BRIEF REPORT

Extending Research on the Utility of an Adjunctive Emotion Regulation Group Therapy for Deliberate Self-Harm Among Women With Borderline Personality Pathology

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Deliberate self-harm (DSH) is a clinically important behavior commonly associated with borderline personality disorder (BPD). Despite the clinical relevance and associated negative consequences of this behavior, however, there are few empirically supported treatments for DSH among individuals with BPD, and those that exist are difficult to implement in many clinical settings (due to their duration and intensity). To address this limitation, Gratz and Gunderson (2006) examined the efficacy of a 14-week, adjunctive emotion regulation group therapy (ERGT) for DSH among women with BPD. Although the results of this initial trial were promising (indicating positive effects of this treatment on DSH, emotion dysregulation, experiential avoidance, and psychiatric symptoms), they require replication and extension. Thus, the purpose of this study was to further develop this ERGT by examining its utility across other settings, a more diverse group of patients, a wider range of outcomes, and group leaders other than the principal investigator. Twenty-three women received this ERGT in addition to their ongoing treatment in the community. Self-report and interview-based measures of DSH and other self-destructive behaviors, psychiatric symptoms, adaptive functioning (including social and vocational impairment and quality of life), and the proposed mechanisms of change (emotion dysregulation and experiential avoidance) were administered pre- and posttreatment. Results indicate significant changes over time (accompanied by large effect sizes) on all outcome measures except quality of life and self-destructive behaviors (although the latter was a large-sized effect). Further, 55% of participants reported abstinence from DSH during the last two months of the group.

Keywords: deliberate self-harm, self-injury, borderline personality, emotion regulation, treatment, group therapy

Deliberate self-harm (DSH), the deliberate, direct destruction of body tissue without conscious suicidal intent (Gratz, 2001), is a clinically important behavior commonly associated with borderline personality disorder (BPD; Linehan, 1993) and implicated in the high levels of health care utilization among individuals with BPD (Zanarini, 2009). Despite the clinical relevance of this behavior, however, there are few empirically supported treatments for DSH among individuals with BPD. Indeed, short-term treatments for DSH in general (not specific to BPD) have not been found to be effective for patients with BPD, and may actually lead to an increase in the repetition of DSH among individuals with BPD (Tyrer et al., 2004). Moreover, the two treatments with demonstrated efficacy in the treatment of DSH among patients with BPD in particular, Dialectical Behavior Therapy (DBT; Linehan, 1993) and Mentalization-Based Treatment (Bateman & Fonagy,

2004), are difficult to implement in traditional clinical settings (due to their duration and intensity) and are not readily available in many communities (Zanarini, 2009). Thus, there is a need for shorter, less intensive, and more clinically feasible interventions that directly target DSH among individuals with BPD, particularly adjunctive treatments that may augment the standard therapy provided by clinicians in the community (Zanarini, 2009).

To address this need, Gratz and Gunderson (2006) examined the efficacy of a 14-week, adjunctive emotion regulation group therapy (ERGT) for DSH among women with BPD, designed to augment standard therapy for BPD by directly targeting both DSH and its underlying mechanism. Specifically, based on the theory that DSH stems from emotion dysregulation (Gratz & Gunderson, 2006), this ERGT was developed with the expectation that teaching self-harming women with BPD more adaptive ways of responding to and regulating their emotions would reduce the frequency of their DSH. Results of this initial trial ($N = 22$) indicated that the addition of this ERGT to participants' ongoing outpatient therapy had positive effects on DSH, emotion dysregulation, experiential avoidance, and BPD-specific symptoms, as well as symptoms of depression, anxiety, and stress (Gratz & Gunderson, 2006). Further, participants in the group treatment condition evidenced significant changes over time on all measures, and reached normative levels of functioning on most.

Although promising, the findings of this initial trial (Gratz & Gunderson, 2006) are preliminary and require both replication and extension. In particular, several limitations related to the generalizability of these findings need to be addressed. First, this trial involved a relatively homogeneous and privileged sample of participants, all of whom were White, and many of whom were well-educated and from a fairly high socioeconomic background. Second (and likely related to their relatively high socioeconomic status), participants in this trial received intensive outpatient therapy in addition to this ERGT, reporting an average of 2.5 hours of ongoing outpatient therapy per week. Third, all groups in this trial were led by the principal investigator (KLG). Finally, the outcome measures included in this trial were somewhat limited in scope, focusing exclusively on the primary outcomes of interest (i.e., DSH, emotion dysregulation, and experiential avoidance) and psychiatric symptoms, rather than broader outcomes such as adaptive functioning. Thus, the present study seeks to address these limitations using data from the pilot study phase of a larger randomized controlled trial (RCT) currently underway within a relatively poor and underserved area.

Method

Participants

Participants were obtained through referrals by clinicians in the greater Jackson, Mississippi area, as well as self-referrals by potential clients in response to advertisements for an "emotion regulation skills group for women with self-harm" posted at local hospitals and clinics, local coffee shops and grocery stores, and on three websites. Inclusion criteria for this study included: (a) a history of repeated DSH, with at least one episode in the past six months; (b) having an individual therapist, psychiatrist, or case manager; and (c) being 18 to 60 years of age. Further, given the: (a) preponderance of evidence for higher rates of BPD among treatment-seeking female (vs. male) patients (Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004); (b) low percentage of men in mixed-gender BPD treatment outcome studies (Giesen-Bloo et al., 2006); (c) theoretical and empirical literature emphasizing the benefits of gender-homogenous groups, particularly for women and in cases where the gender distribution of the group will not be equal (Yalom & Leszcz, 2005); and (d) well-documented gender differences in numerous aspects of emotional responding (Kring & Gordon, 1998), only women were included in this stage of treatment development (consistent with past BPD treatment outcome studies; see, e.g., Lieb et al., 2004; Linehan, 1993). Finally, to increase the generalizability of the findings and transportability of the treatment, patients with either threshold or subthreshold (defined as meeting one criterion less than required for a full diagnosis; see Feske et al., 2004) diagnoses of BPD were included (given extensive evidence that even subthreshold levels of BPD are clinically meaningful and associated with functional impairment; e.g., Trull, 2001). Exclusion criteria were kept to a

minimum to increase the generalizability of the sample and included only diagnoses of a primary psychotic disorder, bipolar I disorder, and current (past month) substance dependence. All inclusion and exclusion criteria were determined and executed on an a priori basis; no patients were excluded at the point of data analysis for not meeting these criteria.

The final sample of participants ($N = 23$) ranged in age from 18 to 50 (*mean* = 34.3 ± 10.6) and was far more socioeconomically (<$20,000 income = 26%; >$50,000 income = 44%; high school diploma or less = 26%; college graduate = 43%) and ethnically (13% non-White) diverse than the sample in the original trial of ERGT (Gratz & Gunderson, 2006). Seventy-four percent met full diagnostic criteria for BPD (*mean* BPD symptoms = 5.8 ± 1.8). See Table 1 for clinical and diagnostic data of the participants.

Assessment Measures

The following instruments were administered during the initial assessment interview to screen potential participants and collect baseline clinical and diagnostic data: (a) the Diagnostic Interview for *DSM–IV* Personality Disorders (Zanarini, Frankenburg, Sickel, & Young, 1996); (b) the Structured Clinical Interview for *DSM–IV* Axis I Disorders (First, Spitzer, Gibbon, & Williams, 1996); (c) a modified version of the Lifetime Parasuicide Count (Linehan & Comtois, 1996), used to assess lifetime history of suicidal behaviors; (d) an interview version of the Deliberate Self-Harm Inventory (Gratz, 2001), used to assess lifetime history of DSH; and (e) the Treatment History Interview (Linehan & Heard, 1987), used to assess the type, duration, and frequency of psychiatric treatment within the past year.

Table 1
*Pretreatment Clinical and Diagnostic Data of Participants (*N = 23*)*

Clinical characteristics	
Suicide attempt in lifetime	69.6% (*n* = 16); range = 0–10
Suicide attempt past year	17.4% (*n* = 4); range = 0–2
Self-harm frequency in past 3.5 mos.	*mean* = 34.6 ± 49.9; range = 1–183
Inpatient hospitalization past year	47.8% (*n* = 11)
Total hours/week of ongoing therapy	*mean* = 1.2 (*SD* = 0.9)
Hours/week individual therapy	*mean* = 0.9 (*SD* = 0.5)
Hours/week group therapy	*mean* = 0.4 (*SD* = 0.8)
Number psychiatric medications	*mean* = 2.7 (*SD* = 1.5)
Global Assessment of Functioning (GAF) score	*mean* = 43.5 (*SD* = 9.0)
Diagnostic data	
Lifetime Axis I disorders	
Mood disorder	86.9% (*n*=20)
Substance use disorder	43.5% (*n*=10)
Alcohol	39.1% (*n*= 9)
Cocaine	17.4% (*n*= 4)
Anxiety disorder	73.8% (*n*=17)
Panic disorder	34.8% (*n*= 8)
Posttraumatic stress disorder	47.8% (*n*=11)
Generalized anxiety disorder	39.1% (*n*= 9)
Current Axis I disorders	
Mood disorder	47.8% (*n*=11)
Substance use disorder	13.0% (*n*= 3)
Anxiety disorder	69.5% (*n*=16)
Posttraumatic stress disorder	43.5% (*n*=10)
Generalized anxiety disorder	34.8% (*n*= 8)
Axis II comorbidity	52.2% (*n*=12)
Cluster A PD	4.3% (*n*= 1)
Cluster B PD (other than BPD)	17.4% (*n*= 4)
Cluster C PD	39.1% (*n*= 9)
More than one co-occurring PD	21.7% (*n*= 5)

The following measures were administered pre- and posttreatment to assess outcome.

Measures of deliberate self-harm and other self-destructive behaviors. The Deliberate Self-Harm Inventory (DSHI; Gratz, 2001) is a 17-item self-report questionnaire that assesses various aspects of DSH (including its frequency) over specified time periods. The DSHI has been found to have adequate test–retest reliability and construct, discriminant, and convergent validity among diverse college student and patient samples (Fliege et al., 2006; Gratz, 2001). For this study (and consistent with past research using this measure; e.g., Gratz, 2001; Gratz & Gunderson, 2006; Gratz & Roemer, 2004), a continuous variable measuring frequency of reported DSH over the specified time period (i.e., in the 3.5 months prior to the study, since the last assessment, etc.) was created by summing participants' scores on the frequency questions for each item. Internal consistency in this sample was adequate ($\alpha = .61$).

The 11-item behavior supplement to the Borderline Symptom List (BSL; Bohus et al., 2001) is a self-report measure of past-week engagement in a variety of impulsive, self-destructive behaviors. Items on this measure are rated on a 5-point Likert-type scale from 0 (*not at all*) to 4 (*very strong*) and summed to obtain a total score (see, e.g., Harned & Linehan, 2008; Philipsen et al., 2008). This measure was used to assess change in the level of self-destructive behaviors over time. Internal consistency in this sample was adequate ($\alpha = .74$).

Measures of psychiatric symptoms. The Zanarini Rating Scale for Borderline Personality Disorder (ZAN-BPD; Zanarini, 2003) is a clinician-administered instrument for assessing change in BPD symptoms over time. The ZAN-BPD demonstrates good convergent and discriminant validity, and excellent interrater and test–retest reliability (Zanarini, 2003). This measure was used to provide an interviewer-based assessment of past-week BPD symptom severity. Interviews were conducted by bachelors-level clinical assessors trained to reliability with the principal investigator (ICC = .92). Internal consistency in this sample was good ($\alpha = .86$).

The Borderline Evaluation of Severity over Time (BEST; Pfohl et al., 2009) is a 15-item, self-report measure of BPD symptom severity over the past month. The BEST has been found to have adequate test–retest reliability, as well as good convergent and discriminant validity (Pfohl et al., 2009). This measure was used to assess past-month BPD symptom severity ($\alpha = .77$ in the current sample).

The Beck Depression Inventory–Second Edition (BDI-II; Beck, Steer, & Brown, 1996) is a 21-item, self-report measure of the severity of current levels of depression. The BDI-II has been found to have high internal consistency and good construct, convergent, and discriminant validity across various populations (Beck et al., 1996). Items were summed to obtain a total score of severity of depression symptoms. Internal consistency in this sample was good ($\alpha = .91$).

The Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) is a 21-item self-report measure that provides separate scores of depression, anxiety, and stress. The DASS has been found to have good test–retest reliability, as well as adequate construct and discriminant validity (Lovibond & Lovibond, 1995; Roemer, 2001). This measure was used to assess general psychiatric symptom severity (αs = .76 to .90 for the subscales in this sample).

Measures of adaptive functioning. The Sheehan Disability Scale (SDS; Sheehan, 1983) is a widely used three-item, self-report measure of social and vocational impairment due to psychological symptoms. Scores on the SDS has been found to have adequate reliability and good construct, convergent, and discriminant validity across a variety of clinical populations (Diefenbach, Abramowitz, Norberg, & Tolin, 2007; Hambrick, Turk, Heimberg, Schneier, & Liebowitz, 2004), and to be sensitive to change over time (Diefenbach et al., 2007). Items were summed to obtain a total score of social and vocational impairment ($\alpha = .89$ in this sample).

The Quality of Life Inventory (QOLI; Frisch, Cornwell, Villanueva, & Retzlaff, 1992) is a 32-item self-report measure based on an empirically validated model of life satisfaction that conceptualizes satisfaction as the sum of satisfactions in areas of life that are rated as important to an individual. Sixteen areas of life are assessed in terms of degree of importance and level of satisfaction. The QOLI has been found to demonstrate excellent test–retest reliability and good convergent, divergent, and predictive

validity (Frisch et al., 1992). Scores on this measure range from −6 to 6, with higher positive scores indicating greater quality of life ($\alpha = .86$ in this sample).

Measures of emotion dysregulation and experiential avoidance. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item self-report measure that assesses individuals' typical levels of emotion dysregulation across six domains: nonacceptance of negative emotions, difficulties controlling impulsive behaviors when distressed, difficulties engaging in goal-directed behaviors when distressed, limited access to effective regulation strategies, lack of emotional awareness, and lack of emotional clarity. The DERS has been found to have good test–retest reliability and construct and predictive validity (Gratz & Roemer, 2004; Gratz & Tull, 2010). Internal consistency in this sample was good (αs = .84 to .92).

The Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004) is a 9-item, self-report measure of experiential avoidance, or the tendency to avoid unwanted internal experiences (with a particular emphasis on the avoidance of emotions). The AAQ has been found to have adequate convergent, discriminant, and concurrent validity (Hayes et al., 2004). Higher scores indicate greater experience avoidance. Internal consistency in this sample was adequate ($\alpha = .71$).

Procedure

All methods received prior approval by the medical center's Institutional Review Board. After providing written informed consent, participants completed the initial assessment interview, conducted by trained bachelors- or doctoral-level clinical assessors with more than one year of experience administering the interviews. All initial assessment interviews were reviewed by the principal investigator, with diagnoses confirmed in consensus meetings.

Participants meeting eligibility criteria received this ERGT in addition to their ongoing treatment in the community. Treatment groups started as soon as enough participants had been screened; therefore, time between initial assessment interview and the start of treatment differed between participants, ranging from less than one week to approximately 2.5 months (*mean* = 23 days). Pretreatment assessments were completed within one week prior to the start of the group; posttreat-

ment assessments were completed within one week following the end of the group.

Treatment

Emotion regulation group therapy. This 14-week, acceptance-based ERGT is based on the conceptualization of emotion regulation as a multidimensional construct involving the: (a) awareness, understanding, and acceptance of emotions; (b) ability to engage in goal-directed behaviors, and inhibit impulsive behaviors, when experiencing negative emotions; (c) use of situationally appropriate strategies to modulate the intensity or duration of emotional responses, rather than to eliminate emotions entirely; and (d) willingness to experience negative emotions as part of pursuing meaningful activities in life (Gratz & Roemer, 2004). Consistent with the acceptance-based nature of this conceptualization, ERGT draws heavily from two acceptance-based behavioral therapies, Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) and DBT (Linehan, 1993), and emphasizes the following themes throughout the group: (a) the potentially paradoxical effects of emotional avoidance, (b) the emotion regulating consequences of emotional acceptance and willingness, and (c) the importance of controlling behavior when emotions are present, rather than controlling emotions themselves. A detailed manual for this treatment has been developed, and a full description of the specific topics addressed in the group each week is available elsewhere (Gratz & Gunderson, 2006). Groups meet weekly for 90 minutes over 14 weeks and are limited to 4–6 patients per group (although one group in this study had only three patients).

Treatment as usual. All participants were required to have an individual clinician in order to enter the study, and all continued with their ongoing outpatient treatment over the course of the study. Participants had been meeting with their individual clinicians for an average of 29 months (*SD* = 41.5; range = <1 month to >12.5 years) prior to the start of the group, with 78% reporting a duration of ≥3 months. Consistent with the general practice in this community, few participants (17%) received group therapy outside of ERGT, and 44% received less than one hour of individual therapy per week. Indeed, on average, participants received

less than one hour of individual therapy per week and only 1.2 hours of overall outpatient therapy per week (including both group and individual therapy; Table 1). With regard to the individual clinicians of study participants, 48% were in private practice and the others worked in a community mental health center (17%), college counseling center (13%), or local hospital (22%). In regard to their training, 48% had a master's degree, 9% were social workers, 22% were clinical psychologists, and 22% were psychiatrists. As for the nature of their individual therapy, most participants (>70%) were receiving supportive or dynamic therapy (according to the THI and discussions with the individual clinicians); however, 13% were receiving cognitive–behavioral therapy (CBT).

Group therapists and treatment adherence. Two doctoral-level therapists were trained to lead the groups. The initial training lasted approximately four months. The principal investigator (KLG, who developed the treatment) served as one of the group therapists for only the first group (with five patients), which she co-led with one of the project therapists. Following this initial group, the principal investigator's role was limited to ongoing supervision of the project therapists. Depending on therapist availability, groups had either one or two leaders.

The principal investigator reviewed all group sessions for adherence. An adherence checklist (adapted from Roemer & Orsillo, 2007) was developed that lists 10 elements encouraged (although not required) in session (e.g., emphasizing the functionality of emotions, promoting emotional acceptance, emphasizing behavioral vs. emotional control, and promoting the use of valued directions to guide behaviors), and four elements forbidden (e.g., emphasizing emotional control, emphasizing the need to change the content of cognitions). All elements are rated for each session, despite differing content each week (see Roemer & Orsillo, 2007). Project therapists were very adherent to the protocol, with an average of 7.7 ± 1.2 of the encouraged elements discussed in each group, and no nonprotocol events recorded.

Results

Forty-four women completed the initial assessment interview. Of these, eight were deemed ineligible (four for the presence of a primary psychotic disorder, one for the absence of any DSH in the past 6 months, and three for the presence of current substance dependence). Of the 36 women who were eligible for the study, four declined participation (reporting that they were too busy and/or not interested in participating), six were not able to be reached after the initial assessment, and three were unable to participate (due to incarceration, psychiatric commitment, and moving out of state), resulting in a final sample size of 23 (see Figure 1).

Five groups with an average of 5 ± 1 women per group were conducted. Ratings of treatment credibility and expectancy on the Credibility/Expectancy Scales (Borkovec & Nau, 1972) completed before the second session were 6.91 and 57%, respectively. Four participants dropped out of the study (one after one session, two after 8 sessions, and one after 10 sessions), resulting in a dropout rate of 17.4%. Reasons for dropout included feeling better and therefore not needing the treatment anymore ($n = 2$) and being too busy to participate ($n = 2$). Participants completed an average of 12 sessions ($SD = 3$), with treatment completers completing an average of 13.6 sessions ($SD = 0.7$; range = 12–14).

To determine if changes over time on the outcome measures were significant, a series of one-way (pre- vs. posttreatment) repeated measures analyses of variance (ANOVAs) was conducted on both an intent-to-treat (ITT) sample (using a "last observation carried forward" approach) and a completer sample ($n = 19$). Missing data in this study were negligible and limited to two missing items for one participant; mean imputation was used for these two items. Further, a logarithm was used to transform the DSHI frequency scores, as the raw scores on this measure at baseline were positively skewed and kurtotic (skewness = 2.01, kurtosis = 3.55).

The results of the completer analyses are shown in Table 2. For these analyses, a modified Bonferroni procedure (Jaccard & Wan, 1996) was used to minimize both Type I and Type II error. Specifically, the p values for all analyses were rank-ordered by size, with the lowest p value required to exceed the traditional Bonferroni level (.05/K number of analyses) and each subsequent p value divided by a number that is one fewer (i.e., .05/K – 1, .05/K – 2,
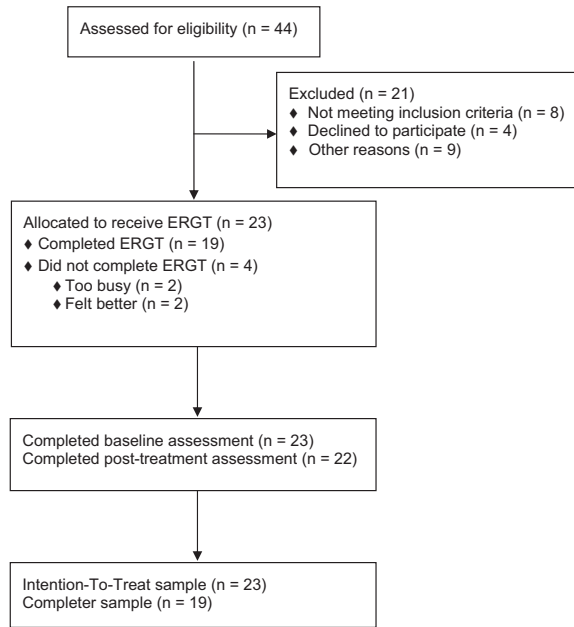
Figure 1.   CONSORT flowchart of client enrollment and disposition.

etc.). This method preserves an overall Type I error rate of .05 without increasing the risk for Type II error. As shown in Table 2, results indicate significant changes over time (accompanied by large effect sizes) on all outcome measures, with the exception of quality of life (for which there was a medium-sized effect) and self-destructive behaviors on the BSL supplement (for which there was a large-sized effect). Moreover, participants reached normative levels of functioning on measures of emotion dysregulation (*mean* DERS among female college students = 77.99; Gratz & Roemer, 2004), experiential avoidance (*mean* AAQ among nonclinical female samples ranges from 32.2 to 35.1; Hayes et al., 2004), BPD symptoms (*mean* ZAN-BPD among a non-BPD sample = 5.2 [Zanarini, 2003]; *mean* BEST among female college students = 25.77), and stress symptoms (normal levels on the DASS range from 0–14 for stress; Roemer, 2001). Further, scores on both measures of depression decreased from the moderate-severe range at pretreatment to the mild range at posttreatment (see Beck et al., 1996; Roemer, 2001).[1]

The results of ITT analyses were highly consistent with those of the completer analyses, revealing significant changes over time (accompanied by large effect sizes) on measures of DSH, emotion dysregulation and experiential avoidance, BPD symptom severity, depression and stress symptoms, and social and vocational impairment, as well as a medium-sized but nonsignificant effect for change in quality of life. Two differences did emerge in the ITT analyses, however. First, results of the ITT analyses revealed a significant change (accompanied by a large effect size) in self-destructive behaviors on the BSL supplement. Second, the change over time in anxiety symptoms did not reach significance (although the effect size associated with this change was large).

To determine the clinical significance of the treatment effects for the completer sample, an approach consistent with that proposed by Jacobson and Truax (1991) was utilized, requiring that participants (a) report a statistically reliable

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[1] Findings remained the same when controlling for the duration of participants' individual therapy in the community, with one exception: the change over time on the lack of emotional awareness subscale of the DERS became nonsignificant (although the effect size for this change remained large; $\eta_p^2 = .17$).

Table 2

Means, Standard Deviations, and Repeated Measures Analyses of Variance Assessing Change Over Time and Clinical Significance of Treatment Effects (N = 19)

Outcome	Pre-*Mean* (*SD*)	Post-*Mean* (*SD*)	ANOVA F(1, 18)	$\acute{\eta}_p^2$	% Reliable change	% Normal function[a]	% Normal function[b]	% Meeting all criteria
DSH and self-destructive behaviors								
DSHI self-harm frequency	23.16 (28.26)	5.58 (5.93)	8.18*	0.31				
Log-transformed DSHI scores	1.08 (0.56)	0.66 (0.38)	13.73*	0.43				
BSL Self-destructive behaviors	4.37 (5.76)	2.21 (2.66)	4.25	0.19				
Proposed mediators								
Emotion dysregulation	110.74 (22.13)	80.32 (23.31)	36.10*	0.67	63.2	84.2	84.2	57.9
Emotion nonacceptance	20.11 (5.29)	14.16 (4.97)	18.41*	0.51				
Impulse dyscontrol	16.11 (6.21)	11.37 (5.47)	23.14*	0.56				
Goal-directed bx difficulties	18.11 (5.14)	12.84 (3.82)	39.86*	0.69				
Lack of emotional awareness	18.58 (5.98)	14.16 (5.01)	12.14*	0.40				
Lack of ER strategies	23.63 (6.11)	16.68 (6.50)	24.38*	0.58				
Lack of emotional clarity	14.21 (4.08)	11.11 (3.41)	12.99*	0.42				
Emotional avoidance	43.84 (4.88)	32.68 (7.56)	37.53*	0.68	73.7	89.5	78.9	68.4
Psychiatric symptoms								
BPD symptoms (ZAN-BPD)	12.47 (9.38)	4.21 (5.29)	16.80*	0.48	52.6	84.2	73.7	42.1
BPD symptoms (BEST)	32.16 (13.66)	22.42 (8.00)	14.78*	0.45	36.8	89.5	78.9	26.3
BDI depression	25.00 (12.87)	17.11 (12.89)	7.82*	0.30	36.8	36.8	36.8	31.6
DASS depression	21.16 (11.30)	11.37 (10.05)	24.40*	0.58	36.8	42.1		21.1
DASS anxiety	15.79 (10.50)	10.95 (8.40)	7.20*	0.29	26.3	31.6		10.5
DASS stress	20.53 (10.09)	13.79 (9.75)	13.45*	0.43	26.3	63.2		21.1
Adaptive functioning								
Social/vocational impairment	20.47 (7.30)	12.21 (7.77)	29.06*	0.62	52.6	47.4[c]		36.8
Quality of life	−0.63 (2.31)	−0.06 (2.28)	2.01	0.10	21.1	26.3	36.8	10.5

Note. Normal function = reached normative levels of functioning; DSHI = Deliberate Self-Harm Inventory (Gratz, 2001); bx = behavior; BSL = Borderline Symptom List (Bohus et al., 2001); ER = emotion regulation; BPD = borderline personality disorder; ZAN-BPD = Zanarini Rating Scale for Borderline Personality Disorder (Zanarini, 2003); BEST = Borderline Evaluation of Severity over Time (Pfohl et al., 2009); BDI = Beck Depression Inventory–Second Edition (Beck et al., 1996); DASS = Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995).
[a] Scores within one *SD* of the mean for nonclinical samples. [b] Scores closer to the mean of a normative population than a clinical population. [c] No significant impairment reported in any area.
* *p* < .05 (corrected according to the modified Bonferroni procedure used here).

magnitude of change, and (b) reach normative levels of functioning. With regard to the former criterion, Jacobson and Truax's (1991) reliable change index (RCI) was used to assess statistically reliable change for measures with test–retest reliability data (i.e., the DERS, ZAN-BPD, and QOLI). To approximate the RCI for the remaining measures, scores that changed by at least one *SD* from pre- to posttreatment were considered statistically reliable (for a comparable approach, see Gratz & Gunderson, 2006). As shown in Table 2, more than two thirds of the participants reported clinically significant improvements in experiential avoidance, and more than half reported clinically significant improvements in emotion dysregulation. Findings pertaining to the clinical significance of changes in psychiatric symptoms and overall functioning are also reported in Table 2. In regard to DSH outcomes, 70% of participants showed a reduction in DSH of 50% or greater, and 5% showed a reduction in DSH of 42%. Further, 55% of participants reported abstinence from DSH during the second half of the group.

Finally, the acceptability of this ERGT was high, as more than 75% of participants rated the skills taught in the group as "very helpful" or "extremely helpful" (with a *mean* helpfulness rating across treatment elements of 4.3 ± 0.4 on a scale from 1 [not at all helpful] to 5 [extremely helpful]).

Discussion

Results provide further support for the utility of this ERGT, indicating significant improvements from pre- to posttreatment in DSH (and, in the ITT sample, self-destructive behaviors on the BSL supplement), emotion dysregulation and experiential avoidance, BPD, depression, anxiety, and stress symptoms, and social and vocational impairment. Further, providing support for the clinical significance of these findings, more than three-quarters of participants reached normative levels of functioning on measures of emotion dysregulation, experiential avoidance, and BPD symptoms, and more than half reported clinically significant improvements in the outcomes specifically targeted by the group: emotion dysregulation and experiential avoidance. Finally, in addition to the fact that 70% of participants showed a reduction in DSH of 50% or greater over the course of the group, it is important to note that 55% of participants reported abstinence from DSH during the second half of the group (suggesting that this treatment may eventually result in abstinence from DSH).

Researchers have underscored the need for shorter, less intensive, and more clinically feasible interventions for DSH among patients with BPD, with an emphasis on adjunctive treatments that augment the standard therapy of clinicians in the community (Zanarini, 2009). The findings from this study suggest that this ERGT may be a useful treatment in this regard, highlighting the potential utility of adding this group therapy to standard outpatient treatment in the community. Consistent with the findings from the initial trial of ERGT (Gratz & Gunderson, 2006), large improvements were observed across a variety of relevant outcomes from pre- to posttreatment despite the group not being paired with a particular form of individual therapy. Indeed, most participants (>70%) were receiving supportive or dynamic therapy, rather than an ERGT-consistent CBT. Further evidence that the utility of this group therapy does not depend upon it being matched with a theoretically similar individual therapy provides additional support for its transportability.

Moreover, compared to the initial RCT (Gratz & Gunderson, 2006), participants in the present study were more racially and socioeconomically diverse and were receiving far less treatment in the community. Indeed, this ERGT was the primary treatment for 39% of the participants who met with their individual clinician only once or twice per month. To see comparable outcomes within this more diverse and underserved sample speaks to the robust nature of this treatment, as well as its potential generalizability.

Although promising, these results must be evaluated in light of the study's limitations. First, in the absence of a randomized controlled design and/or control condition, conclusions related to the effects of this ERGT (vs. treatment as usual or the passage of time) on the outcomes of interest cannot be drawn. Nonetheless, it is important to note that the waitlist condition in the initial RCT evidenced no significant changes over time on any measure (despite the intensity of participants' ongoing outpatient therapy within this condition; *mean* = 2.95 hours per week; Gratz & Gunderson, 2006).

Second, it remains unclear if the gains observed in this study are maintained after the group ends. Third, despite providing preliminary evidence of improvements across a wider range of outcomes (including functional impairment), findings revealed limited improvement in quality of life. Further research is needed to explore whether, to what extent, and for whom improvements in adaptive functioning and quality of life may be observed following this ERGT. Finally, given that assessors could not be kept uninformed of study condition (as there was only one condition), assessments were not masked, introducing the potential for assessor biases.

Despite these limitations, the results of this study add to the literature on the usefulness of ERGT as an adjunctive treatment for DSH among individuals with borderline personality pathology, providing preliminary support for the transportability of this treatment, as well as its utility among a more diverse and underserved group of patients. A larger RCT with follow-up assessments at 3-months and 9-months posttreatment is currently underway to address the limitations of this pilot study.

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