and even less on their emotional experience. Some research has shown that problem behaviors that interfere with clients' life functioning present in treatment in some form (e.g. hostile interpersonal interactions and failing to attend appointments; Chalker, et al., 2015). Similarly, emotion dysregulation has also been shown to be present in treatment (Aviram, Brodsky, & Stanley, 2006; Fruzzetti, Shenk, & Hoffman, 2005). Therapy is an inherently emotional process, and given the key role of emotion dysregulation in BPD, the role of emotion in therapy may be particularly relevant for treating this population. Traditionally, the literature on emotions in therapy has come from psychoanalytic and humanistic perspectives, though it is starting to receive more attention in the cognitive literature (Whelton, 2004). Emotional experiences of therapists and/or clients in session, such as countertransference and therapeutic alliance, have been shown to be associated with client symptom severity outcomes (Machado, et al., 2014; Horvath & Symonds, 1991).

Therapeutic alliance is a common way that client experience in treatment has been studied. For the purpose of this study, alliance is defined as: how well the client and therapist like each other and the extent to which they agree with each other on the goals and course of treatment (Horvath & Greenberg, 1989). This measure of therapy experience is a consistent, moderate predictor of treatment outcome (Martin, Garke, & Davis, 2000). While there are many studies in the treatment literature examining alliance as a predictor of treatment outcomes (Martin, et al., 2000; Baldwin, Wampold & Imel, 2007), as well as studies on therapist traits that

predict alliance (Ackerman & Hilsenroth, 2003), there is very little research that has explored how clients' emotions in session relate to alliance.

One treatment which places deliberate emphasis on client emotion and therapeutic alliance is Dialectical Behavior Therapy (DBT; Linehan, 1993; Linehan, 2015). DBT is also the most widely studied treatment for BPD and the treatment shown to be most effective for this population (Panos, Jackson, Hasan, & Panos, 2014). One way that therapists are trained to help reduce clients' emotions and build a strong alliance is by communicating to the clients that their experiences make sense, are understandable, and are legitimate (a strategy called "validation"; Linehan, 1993). Validation is useful not only because it is thought to strengthen the relationship between therapist and client (Linehan, 1993; Linehan, et al., 2002), but also because it has been shown to reduce emotional arousal (Shenk & Fruzzetti, 2002; Carson-Wong, Hughes, & Rizvi, 2016).

DBT is an intensive treatment that incorporates many approaches, all of which have been tailored for working with the BPD population (Linehan, 2015). In addition to focusing on alliance, the treatment targets clients' emotion dysregulation through multiple routes. Clients are taught a variety of skills to notice and identify their emotions, to tolerate their intense emotions, to manage intense emotions in an effective manner, and to prevent emotions from reaching high intensity (Linehan, 2015).

There has been extensive literature on the role of emotion dysregulation in BPD and the effectiveness of DBT, and literature assessing the role of therapeutic alliance in DBT is beginning to emerge. For example, Bedics, Atkins, Comtois, and Linehan (2015) found that client- and therapist-rated alliance was related to multiple treatment outcomes (such as non-suicidal self-injury, suicide attempts, and depression symptoms). That same group also found

several therapist characteristics associated with alliance (such as warmth and balancing support and encouraging independence; 2012).

This study aimed to examine the affect of clients with BPD in the context of DBT: the intensity of affect and how affect changes within sessions and over the course of treatment. The second aim was to assess the relationship of clients' symptom severity to their affect in treatment. The third aim was to explore how clients' affect was related to client-rated therapeutic alliance. A final aim was to evaluate the relationship between clients' emotional experiences and those of their therapists. To pursue these aims, positive and negative affect and therapeutic alliance ratings from treatment dyads in a training clinic setting were analyzed to explore patterns of affect within session and over the course of treatment, to assess whether the severity of the client's symptoms was related to levels of affect and changes in affect, to evaluate if affect was associated with therapeutic alliance, and to assess if and how each party's affect influenced the other party.

Due to the limited literature on BPD clients' experiences in DBT, the majority of the study questions were exploratory. First, the question of how affect varied within session and over the course of treatment was examined. It was expected that levels of positive and negative affect would vary based on previous research which found fluctuations of affect within therapy sessions (Gaskovski, Cavaliere, Mercer-Lynn, Westra, and Eastwood, 2014), but the direction and magnitude of these changes were not predicted. Next, the question of how baseline symptom severity was related to levels of positive and negative affect was explored. The third question was whether clients' affect in session would be related to their therapeutic alliance ratings. The only explicit hypothesis was that the therapists' and clients' levels of positive and negative affect would be directly related. This would be consistent with emotion contagion theory, which

postulates that people's emotions tend to shift to align with the emotions of those around them (Gladstein, 1983).

II. Method

Participants

Client participants (referred to as “clients” for the rest of the paper) were recruited from the central New Jersey area through referrals, online postings, and the website for the DBT clinic at Rutgers University (DBT-RU). Interested individuals called the clinic and graduate trainees returned the calls and screened the individuals over the phone. Those who met preliminary criteria were invited for an intake assessment, and if they met the full criteria in the intake, they were accepted as clients. To be included in the study, clients had to be 18 years of age or older, reside within 45 minutes driving distance from the clinic, agree to discontinue other forms of therapy (except for psychiatric medications), meet criteria for BPD, agree to take part in assessments, agree to have sessions recorded, and agree to pay for services in the clinic. Potential clients were excluded from the study if they required mental health services not available at the clinic, if they could not speak English, if they had severe cognitive deficits, or if they were unable to understand the consent forms. The fees for the clinic were on a sliding scale, with clients paying between \$10 and \$100 per week depending on household income. In exchange for completing the research assessments, clients were compensated up to \$60 for every completed assessment, not including the pre-treatment assessment.

For this study, clients were included if they had attended at least one full individual therapy session by May 1, 2017. Clients still in treatment were included as well, with all data collected by May 1st included analyses. The final sample was comprised of 77 individuals, with ages ranging from 18 to 59 years old ($M=29.26$, $SD=9.08$). Of the clients, 75.3% ($N=58$) identified as female, 22.1% ($N=17$) as male, and 2.6% ($N=2$) identified as “other.” The racial and ethnic makeup of the sample was as follows: 80.5% ($N=62$) white, 13% ($N=10$) black, 9.1%

($N=7$) Asian, 1.3% ($N=1$) American Native, 10.4% ($N=8$) Hispanic, 10.4% ($N=8$) more than one race, and 6.5% ($N=5$) identified as “other.” The majority of the sample was single (72.7%, $N=56$), 14.3% ($N=11$) were married, 5.2% ($N=4$) were living with a partner, and 7.8% of the sample ($N=6$) were separated, divorced, or widowed. (See Table B1 for more details.)

Therapist participants (henceforth referred to as “therapists”) were a licensed doctoral service provider and graduate clinicians-in-training from the clinical psychology PhD and PsyD programs at Rutgers University. All therapists were part of the DBT-RU treatment team. To be on the DBT-RU team, therapists took a didactic course on DBT, had a commitment session prior to joining the team, agreed to participate in all modes of treatment, agreed to participate in assessments as part of providing treatment, and agreed to have sessions recorded. During the course of treatment, therapists participated in weekly group consultation meetings as well as weekly supervision meetings.

The final therapist sample included 25 individuals. The age of the sample ranged from 24 to 38 years old ($M=27.20$, $SD=3.40$), with 84% ($N=21$) female. The racial and ethnic makeup of the sample was 88% ($N=22$) white, 20% ($N=5$) Asian, 8% ($N=2$) Hispanic, and 8% ($N=2$) identified as more than one race.

Intervention

All clients were assigned to receive 6-months of standard DBT. This included all four modes of treatment: weekly individual therapy, weekly group therapy, out-of-session phone coaching, and weekly therapist consultation team. For more detail on the treatment procedures, see Rizvi, Hughes, Hittman, and Vieira Oliveira (2017).

Measures

Multiple self-report questionnaires were used to assess various indicators of clinical severity for the clients. Positive and negative affect and working alliance were assessed for the clients and therapists. Additionally, clients and therapists also filled out a demographics form, providing information on age, gender, race, ethnicity, income, employment status, and marital status.

Brief Symptom Inventory. To assess the general severity of clients' psychopathology, the Brief Symptom Inventory (BSI; Derogatis, 1975) was used. The BSI is a 53-item instrument assessing 9 primary categories of symptoms such as interpersonal sensitivity, depression, and anxiety (Derogatis & Melisaratos, 1983). Clients were asked to rate the extent to which problems such as "feeling inferior to others" and "trouble remembering things" caused distress in the previous week (Derogatis). Responses are on a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely). The General Severity Index (BSI-GSI) was used for analyses, which is calculated by taking a mean of the responses across all 9 symptom categories. The internal consistency of the measure was high in the sample, Cronbach's $\alpha=.97$.

Borderline Symptoms List – Short Version. The short version of the Borderline Symptoms List (BSL-23; Bohus, et al., 2009) was used to measure clients' BPD severity. The measure has 23 items in which clients were asked to rate how they felt over the last week with Likert-type responses on a scale of 0 (not at all) to 4 (very strong). Items include phrases such as "I was lonely" and "I was afraid of losing control." The scores are derived from the average of the responses, which can range from 0 to 4. The measure also had high internal consistency, with Cronbach's $\alpha=.96$.

Difficulties in Emotion Regulation Scale. To measure client's emotion dysregulation, the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) was used. On this

36-item questionnaire, clients were asked to rate how often they experienced various difficulties with emotions on a scale from 1 (almost never) to 5 (almost always). Examples of such items are “when I’m upset, I have difficulty concentrating” and “I am confused about how I am feeling.” Clients’ responses were summed, and can range from 36 to 180. The internal consistency was high, with Cronbach’s $\alpha=.95$.

Working Alliance Inventory-Short Form. The Working Alliance Inventory-Short Form (WAI-S; Busseri & Tyler, 2003) was used to assess clients’ ratings of therapeutic alliance. The WAI-S is a 12-item measure with items such as “I am confident in my ability to help _____” and “I believe my treatment provider likes me.” The clients responded on a 7-point Likert-type scale from 1 (never) to 7 (always). Scores are summed, and can range from 12 to 84. The measure had high internal consistency, Cronbach’s $\alpha=.94$.

Positive and Negative Affect Schedule. To record the therapists’ and clients’ emotional experiences in session, the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) was used. The PANAS is a questionnaire which lists 20 positively- and negatively-valenced emotion words, such as “interested” and “guilty.” Participants responded on a Likert-type scale, ranging from 1 (very slightly or not at all) to 5 (extremely), to indicate the extent to which they were experiencing each emotion. In this instrument, positive and negative affect are conceptualized as distinct spectrums that vary separately, as opposed to poles on a single spectrum. Thus, positive affect (PA) and negative affect (NA) were assessed as independent subscales. Each subscale is a sum of the respective items, and both range from 10 to 50. The measure had high internal consistency for both subscales for clients and therapists, Cronbach’s $\alpha=.88$ to $.94$.

Procedures

After the phone screen, potential participants came in to the clinic to undergo a pre-treatment intake assessment. During this assessment, many diagnostic and evaluative measures were administered, most relevant to this study are the BDI, BSL, and DERS. Clients completed the WAI-S at the end of the first four sessions, as well as at assessments at 3- and 6-months into treatment (along with other measures not relevant to this study). This resulted in four longitudinal between-session assessments. Furthermore, at the start and end of every session the therapists and clients completed the PANAS, resulting in multiple within-session assessments for most clients. See Figure A1 for the timeline of the study.

Data Analyses

First, basic descriptives of the positive affect and negative affect data were evaluated, such as the averages and ranges of affect at the beginning and end of sessions and throughout treatment. Hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) was used evaluate patterns of affect and alliance for several reasons: 1) it is ideally suited for analyzing longitudinal data nested at multiple levels, 2) it is robust against missing data and uneven numbers of observations from participants, and 3) it allows for controlling for therapist effects. Analyses were conducted with the statistical program SPSS 24.0. The only criteria for excluding cases from analyses was if fewer than one therapy session was attended. Missing data was replaced using multiple imputation.

For the first aim, changes in client's PA and NA within session were assessed by testing whether session time point (pre-session or post-session) predicted clients' affect scores. Clients' affect scores for this analysis were nested within session and within client (see Figure A2). Then, changes in clients' affect over the course of treatment was assessed by testing session number

(i.e., the number of sessions into treatment) as a predictor of clients' post-session affect scores. For this of the analysis, clients' scores were nested within client only (see Figure A3).

For the second aim, scores on the BSI-GSI, BSL-23, and DERS at baseline and mid-treatment were tested as predictors of client levels of PA over the course of treatment, and then as predictors for client NA. Then, baseline scores on the BSI-GSI, BSL-23, and DERS were tested as predictors of lability of clients' NA and then as predictors of lability of PA. Affect lability was measured by using the standard deviation of clients' NA and PA scores. The test of severity in relation to affect lability was the only test run with linear regression, as the data was not hierarchical for this question.

The third aim was pursued by testing client and therapist PA and NA scores as predictors of client-rated WAI-S. Lastly, the relationship between client and therapist affect in session was assessed. Therapist PA and NA were tested as predictors of client PA, and then they were tested as predictors for client NA.

III. Results

Descriptive Analyses

The dataset was comprised of 1,478 sessions (each with pre- and post-session ratings of PA and NA) across 77 clients; the clients had an average of 19.55 sessions ($SD=7.80$, Range=1 to 33). Therapists treated an average of 3.21 clients ($SD=1.67$, Range=1 to 8). Of the clients, 51 (65.4%) completed treatment, 7 (9%) were still in treatment, and 19 (25.6%) had dropped out. The average number of sessions varied between completers ($M=23.86$, $SD=2.95$), current clients ($M=13$, $SD=6$), and dropouts ($M=8.95$, $SD=5.02$). Treatment status and number of sessions attended were tested as covariates for all the analyses and were not significant; the final analyses did not include these variables.

The patterns of affect observed in the clients and therapists was in-line with previous studies on BPD and non-BPD samples. There was significant change between pre- and post-session affect scores so they are not presented together. Scores reported here are from the pre-session ratings, as they may depict lability in affect more accurately. Clients' average PA was 24.43 ($SD=9.15$) and the responses spanned the full possible range (10 to 50). Clients' average NA showed a similar pattern ($M=21.78$, $SD=8.89$, Range=10 to 50). Client NA was skewed to the right, and the majority of responses were the minimum (10). Client PA was more normally distributed, aside from being leptokurtic. These results are similar to previous studies which found that BPD samples had mean PA around 21 to 24 and mean NA around 18 to 29 (Blum, et al., 2008; Dyck, et al., 2009). Therapist PA averaged 28.86 ($SD=7.33$, Range=10 to 50) and NA averaged 14.35 ($SD=5.15$, Range=10 to 50). Therapist affect in this sample also reflected the literature, which found non-clinical samples with mean PA scores around 30 and NA scores

around 11 (Blum, et al., 2008; Dyck, et al., 2009). See Table B2 for more details on within session change and Table B3 for changes over the course of treatment.

Clients' responses on the symptom severity measures at baseline also corroborated findings in previous research. The average BSI-GSI score was 2.55 ($SD=.69$, Range=1.19 to 4.47). In previous studies, outpatient samples have reported mean scores of 2.30, while non-clinical samples have had means closer to 1.30 (Derogatis & Melisaratos, 1983). Similarly, a non-clinical sample reported a mean BSL-23 score of 1.00, while a sample of BPD patients had a mean of 2.05. The mean BSL-23 score for clients in this study was 2.09 ($SD=.82$, Range =.35 to 3.61; Bohus, et al., 2009). For the DERS, scores over 100 (which is 1 standard deviation above the mean in the sample used to validate the measure; Gratz & Roemer, 2004) are considered clinically significant (Herr, Jones, Cohn, & Weber, 2015) and these clients had an average DERS of 119.34 ($SD=20.34$, Range=65.88 to 162). See Table B4 for more details.

Changes in Client Positive Affect and Negative Affect

Within Session. Client PA significantly increased by an average of 1.96 points from the start ($M=24.43$, $SD=9.15$) to end of session ($M=26.36$, $SD=9.77$; $F(2854.81)=76.80$, $p<.001$), with the session number accounting for 1% of the variance and between-client differences accounting for 60% of the variance ($ICC=.01$, $p=.04$ and $ICC=.60$, $p<.001$, respectively). NA significantly decreased by an average of 1.72 points from the start ($M=21.78$, $SD=8.89$) to end of session ($M=20.06$, $SD=8.64$; $F(2859.26)=61.76$, $p<.001$); session number accounted for 2% of the variance and between-client differences accounted for 56% of the variance ($ICC=.02$, $p=.01$ and $ICC=.56$, $p<.001$, respectively). These results indicate that clients generally felt more positive and less negative emotion after session than at the start. See Table B2 for more details.

Over the Course of Treatment. Client PA significantly increased by an average of .08 from session to session ($F(1422.92)=9.53, p=.02$), with mean PA at first session at 27.48 ($SD=8.44$) and mean PA at last session at 28.57 ($SD=11.54$). Between-client differences accounted for 63% of the variance ($ICC=.63, p<.001$). Client NA did not significantly change from session to session. These analyses demonstrate that clients' positive affect slightly increased over the course of treatment, while negative affect did not significantly change. See Table B3 for more details.

Severity of Symptoms and Affect

Severity and Levels of Affect. Clients' PA scores at pre-session, over the course of treatment, were significantly predicted by BSI-GSI pre-treatment and mid-treatment scores ($F(1193.89)=6.78, p=.01, B=-2.54$), while DERS and BSL-23 were not significantly related ($p=.95$ and $.90$, respectively). Between-client differences accounted for 59% of the variance in PA scores at pre-session ($ICC=.59, p<.001$). Clients' NA scores at pre-session over the course of treatment were also predicted by BSI-GSI scores ($F(704.03)=18.08, p<.001, B=3.99$), as well as by DERS scores ($F(1052.70)=11.34, p=.001, B=-.05$), though BSL-23 was again non-significant ($p=.34$). Between-client differences accounted for 40% of the variance in NA scores at pre-session ($ICC=.40, p<.001$). These results suggest that client affect is related to some aspects of severity, particularly general severity with PA and emotion dysregulation and general severity with NA. See Table B5 and Figures A4 through A6 for more details.

Severity and Variability of Affect. Lability in clients' NA (as indicated by clients' standard deviations in their pre-session NA scores) was significantly predicted by a model including baseline severity scores on the BSI-GSI, BSL-23, and DERS. The model as a whole accounted for 11% of the variance in affect lability ($F(3,73)=4.21, p=.01, R^2=.11$). The DERS

was the only significant predictor ($B=-.03$, $t=-2.13$, $p=.04$), while BSI-GSI and BSL-23 were not ($p=.14$ and $.35$, respectively). This showed that DERS scores and NA lability were inversely related (i.e., as one increased the other decreased). Lability in clients' PA was not significantly predicted by severity ($p=.31$ for the overall model). See Table B6 and Figures A7 through A9 for more details.

Affect and Working Alliance

Client-rated alliance was significantly related to client PA ($F(1413.52)=15.26$, $p<.001$), but not related to client NA ($p=.16$), therapist PA ($p=.19$), or therapist NA ($p=.24$). Between-therapist differences were significant ($F(57.68)=4.08$, $p<.001$), as were between-client differences, which accounted for accounted for 77% of the variance in alliance ($ICC=.77$, $p<.001$). This demonstrates that client's positive affect, but not negative affect, is associated with client-rated alliance, and therapist affect (positive or negative) is not related. Additionally, although therapist affect was not related to client-rated alliance, there were significant differences in client-rated alliance between therapists. See Table B7 for more details.

Relationship between Therapist and Client Affect

Client PA at the end of session was significantly predicted by therapist PA at the start of session ($F(1471.92)=5.89$, $p=.02$, $B=.09$), while therapist NA was not related to client PA ($p=.10$). Between-client differences accounted for 64% of the variance in client PA ($ICC=.64$, $p<.001$). Client NA at post-session was not related to therapist pre-session PA ($p=.58$) or NA ($p=.10$). This indicates that therapist and client PA are related, while therapist and client NA are not. Additionally, this demonstrates that PA and NA are not related. See Table B8 for more details.

IV. Discussion

BPD is a severe and complicated disorder of emotion dysregulation and high treatment utilization, with little research examining how clients' emotions present in treatment. DBT is the most-widely supported treatment for this population, which has shown positive relationships between therapists and clients, as well as improved outcomes for clients. This study assessed therapist and client positive and negative affect at the start and end of therapy sessions in a 6-month, comprehensive DBT program for individuals with BPD. How these scores varied from the start to end of session and from session to session was assessed. Additionally, the relationships of client affect with therapist affect, alliance, and symptom severity were tested.

For the first aim, assessing how affect would vary within and between sessions, client PA was found to increase and NA to decrease from the start to end of session, on average. Additionally, average client PA increased over time in treatment. There was also large variability in affect as the range of observed scores was near the maximum possible range for most time points. Although these results were statistically significant, the clinical significance is unclear given the small magnitude of these changes.

Negative emotion did not decrease in clients over the course of treatment, but this finding may be consistent with the goals of DBT. The treatment's main intention is to help clients reduce behavioral dyscontrol in the face of intense negative emotion, not to eliminate negative emotion, in which case the lack of significant change is not surprising. On the other hand, one of the explicit targets of DBT for some clients is to increase their engagement in activities that produce positive mood and to strengthen their experience of positive emotions when they arise, which is supported by clients' increase in PA from session to session.

The second aim was to examine whether severity was related to client affect. The BSI-GSI was found to be related to clients' levels of PA and NA, and the DERS was shown to be related to clients' levels of NA and lability in NA. Clients with BPD are characterized by strong emotions and intense shifts in emotion. Given these characteristics, it makes sense that clients' severity of general symptoms was positively related to levels of NA and negatively related to levels of PA. However, it was surprising that clients' severity of dysregulation was negatively related to NA scores and lability in NA (i.e. the extent to which their affect varied). As DERS scores increased, levels and lability of NA decreased, and vice versa. There are many potential reasons for these findings: the relationship is more complex than expected, there is bias as a result of how the clients are completing the measures, and/or one or both of the measures are not accurately reflecting these constructs. Future research should evaluate this relationship further.

The relationship between affect and client-rated alliance was assessed in pursuit of the third aim. Only levels of client PA were significantly associated with client-rated alliance. There was a significant difference between therapists, but it was not due to their affect ratings. This suggests that other processes, either related to clients' emotional experience and/or therapists' characteristics or behaviors in session, may be influencing alliance. Further research should assess what kinds of client or therapist behaviors in session may contribute to alliance that explain these relationships.

The only prediction in this study, that therapist and client affect would be related, was partially supported. PA was significantly, directly related between therapists and clients, while NA was not related. This suggests that as therapist PA increased, so did client PA (and vice versa: as therapist PA decreased, so did client PA). Given these findings, it appears that other processes may be producing a differential effect for emotion contagion in positive versus

negative emotions. There are many potential explanations for these findings, from the emotion contagion literature and from DBT theory. Some emotion contagion researchers found that people are more aware of others' positive emotions (Campos, Schoebi, Gonzaga, Gable, & Keltner, 2015), and others have found that negative emotions spread among people within the same social group, while positive emotions spread across groups (Bourgeois & Hess, 2008). Perhaps the clients' and therapists' positive emotions were more easily perceived and then shared, but negative emotions did not spread because clients and therapists have distinct roles in the therapeutic relationship. It may also be that DBT strategies moderated the impact of positive and negative emotions. Therapists and clients use skills that are intended to reduce the impact of negative emotions on behavior, and as such negative emotion in session may not influence the dyads' interactions as much as positive emotions. Additionally, therapists use validation strategies in session, some of which have been shown to increase PA and reduce NA (Carson-Wong, Hughes, & Rizvi, 2016). Further research should assess session content in comparison to therapist and client affect ratings to determine which processes contribute to this relationship.

There were several limitations to this study that should be considered when evaluating these results. First, this was an open-trial study with no control condition; as such, these results cannot definitively be attributed to DBT as opposed to potential confounding factors. Second, the external validity of these results may be limited given that the treatment was provided in a university research clinic, mostly provided by graduate students supervised by an expert in DBT, and the sample of clients and therapists were not diverse. Third, the magnitude of the changes in PA and NA was small and, despite showing statistical significance, it is unclear how clinically significant these changes were. Fourth, all the data was collected through self-report measures which can be unreliable. One potential short-coming of the self-report measures, particularly the

NA subscale of the PANAS, was skewed responses. The mean of client NA at post-session was 13.47, but the range was 10 to 46 (out of a possible 10 to 50), and the mode was 10, with over 200 of the 1,478 responses. Similarly, the WAI-S was strongly skewed but to the left, with the average WAI-S for clients around 65 for each time point (out of a maximum range of 12 to 84). These results may indicate floor or ceiling effects (i.e., the measures are not adequately recording clients' full range of experiences) or response bias (i.e., clients were reporting extreme scores for a reason such as convenience as opposed to reflecting their true experience). The skewed responses may have contributed to the lack of significant change in NA from session to session and the lack of significant relationships with WAI-S.

Future research should evaluate therapists' experiences in DBT, to compare it to as previous literature demonstrating clinicians' high stress in working with this population, which could continue to break down the stigma associated with working with BPD. Additionally, more process-level research, such as comparing session content to affect ratings, should be conducted to assess what contributes to clients' changes in affect, and what outcomes these changes may be related to.

The results of this study are only the first step in evaluating BPD clients' emotional experiences in DBT; they provide support for some of the theorized mechanisms of DBT and they demonstrate that much more research is needed to understand emotional processes for clients in this treatment.

V: Acknowledgement of Previous Publications

Wilks, C. R., Valenstein-Mah, H., Tran, H., King, A. M., Lungu, A., & Linehan, M. M. (2016).

Dialectical Behavior Therapy Skills for Families of Individuals with Behavioral Disorders:

Initial Feasibility and Outcomes. *Cognitive and Behavioral Practice*, 24 (3), 288-295.

VI. References

- Ackerman, S. J., & Hilsenroth, M. J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical psychology review*, 23(1), 1-33.
doi:10.1016/S0272-7358(02)00146-0
- Aviram, R. B., Brodsky, B. S., & Stanley, B. (2006). Borderline personality disorder, stigma, and treatment implications. *Harvard review of psychiatry*, 14(5), 249-256.
doi:10.1080/10673220600975121
- Baldwin, S. A., Wampold, B. E., & Imel, Z. E. (2007). Untangling the alliance-outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance. *Journal of consulting and clinical psychology*, 75(6), 842. doi:10.1037/0022-006X.75.6.842
- Bedics, J. D., Atkins, D. C., Comtois, K. A., & Linehan, M. M. (2012). Weekly therapist ratings of the therapeutic relationship and patient introject during the course of dialectical behavioral therapy for the treatment of borderline personality disorder. *Psychotherapy*, 49(2), 231. doi:10.1037/a0028254
- Bedics, J. D., Atkins, D. C., Harned, M. S., & Linehan, M. M. (2015). The therapeutic alliance as a predictor of outcome in dialectical behavior therapy versus nonbehavioral psychotherapy by experts for borderline personality disorder. *Psychotherapy*, 52(1), 67. doi:10.1037/a0038457
- Blum, N., St. John, D., Pfohl, B., Stuart, S., McCormick, B., Allen, J., Arndt, S., & Black, D. W. (2008). Systems Training for Emotional Predictability and Problem Solving (STEPPS) for outpatients with borderline personality disorder: a randomized controlled trial and 1-

- year follow-up. *American Journal of Psychiatry*, 165(4), 468-478.
doi:10.1176/appi.ajp.2007.07071079
- Bohus, M., Kleindienst, N., Limberger, M. F., Stieglitz, R. D., Domsalla, M., Chapman, A. L., Steil, R., Philipsen, A., & Wolf, M. (2009). The short version of the Borderline Symptom List (BSL-23): development and initial data on psychometric properties. *Psychopathology*, 42(1), 32-39. doi:10.1159/000173701
- Bourgeois, P., & Hess, U. (2008). The impact of social context on mimicry. *Biological psychology*, 77(3), 343-352. doi:10.1016/j.biopsycho.2007.11.008
- Busseri, M. A., & Tyler, J. D. (2003). Interchangeability of the working alliance inventory and working alliance inventory, short form. *Psychological assessment*, 15(2), 193.
doi:0.1037/1040-3590.15.2.193
- Campos, B., Schoebi, D., Gonzaga, G. C., Gable, S. L., & Keltner, D. (2015). Attuned to the positive? Awareness and responsiveness to others' positive emotion experience and display. *Motivation and Emotion*, 39(5), 780-794. doi:10.1007/s11031-015-9494-x
- Carson-Wong, A., Hughes, C. D., & Rizvi, S. L. (2016). The effect of therapist use of validation strategies on change in client emotion in individual dbt treatment sessions. *Personality Disorders: Theory, Research, and Treatment*. Advance online publication.
doi:10.1037/per0000229
- Chalker, S. A., Carmel, A., Atkins, D. C., Landes, S. J., Kerbrat, A. H., & Comtois, K. A. (2015). Examining challenging behaviors of clients with borderline personality disorder. *Behaviour research and therapy*, 75, 11-19. doi:10.1016/j.brat.2015.10.003

- Chapman, A. L., Leung, D. W., & Lynch, T. R. (2008). Impulsivity and emotion dysregulation in borderline personality disorder. *Journal of personality disorders*, 22(2), 148-164.
doi:10.1521/pedi.2008.22.2.148.
- Derogatis, L. R. (1975). *Brief Symptom Inventory*. Clinical Psychometric Research: Baltimore.
- Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: an introductory report. *Psychological medicine*, 13(03), 595-605. doi:10.1017/S0033291700048017
- Dyck, M., Habel, U., Slodczyk, J., Schlummer, J., Backes, V., Schneider, F., & Reske, M. (2009). Negative bias in fast emotion discrimination in borderline personality disorder. *Psychological medicine*, 39(5), 855-864. doi:10.1017/S0033291708004273
- Fruzzetti, A. E., Shenk, C., & Hoffman, P. D. (2005). Family interaction and the development of borderline personality disorder: A transactional model. *Development and psychopathology*, 17(04), 1007-1030. doi:10.1017/S0954579405050479
- Gardner, D. L. & Cowdry, R. W. (1985). Suicidal and parasuicidal behavior in borderline personality disorder. *Psychiatric Clinics of North America*, 8, 389-403.
doi:10.1027/0227-5910.19.3.125
- Gaskovski, P., Cavaliere, C., Mercer-Lynn, K. B., Westra, H. A., & Eastwood, J. D. (2014). Mapping good therapy sessions: A pilot study of within-session client affect. *Journal of Contemporary Psychotherapy*, 44(1), 21-29. doi:10.1007/s10879-013-9247-7
- Gladstein, G. A. (1983). Understanding empathy: Integrating counseling, developmental, and social psychology perspectives. *Journal of counseling psychology*, 30(4), 467.
doi:10.1037/0022-0167.30.4.467
- Grant, B. F., Chou, S. P., Goldstein, R. B., Huang, B., Stinson, F. S., Saha, T. D., Smith, S. M., Dawson, D. A., Pulay, A. J., Pickering, R. P., & Ruan, W. J. (2008). Prevalence,

- correlates, disability, and comorbidity of DSM-IV borderline personality disorder: results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *The Journal of clinical psychiatry*, 69(4), 533.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of psychopathology and behavioral assessment*, 26(1), 41-54. doi:10.1023/B:JOBA.00000007455.08539.94
- Herr, N. R., Jones, A. C., Cohn, D. M., & Weber, D. M. (2015). The impact of validation and invalidation on aggression in individuals with emotion regulation difficulties. *Personality Disorders: Theory, Research, and Treatment*, 6(4), 310. doi:10.1037/per0000129
- Horvath, A. O., & Greenberg, L. S. (1987). The development of the working alliance inventory. In L. S. Greenberg & W. M. Pinsof (Eds.). *The psychotherapeutic research process: A research handbook* (pp. 529-556). New York: Guilford Press.
- Horvath, A. O., & Symonds, B. D. (1991). Relation between working alliance and outcome in psychotherapy: A meta-analysis. doi:10.1037/0022-0167.38.2.139
- Klonsky, E. D. (2007). The functions of deliberate self-injury: A review of the evidence. *Clinical psychology review*, 27(2), 226-239. doi:10.1016/j.cpr.2006.08.002
- Lenzenweger, M. F., Lane, M. C., Loranger, A. W., & Kessler, R. C. (2007). DSM-IV personality disorders in the National Comorbidity Survey Replication. *Biological psychiatry*, 62(6), 553-564. doi:10.1016/j.biopsych.2006.09.019
- Linehan, M. M. (1993). *Skills training manual for treating borderline personality disorder*. Guilford Press.
- Linehan, M. M. (2015). *DBT® skills training manual*. Guilford Publications.

- Linehan, M. M., Dimeff, L. A., Reynolds, S. K., Comtois, K. A., Welch, S. S., Heagerty, P., & Kivlahan, D. R. (2002). Dialectical behavior therapy versus comprehensive validation therapy plus 12-step for the treatment of opioid dependent women meeting criteria for borderline personality disorder. *Drug and alcohol dependence*, 67(1), 13-26.
doi:10.1016/S0376-8716(02)00011-X
- Machado, D. D. B., Coelho, F. M. D. C., Giacomelli, A. D., Donassolo, M. A. L., Abitante, M. S., Dall'Agnol, T., & Eizirik, C. L. (2014). Systematic review of studies about countertransference in adult psychotherapy. *Trends in psychiatry and psychotherapy*, 36(4), 173-185. doi:10.1590/2237-6089-2014-1004
- Markham, D. (2003). Attitudes towards patients with a diagnosis of 'borderline personality disorder': Social rejection and dangerousness. *Journal of Mental Health*, 12(6), 595-612.
doi:10.1080/09638230310001627955
- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: a meta-analytic review. doi:10.1037/0022-006X.68.3.438
- McGlashan, T. H. (1986). The Chestnut Lodge follow-up study: III. Long-term outcome of borderline personalities. *Archives of General Psychiatry*, 43(1), 20-30.
- National Center for Health Statistics (2016). About underlying cause of death, 1999–2014. *CDC WONDER online database*. Retrieved from: <http://wonder.cdc.gov/ucd-icd10.html>.
- Panos, P. T., Jackson, J. W., Hasan, O., & Panos, A. (2014). Meta-analysis and systematic review assessing the efficacy of dialectical behavior therapy (DBT). *Research on Social Work Practice*, 24(2), 213-223. doi:10.1177/1049731513503047
- Paris, J., & Zweig-Frank, H. (2001). A 27-year follow-up of patients with borderline personality disorder. *Comprehensive psychiatry*, 42(6), 482-487. doi:10.1053/comp.2001.26271

- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (Vol. 1). Sage.
- Reitz, S., Kluetsch, R., Niedtfeld, I., Knorz, T., Lis, S., Paret, C., Kirsch, P., Meyer-Lindenberg, A., Treede, R., Baumgartner, U., Bohus, M., & Schmahl, C. (2015). Incision and stress regulation in borderline personality disorder: neurobiological mechanisms of self-injurious behaviour. *The British Journal of Psychiatry*, 207(2), 165-172.
doi:10.1192/bjp.bp.114.153379
- Rizvi, S. L., Hughes, C. D., Hittman, A. D., & Vieira Oliveira, P. (2017). Can Trainees Effectively Deliver Dialectical Behavior Therapy for Individuals with Borderline Personality Disorder? Outcomes from a Training Clinic. *Journal of Clinical Psychology*.
doi:10.1002/jclp.22467
- Shenk, C. E., & Fruzzetti, A. E. (2011). The impact of validating and invalidating responses on emotional reactivity. *Journal of Social and Clinical Psychology*, 30(2), 163-183.
doi:10.1521/jscp.2011.30.2.163
- Soloff, P. H., Lis, J. A., Kelly, T., Cornelius, J., & Ulrich, R. (1994). Self-mutilation and suicidal behavior in borderline personality disorder. *Journal of Personality Disorders*, 8, 257-267.
doi:10.1521/pedi.1994.8.4.257
- Stone, M. H., Stone, D. K., & Hurt, S. W. (1987). Natural history of borderline patients treated by intensive hospitalization. *Psychiatric Clinics of North America*.
- Swartz, M., Blazer, D., George, L., & Winfield, I. (1990). Estimating the prevalence of borderline personality disorder in the community. *Journal of Personality Disorders*, 4, 257-272. doi:10.1521/pedi.1990.4.3.257

- Torgersen, S., Kringlen, E., & Cramer, V. (2001). The prevalence of personality disorders in a community sample. *Archives of general psychiatry*, 58(6), 590-596.
doi:10.1001/archpsyc.58.6.590
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54(6), 1063. doi:10.1037/0022-3514.54.6.1063
- Whelton, W. J. (2004). Emotional processes in psychotherapy: Evidence across therapeutic modalities. *Clinical Psychology & Psychotherapy*, 11(1), 58-71. doi:10.1002/cpp.392
- Widiger, T. A. & Weissman, M. M. (1991). Epidemiology of borderline personality disorder. *Hospital and Community Psychiatry*, 42, 1015-1021. doi:10.1176/ps.42.10.1015

Table 1.0

Client Demographic Characteristics

Characteristic	<i>n</i>	%
Age	M (29.26) SD (9.08)	
	Range (18 to 59)	
Gender		
	Female	58 75.3
	Male	17 22.1
	Other	2 2.6
Race/Ethnicity		
	White/Caucasian	62 80.5
	Black/African American	10 13
	Hispanic/Latino	8 10.4
	Asian	7 9.1
	American Native	1 1.3
	Other	5 6.5
	Mixed Race	8 10.4
Relationship Status		
	Single	56 72.7
	Married	11 14.3
	Living with a partner	4 5.6
	Separated	3 3.9
	Divorced	2 2.6
	Widowed	1 1.3

Table 2.0

Changes in Affect from Start to End of Session

	Pre-session				Post-session				Within Session Change		
	<i>M</i>	<i>Mdn</i>	<i>SD</i>	<i>Range</i>	<i>M</i>	<i>Mdn</i>	<i>SD</i>	<i>Range</i>	<i>B</i>	<i>SE</i>	<i>F</i>
Client PA	24.43	23	9.15	10-50	26.36	26	9.77	10-50	1.96	.22	76.80***
Client NA	21.78	20	8.89	10-50	20.06	19	8.64	10-50	-1.72	.22	61.76***
Therapist PA	28.86	29	7.33	10-50	30.71	31	8.44	10-46	1.85	.18	101.76***
Therapist NA	14.35	13	5.15	10-50	13.47	12	4.98	10-50	-.87	.13	42.41***

$p < .001^{***}$, $N_{clients}=77$, $N_{therapists}=25$, $N_{sessions}=1,478$

Note. PA and NA refer to the Positive and Negative Affect subscales of the PANAS, respectively

Table 2.1

Changes in Post-Session Affect over the Course of Treatment

	First Session				Last Session				Between Session Change		
	<i>M</i>	<i>Mdn</i>	<i>SD</i>	<i>Range</i>	<i>M</i>	<i>Mdn</i>	<i>SD</i>	<i>Range</i>	<i>B</i>	<i>SE</i>	<i>F</i>
Client PA	27.48	27	8.44	10-47	28.57	28	11.54	10-50	.08	.02	9.53**
Client NA	21.13	19	8.43	10-42	19.88	19	8.60	10-43	-.01	.02	.09
Therapist PA	34.60	35	7.20	16-50	31.83	33	8.07	11-48	-.07	.02	11.27**
Therapist NA	13.38	13	3.41	10-23	13.66	12	5.16	10-37	.02	.01	1.30

$p < .01^{**}$, $N_{clients}=77$, $N_{therapists}=25$, $N_{sessions}=1,478$

Note. PA and NA refer to the Positive and Negative Affect subscales of the PANAS, respectively

Table 3.0

Changes across assessment points

	Pre-treatment	Mid-treatment	Post-treatment
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
WAI-S-client	63.53 (9.65)	64.80 (10.79)	67.39 (10.76)
BSI	86.43 (33.97)		
BSL-23	50.73 (17.50)		
DERS	119.29 (18.40)		
<i>N=77</i>			

Note. DERS = Difficulties in Emotion Regulation Scale, BSI-GSI = Brief Symptom Inventory – General Severity Index, BSL-23 = Borderline Symptom List, WAI-S = Working Alliance Inventory – Short Form. WAI-S pre-treatment scores collected at the end of the first therapy session.

Table 4.0

Client Affect over the Course of Treatment Predicted by Measures of Severity

	Client PA			Client NA		
	<i>b</i>	<i>SE</i>	<i>F</i>	<i>b</i>	<i>SE</i>	<i>F</i>
DERS	-.001	.02	.01	-.05	.01	11.34**
BSI-GSI	-2.54	.98	6.78**	3.99	.94	18.08***
BSL-23	-.08	.60	.02	.58	.60	.93

p<.01**, p<.001***, *N clients*=77

Note. DERS = Difficulties in Emotion Regulation Scale, BSI-GSI = Brief Symptom Inventory – General Severity Index, BSL-23 = Borderline Symptom List, Affect Lability measured as clients' standard deviation of PANAS PA and NA subscales

Table 4.1

Client Affect Lability Predicted by Measures of Severity

	Client PA Lability			Client NA Lability		
	adjusted R^2		F	adjusted R^2		F
Overall Model	.01		1.22	.11		4.21**
	b	SE	t	b	SE	t
DERS	-.03	.02	-1.70	-.03	.01	-2.13*
BSI-GSI	.61	.68	.90	.90	.60	1.50
BSL-23	.11	.56	..21	.46	.49	.94

p<.05*, p<.01**, N clients=77

Note. DERS = Difficulties in Emotion Regulation Scale, BSI-GSI = Brief Symptom Inventory – General Severity Index, BSL-23 = Borderline Symptom List, Affect Lability measured as clients' standard deviation of PANAS PA and NA subscales

Table 5.0

Client Alliance Predicted by Affect

	<i>b</i>	<i>SE</i>	<i>F</i>
Client PA	.12	.03	10.92**
Client NA	-.04	.03	1.62
Therapist PA	-.04	.03	1.75
Therapist NA	.06	.05	1.40

$p < .01^{**}$, $N \text{ clients} = 77$

Note. PA and NA refer to the Positive and Negative Affect subscales of the PANAS, respectively, Client Alliance as measured with the Working Alliance Inventory – Short Form

Table 6.0

Client Affect Predicted by Therapist Affect within Session

	Client PA			Client NA		
	<i>b</i>	<i>SE</i>	<i>F</i>	<i>b</i>	<i>SE</i>	<i>F</i>
Therapist PA	.08	.04	5.24*	.003	.03	.007
Therapist NA	-.08	.04	3.44	.06	.04	1.90

$p < .05^{*}$, $N \text{ clients} = 77$, $N \text{ therapists} = 25$, $N \text{ sessions} = 1,478$

Note. PA and NA refer to the Positive and Negative Affect subscales of the PANAS, respectively

Figure 1.0

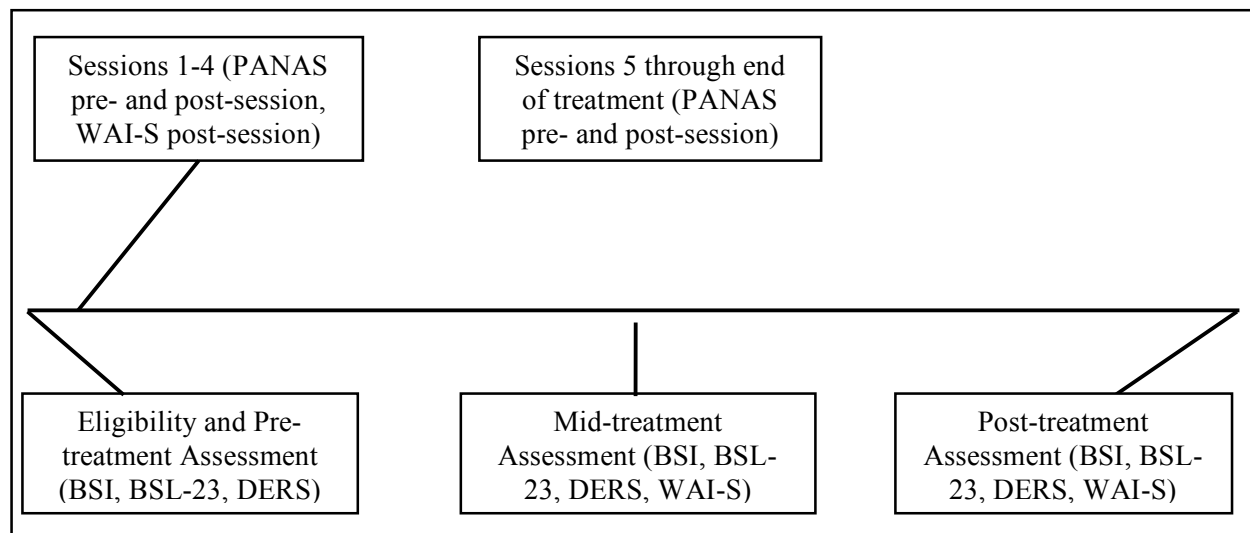
Timeline of Study

Figure 2.0

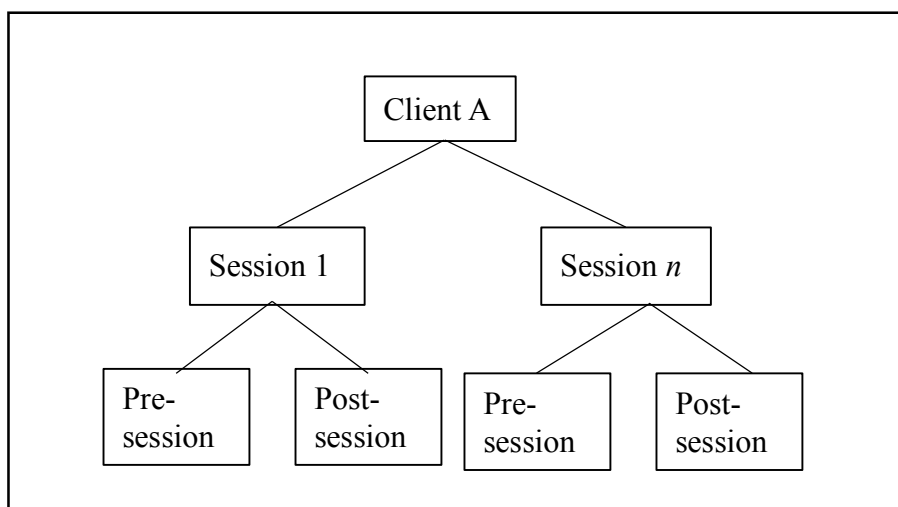
Nesting Structure for Testing Within Session Affect

Figure 2.1

Nesting Structure for Testing Session Affect over the Course of Treatment.

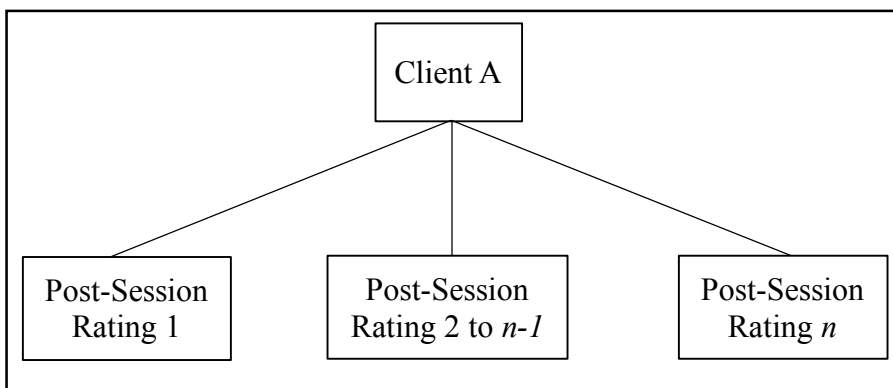


Figure 3.0

Bar Graph of Mean PA and NA for Clients with High and Low BSI-GSI Severity

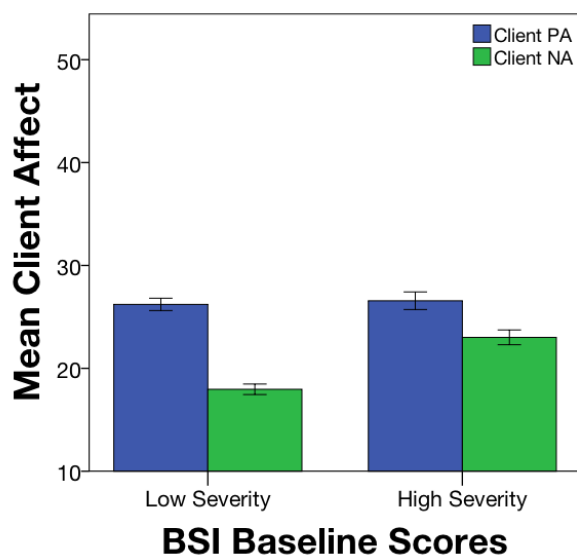


Figure 3.1

Bar Graph of Mean PA and NA for Clients with High and Low BSL-23 Severity

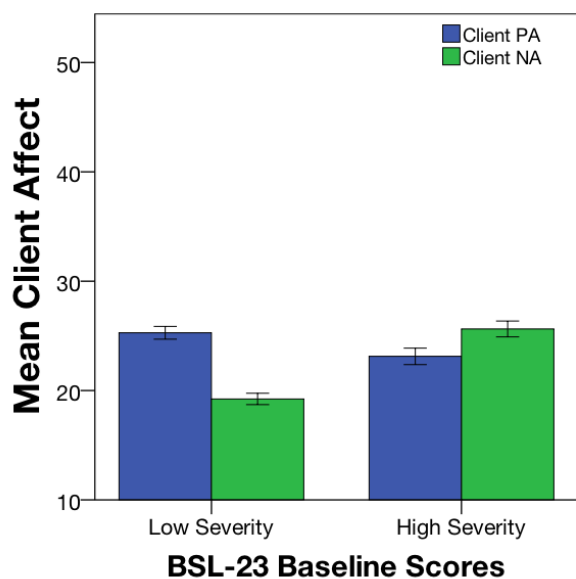


Figure 3.2

Bar Graph of Mean PA and NA for Clients with High and Low DERS Severity

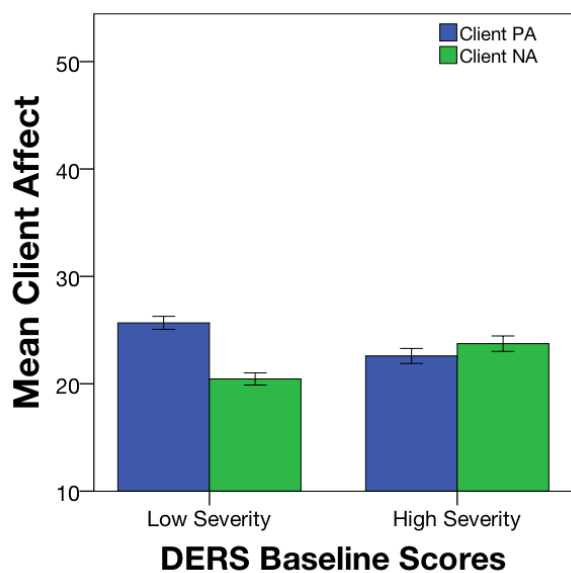


Figure 4.0

Bar Graph of Mean Standard Deviation of NA for Clients with High and Low BSI-GSI Severity

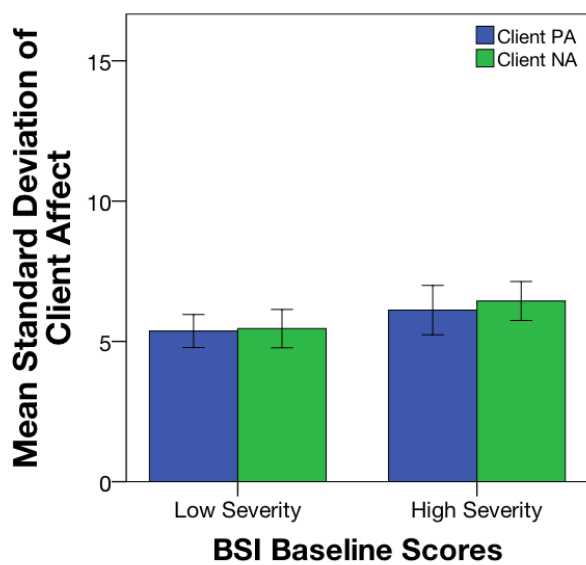


Figure 4.1

Bar Graph of Mean Standard Deviation of NA for Clients with High and Low BSL-23 Severity

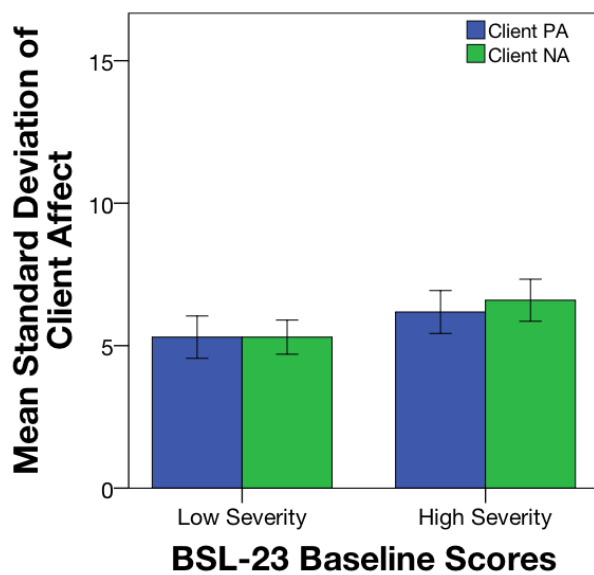


Figure 4.2

Bar Graph of Mean Standard Deviation of NA for Clients with High and Low DERS Severity

