

Dialectical Behavior Therapy: Does It Bring About Improvements in Affect Regulation in Individuals with Eating Disorders?

Denise D. Ben-Porath · Anita Federici ·
Lucene Wisniewski · Mark Warren

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Abstract The current investigation sought to determine whether a standard outpatient dose of dialectical behavior therapy (DBT) skills training (2 h per week) coupled with standard CBT treatment would be sufficient to produce changes in affect regulation over the course of day hospitalization treatment. In an uncontrolled pre-post treatment design, 65 women diagnosed with anorexia nervosa or bulimia nervosa were assessed at the beginning of treatment and at the end of treatment on affect regulation. Findings indicated that participants demonstrated a significant improvement in their ability to regulate affect, suggesting that weekly DBT treatment may play an important role in producing changes in affect regulation. Secondary analyses on eating disorder outcomes revealed a significant increase in weight gain as well as a significant reduction in restriction, bingeing, purging and eating disordered cognitions. Findings are discussed in the context of clinical and treatment implications for those with severe eating disorders.

Keywords Affect regulation · Eating disorders · Dialectical behavior therapy · Day hospital treatment

An increasing number of studies have found that day hospital programs are effective in treating eating disorders (EDs) (Ashley and Crino 2010; Gerlinghoff et al. 1998; Kaplan and Olmsted 1997; Kong 2005; Schaffner and

Buchanan 2008; Willinge et al. 2010). These studies however have focused primarily on eating disorder outcomes (e.g., binge/purge behaviors, weight gain, decrease in thoughts about body, weight, shape, and food). Recent attention has been given to the role of affect regulation in those with EDs. Numerous studies have demonstrated that individuals diagnosed with an ED score significantly higher than healthy controls on measures of affect dysregulation (Gilboa-Schechtman et al. 2006; Harrison et al. 2009; Harrison et al. 2010).

Several researchers have maintained that difficulties in regulating affect may play a critical role in perpetuating and/or maintaining ED behavior. For example, Fairburn et al. (2003), in their transdiagnostic model of EDs, identify mood intolerance as a maintaining factor for certain eating disordered patients. Other theorists have argued that ED symptoms, such as bingeing, purging, and restricting, develop as an attempt to regulate negative affect (Becker-Stoll and Gerlinghoff 2004; Heatherton and Baumeister 1991; Safer et al. 2001; Telch et al. 2001). While it is still uncertain if difficulties in affect regulation are an initiating or maintaining factor in EDs or both, what is clear is that individuals with ED report difficulties regulating negative mood states.

Harrison et al. (2010) compared individuals diagnosed with BN and AN to healthy controls on the Difficulties in Emotion Regulation Scale (DERS). Eating disordered patients performed significantly worse than normal healthy controls in the following six domains of the DERS: (1) ability to recognize emotions, (2) ability to use healthy strategies to cope with negative emotions, (3) ability to inhibit impulsive mood dependent behaviors, (4) ability to engage in goal directed behavior when distressed, (5) ability to attend to emotional responses and (6) the ability to understand their own emotions. Svaldi et al. (2012)

D. D. Ben-Porath (✉)
John Carroll University, Cleveland, OH, USA
e-mail: dbenporath@jcu.edu

A. Federici · L. Wisniewski · M. Warren
Cleveland Center for Eating Disorders, Cleveland, OH, USA

explored differences in affect regulation between individuals diagnosed with EDs and healthy controls. Individuals with EDs reported higher levels of emotional intensity, less acceptance of emotions, less emotional awareness and lower levels of clarity with respect to emotions in comparison to healthy controls. Individuals diagnosed with EDs also reported a greater likelihood to use maladaptive strategies to regulate affect as compared to healthy controls. Additionally, individuals with EDs reported that they were less likely to use adaptive affect regulation strategies as compared to healthy controls.

While CBT is considered the gold standard for the treatment of EDs, approximately 50 % of patients that undergo CBT relapse (Fairburn et al. 2003). Given that CBT primarily targets cognitions and behaviors, several authors have maintained that CBT treatment may not adequately address the deficits in affect regulation that may be inhibiting treatment progress in those with an ED (Overton et al. 2005; Vitousek and Hollon 1990; Zonnevillje-Bendek et al. 2002). Fairburn et al. (2003) has stated that in order to achieve a full and lasting response in this group of patients, affect regulation and how these individuals respond to their negative mood states must be addressed in treatment.

Dialectical behavior therapy (DBT), a treatment originally designed for self-injurious individuals diagnosed with borderline personality disorder (BPD), addresses deficits in affect regulation (Linehan 1993). Thus, researchers have suggested that DBT treatment may be a promising intervention for those with EDs (Wisniewski et al. 2007; Federici et al. 2012). To date, several studies have examined the effectiveness of DBT for the treatment of EDs. Investigators have examined the effects of DBT time-limited skills training (offered once weekly in an individual or a group format) for bulimia nervosa and/or binge eating disorder (BED) (Safer et al. 2001; Telch et al. 2001; Klein et al. 2012; Safer et al. 2010). Other researchers have evaluated the effectiveness of more comprehensive DBT models (e.g., those that include DBT individual therapy, skills group training, telephone skills coaching, and a counselor consultation team) (Ben-Porath et al. 2009, 2010; Chen et al. 2008; Kröger et al. 2010; Palmer et al. 2003). Regardless of the dose of DBT (e.g., once weekly skills group vs. individual therapy only vs. comprehensive DBT) all of these studies consistently find a reduction in ED behaviors and/or ED cognitions. However, most studies using DBT in those with EDs have not explored changes in affect regulation over the course of DBT treatment.

Of those DBT studies that have examined affect regulation in women with EDs, the results appear to be mixed. For example, Telch et al. (2000), in an uncontrolled clinical trial, found that women diagnosed with BED who received weekly DBT group skills treatment reported better

regulation of negative mood states post-DBT treatment as compared to pre-DBT treatment. However, in a follow up study that utilized weekly DBT group skills treatment, Telch et al. (2001) found no differences in ability to regulate affect between women diagnosed with BED compared to a wait list control group. Safer et al. (2001) applied weekly DBT individual therapy to clients diagnosed with bulimia nervosa and found that these individuals reported significantly less ability to regulate affect at the beginning of DBT treatment as compared to ED individuals in the wait list condition. At the end of treatment, however, there was no difference between the two groups, suggesting that DBT treatment improved clients' ability to regulate affect. Similarly, Ben-Porath et al. (2009) found that, at the beginning of DBT comprehensive treatment which included all four modes of DBT treatment (e.g., individual DBT therapy, weekly DBT group skills training, DBT telephone consultation and DBT team consultation), individuals with EDs who carried a comorbid diagnosis of BPD were significantly less able to regulate affect than clients without a comorbid borderline diagnosis. At the end of treatment, however, there was no statistically significant difference between the two groups. Lastly, Safer et al. (2010) randomly assigned BED participants to 20 group sessions of DBT treatment or to a comparison treatment group. Results indicated no significant differences between the two groups at the end of treatment on measures of affect regulation. In sum, these studies that have implemented various degrees or doses of DBT appear to be equivocal with two studies suggesting no improvements/differences in affect regulation while the remaining three found improvements in affect regulation.

Thus, a growing body of research has examined the effectiveness of DBT treatment in promoting change in the ability to regulate affect in those with EDs. The purpose of the current study was to determine if a standard outpatient dose of skills training (2 h per week) in addition to standard CBT treatment would be sufficient to produce changes in affect regulation over the course of day hospitalization. A secondary analysis was also conducted on eating disorder outcomes across treatment.

Method

Participants

Participants were recruited from a private practice ED day treatment program located in the Midwest. According to the practice standards put forth by the American Psychiatric Association (APA) (2000) individuals who required greater structure to manage their ED symptoms and/or weight gain, needed some medical monitoring, reported

poor to fair motivation to improve, and exhibited limited social support were eligible for admission to the day treatment eating disorder program. Clients who were actively suicidal or psychotic at the time of intake were also excluded and referred to inpatient services. The eating disorder treatment program consisted of 6 h of treatment 5 days per week. The average length of treatment was 21.75 (13.43) days. The median length of stay was 20 days (range 3–65 days).

The sample consisted of 65 female participants. The mean age for participants was 23.4 (6.66) years (range 18–33). Of the total sample admitted to day treatment, 18 (27 %) were unavailable for follow up. Seven of these individuals left treatment due to therapy interfering behaviors (e.g., unwillingness to gain weight, noncompliance with meal plans, repeated absences, etc.) and two (11 %) were discharged due to non-ED related health issues (e.g., mental health hospitalization and one participant (.05 %) required a referral to residential treatment. The remaining eight participants were missing post data due to administrative error.

In order to determine that the completers did not systematically differ from the non-completers, several independent ANOVAs were conducted on various pretreatment variables comparing those who had available discharge data vs. those who dropped out of treatment prematurely and did not have discharge data, vs. those who did not have discharge data due to administrative error. No significant differences were found between the three groups on the following pretreatment variables: admission body mass index (BMI), age, length of treatment, years of education, the Eating Disorder Examination-Questionnaire (EDE-Q) Global Scale, and DERS Total Score.

Based on the Eating Disorder Diagnostic Scale (EDDS) (Stice et al. 2000), 4.6 % ($n = 3$) of the sample met full criteria for AN, 29.2 % ($n = 19$) met all criteria for AN with the exception of three consecutive missed menses, and 66.2 % (43) met criteria for BN. The mean BMI for the day hospital program sample at the time of admission was 20.21 ($SD = 4.17$).

Eighty-three percent ($n = 54$) of the individuals admitted to the day hospital program were never married, 7.7 % ($n = 5$) were married, 3.1 % (3) were separated, 1.5 % ($n = 1$) were divorced, and 1.5 % ($n = 1$) were widowed. The remaining individual did not indicate her marital status. 93 % ($n = 61$) of the sample was Caucasian, 3.1 % ($n = 2$) of the sample was Hispanic, 1.5 % of the sample was biracial ($n = 1$) and 1.5 % of the sample was Asian American ($n = 1$). Approximately 90 % of the sample ($n = 59$) completed higher education and 9 % ($n = 6$) reported earning a high school diploma or its equivalent.

Program Description

Once participants were evaluated and determined to meet APA (2000) criteria for day hospital level of care, they were oriented to the day treatment approach, which utilized standard CBT. CBT groups offered in the day treatment setting included a goal-setting group in which clients were expected to establish goals relevant to managing their ED behaviors, a thought restructuring group (e.g., cognitive modification), in vivo exposure to food, in which clients ate healthy meals together, and a meal planning group, in which a registered dietician aided clients in problem solving issues related to meeting their meal plans. In an effort to target affect regulation, clients received 2 h per week of DBT group skills training, which included 30 min of mindfulness each week. Mindfulness practice included various guided exercises that focused on remaining in the present moment (e.g., observing the breath, mindful participation and mindful awareness of the body and emotions). In the remaining 1-1/2 h, emotion regulation, distress tolerance, and interpersonal effectiveness skills were taught and practiced.

Discharge criteria required that the individual be medically stable, no longer require structure to manage their ED symptoms and/or weight gain, have an actual body weight greater than 85 % of ideal body weight, report fair to good motivation to improve, and exhibit some social support. For clients whose symptoms worsened over the course of treatment, a referral was made to a residential ED treatment facility.

Measures

Eating Disorder Diagnostic Scale (EDDS)

The EDDS (Stice et al. 2004, 2000) is a 22-item self-report instrument designed to assist in the diagnostic assessment of EDs. It has been used in research settings and in open trials with large sample sizes where lengthy structured interviews, such as the Structured Clinical Interview for DSM Disorders (SCID) (Spitzer et al. 1990), are not possible. The EDDS assesses for DSM-IV criteria for anorexia nervosa (AN), BN and BED. Items from other well established inventories such as the Eating Disorder Examination (Fairburn and Beglin 1994) and the SCID (Spitzer et al. 1990) were adapted and validated for this instrument. The EDDS has solid internal consistency with a Cronbach's alpha coefficient of .89 (Stice et al. 2004). Additionally, several studies have demonstrated adequate content and criterion validity for the EDDS scores (Stice et al. 2004, 2000).

Eating Disorder Examination-Questionnaire (EDE-Q)

The EDE-Q (Fairburn and Beglin 1994) (self-report version) is a questionnaire that provides information about the frequency of ED behaviors over a period of the last 28 days. Questions reflect the DSM-IV criteria for EDs. The EDE-Q yields a global score and four subscales scores including restraint, weight concerns, eating concerns, and shape concerns. The global and subscale scores range from 0 to 6 with higher scores indicating greater ED disturbance. The EDE-Q has been shown to have acceptable internal consistency with Cronbach alphas ranging from .78 to .93.

Test–retest reliability of the EDE-Q subscales over a two-week period yielded Pearson r coefficients ranging from .81 to .94 (Luce and Crowther 1999). The Cronbach's alpha for the EDE Global Scale in the current study was .84.

Difficulties in Emotion Regulation Scale (DERS)

The DERS (Gratz and Roemer 2004) is a 36-item self-report measure that assesses an individual's ability to regulate affect. The DERS consists of six subscales: (1) a Non-Acceptance Subscale that measures the tendency to have negative reactions/emotions to one's feelings, (2) a Goal Directed Subscale that assesses the individual's ability to accomplish tasks and remain focused when distressed, (3) an Impulse Control Difficulties Subscale that measures mood dependent behaviors, (4) an Emotional Awareness Subscale that assesses inability to notice or attend to emotions, (5) Limited Access to Adaptive Strategies Subscale that measures the individual's ability to re-regulate affect once upset, and (6) a Clarity Subscale that measures how well the test-taker understands the emotions s/he is experiencing. Higher scores indicate greater difficulties in affect regulation. Internal consistency for the total DERS score is .94. Cronbach's alphas for the subscales range from .80 to .89 (Gratz and Roemer 2004). Internal consistency for the total DERS score in this investigation was .93.

Procedure

Individuals seeking treatment in the outpatient day treatment program underwent a 2 h semi-structured interview to determine whether they met criteria for an ED according to DSM-IV-TR. As part of this evaluation, participants completed the EDE-Q to assist in diagnosis and establishment of level of care. If an individual met DSM-IV-TR criteria for an ED, the severity of their symptoms was assessed to determine the appropriate level of care. Individuals who met the criteria for the day treatment program were admitted to the program and received 30 h of weekly

treatment. Prior to beginning treatment individuals completed the EDDS. Prior to treatment and at discharge, participants completed the EDE-Q and the DERS.

Data Analyses

Paired t tests were conducted comparing day hospital participants' scores prior to beginning treatment with their scores at the termination of treatment on the EDDS behavioral outcomes (e.g., weight, binge, purge, exercise frequency), the EDE-Q and the DERS. Effect sizes, using Cohen's d were computed for all paired t test data.

Results

As shown in Table 1, with respect to affect regulation, there was a significant improvement on the following DERS subscales: Impulse control difficulties, difficulties engaging in goal directed behavior, and non-acceptance of emotional responses. Furthermore, there was a significant improvement pre-post on the DERS total scale indicating a small effect (Cohen 1969).

With respect to eating disorder outcomes the sample as a whole demonstrated a statistically significant increase in weight over the course of treatment indicating a large effect size (Cohen 1969). Because those in the low weight range are in greatest need of weight gain, individuals who began treatment with a BMI less than 18.5 were analyzed separately. Low BMI participants demonstrated a significant increase in weight over the course of treatment indicating a large effect (Cohen 1969). All participants demonstrated a statistically significant reduction in binge, purge, restriction and excessive exercise behaviors following treatment. Effect sizes ranged from small to medium (Cohen 1969). Participants also demonstrated a statistically significant improvement from time 1 to time 2 on the EDE restraint, weight concerns, and eating concerns subscale. Effect sizes ranged from medium to large (Cohen 1969). There was also a significant improvement on the EDE-Global scale from time 1 to time 2, indicating that participants overall had less cognitive disturbance with respect to ED thoughts, specifically in the areas of restriction, weight concerns and eating concerns. No significant differences were found on the EDE shape and weight concerns subscales.

Discussion

The current investigation sought to determine whether a standard outpatient dose of DBT skills training (2 h per week) in addition to standard CBT treatment would be

Table 1 Scores on assessment measures prior to beginning traditional day treatment and after traditional day treatment for entire sample

Scale	Prior to DBT M (SD)	After DBT treatment M (SD)	t	N	p ≤	Cohen's d for paired <i>t</i> tests
Affect regulation outcomes						
Difficulties in emotion regulation scale (DERS)						
Clarity	15.10 (4.02)	15.13 (4.63)	−.03	48	.98	.004
Strategy	23.33 (7.14)	21.60 (6.40)	1.82	48	.07	.22
Aware	19.81 (4.56)	18.71 (4.02)	1.90	48	.06	.23
Impulse	15.94 (5.69)	14.38 (5.07)	2.30	48	.02*	.28
Goals	18.04 (4.47)	16.77 (4.97)	2.00	48	.05*	.25
Nonaccept	19.92 (6.20)	17.79 (5.62)	2.64	48	.01*	.33
Total	112.14 (22.84)	104.38 (20.42)	2.33	48	.03*	.29
Eating disorder outcomes						
Body mass index (BMI) (entire sample)	20.19 (4.20)	20.90 (4.00)	−5.44	65	.001*	.67
BMI (<18.5)	16.45 (1.19)	17.75 (1.31)	−6.53	22	.001*	1.39
Binge behaviors per week	2.93 (4.28)	1.12 (2.14)	3.80	42	.001*	.59
Excessive exercise per week	4.67 (5.14)	2.70 (3.92)	2.85	46	.007*	.42
Purge behaviors per week	4.67 (5.80)	2.20 (3.73)	3.89	46	.001*	.57
Restriction per week	5.04 (5.17)	3.32 (3.98)	2.50	47	.01*	.36
Eating disorder examination-questionnaire (EDE-Q)						
EDE-Q restraint subscale	4.26 (1.51)	2.90 (1.55)	4.53	37	.001*	.74
EDE-Q weight concerns	4.46 (1.93)	3.88 (1.28)	2.65	47	.01*	.39
EDE-Q shape concerns	4.77 (1.17)	4.56 (1.21)	1.26	47	.213	.18
EDE-Q eating concerns	3.72 (1.12)	2.99 (1.25)	4.13	47	.001*	.60
EDE-Q global concerns	17.93 (4.98)	14.20 (4.79)	4.53	37	.001*	.75

* Statistically significant values ($p \leq .05$)

sufficient to produce positive changes in affect regulation over the course of day hospitalization treatment in women diagnosed with AN and BN. Findings from this investigation indicated that individuals diagnosed with AN and BN reported a significant improvement in their ability to regulate their affect as measured the DERS. Secondary analyses on eating disorder outcomes also demonstrated a significant improvement in ED behaviors (e.g., reductions in bingeing, purging, restricting, and excessive exercise) and ED cognitions as measured by the EDE-Q.

With respect to affect regulation, there was a significant improvement pre-post on the DERS Impulse Control Difficulties Subscale. This subscale assesses an individual's ability to inhibit mood dependent behaviors when emotionally dysregulated. A central focus of DBT is teaching clients how to better manage negative mood states. Specifically the DBT skill Opposite Action teaches individuals how to identify the action urge associated with an emotion (e.g., anxiety has an action urge of avoidance) and then to act opposite to their action urge (e.g., approach). Given that this skill was taught and repeatedly practiced everyday (e.g., approaching fear of food by eating therapeutic meals) DBT may have had an impact on the improvement seen in impulsivity.

There was also a significant improvement on the DERS subscale, Difficulties in Goal Directed Behaviors and Non-Acceptance of Emotional Response. The DERS Difficulties in Goal Directed Subscale measures an individual's ability to concentrate and focus on goal directed behavior despite emotional dysregulation. The DERS Non-Acceptance of Emotional Response Subscale measures an individual's ability to accept primary emotions and not have negative secondary emotional responses to primary emotions (e.g., feel depressed and then feel guilty about feeling depressed). The mindfulness skills taught in DBT focused on teaching clients how to sit with their emotions using a nonjudgmental stance. Mindfulness teachings also focused on helping clients maintain attentional focus on the task at hand (e.g., focusing on the content of group rather than the fight with spouse). While these changes in affect regulation cannot definitively be linked to DBT, it is encouraging to see how the DBT skills taught in the day treatment program map onto improvement in the DERS.

Interestingly, participants did not improve on the DERS Subscales, Lack of Emotional Clarity, Limited Access to Emotion Regulation Strategies or Lack of Emotional Awareness. While the emotion regulation module of DBT does teach individuals how to identify emotions, this may

be particularly difficult for those diagnosed with an ED. Several studies have suggested that individuals with ED suffer from alexithymia or the inability to identify emotions experienced (Nowakowski et al. 2013). Thus, observing a significant improvement on the subscales related to awareness of emotions and clarity of emotions may not be possible with a limited 2 h weekly dose of DBT. Surprisingly, however, participants did not report an improvement on the DERS subscale, Limited Access to Adaptive Strategies. Given that DBT is a skill-based treatment one would expect that clients would have left treatment with many new adaptive strategies and skills to use. It may be important to distinguish between clients who have learned the skills versus those clients who have actually employed the skills.

With respect to eating disorder pathology participants demonstrated significant improvements in weight gain, a significant reduction in ED behaviors (e.g., reduction in binge, purge, and restricting behaviors), and a significant reduction in ED thoughts/cognitions, as measured by the EDE-Q. These findings are consistent with previous research on CBT treatment which indicates that the behavioral symptoms of the ED improve with treatment.

A limitation in the current study is the lack of randomization or a control group.

Because participants were not randomly assigned to treatment conditions, it is impossible to state unequivocally that the improvements observed in affect regulation and ED symptoms over time were due to treatment. Furthermore, because participants were not randomly assigned to differing treatment doses (e.g., DBT skills training only vs. comprehensive as well as CBT+DBT vs. CBT alone) it is also impossible to state unequivocally that improvement in affect regulation at post treatment was due to a dose related effect, the CBT interventions, the DBT interventions or some combination of the three. These limitations notwithstanding, the current findings point to important directions for future research, as well as some clinical implications, discussed next.

In sum, our findings suggest that some improvements in affect regulation can be made with a limited dose of DBT treatment (e.g., 2 h per week). Given that ongoing difficulties with emotion regulation have been connected to ED relapse understanding treatment outcomes in the area of affect regulation for those with an eating disorder is an important area of exploration (Federici and Kaplan 2008; Haynos and Fruzzetti 2011). Several studies have already established that those with EDs struggle more with affect regulation in comparison to healthy normals. While it remains unclear if these individuals with ED experience emotions more intensely than others or if they are particularly sensitive to negative emotions (Fairburn 2003), future studies should begin to explore what specific DBT skills are responsible for improvements in affect regulation in those

with EDs. Clinical trials in which ED individuals are randomized to receive different DBT skills is an important next step in understanding what specific treatment interventions are responsible for improvements in affect regulation.

References

- American Psychiatric Association (APA). (2000). Practice guidelines for eating disorders. *American Journal of Psychiatry*, *150*, 208–228.
- Ashley, M., & Crino, N. (2010). A novel approach to treating eating disorders in a day-hospital treatment program. *Nutrition and Dietetics*, *67*, 155–159.
- Becker-Stoll, F., & Gerlinghoff, M. (2004). The impact of a four-month day treatment program on alexithymia in eating disorders. *European Eating Disorders Review*, *12*, 159–163.
- Ben-Porath, D. D., Wisniewski, L., & Warren, M. (2009). Differential treatment response for eating disordered clients with and without a comorbid borderline personality diagnosis using a dialectical behavior therapy (DBT)-informed approach. *Eating Disorders: The Journal of Treatment & Prevention*, *17*, 225–241.
- Ben-Porath, D. D., Wisniewski, L., & Warren, M. (2010). Outcomes of a DBT day treatment program for eating disorders: clinical and statistical significance. *Journal of Contemporary Psychotherapy*, *40*, 115–123.
- Chen, E. Y., Matthews, L., Allan, C., Kuo, J. R., & Linehan, M. M. (2008). Dialectical behavior therapy for clients with binge-eating disorder or bulimia nervosa and borderline personality disorder. *International Journal of Eating Disorders*, *41*, 505–512.
- Cohen, J. (1969). *Statistic power analysis in the behavioral sciences*. New York: Academic Press.
- Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire? *International Journal of Eating Disorders*, *16*, 363–370.
- Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A “transdiagnostic” theory and treatment. *Behavior Research and Therapy*, *41*, 509–528.
- Federici, A., & Kaplan, A. S. (2008). The client’s account of relapse and recovery in anorexia nervosa: A qualitative study. *European Eating Disorders Review*, *26*, 1–10.
- Federici, A., Wisniewski, L., & Ben-Porath, D. D. (2012). Development and feasibility of an intensive DBT outpatient program for multi-diagnostic clients with eating disorders. *Journal of Counseling and Development*, *90*, 330–338.
- Gerlinghoff, M., Backmund, H., & Franzen, U. (1998). Evaluation of a day treatment programme for eating disorders. *European Eating Disorders Review*, *6*, 96–106.
- Gilboa-Schechtman, E., Avnon, L., Zubery, E., & Jeczmierni, P. (2006). Emotional processing in eating disorders: Specific impairment or general distress related deficiency? *Depression and Anxiety*, *23*, 331–338.
- 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 Psychopathological Behavior*, *36*, 41–54.
- Harrison, A., Sullivan, S., Tchanturia, K., & Treasure, J. (2009). Emotion recognition and regulation in anorexia nervosa. *Clinical Psychology and Psychotherapy*, *16*, 348–356.

- Harrison, A., Tchanturia, K., & Treasure, J. (2010). Attentional bias, emotion recognition and emotion regulation in anorexia: State or trait? *Biological Psychiatry*, *68*, 755–761.
- Haynos, A. F., & Fruzzetti, A. E. (2011). Anorexia nervosa as a disorder of emotion dysregulation: Evidence and treatment implications. *Clinical Psychology: Science and Practice*, *18*, 183–202.
- Heatherton, T. E., & Baumeister, R. E. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin*, *110*, 86–108.
- Kaplan, A. S., & Olmsted, M. P. (1997). Partial hospitalization. In D. M. Garner & P. E. Garkinkel (Eds.), *Handbook of treatment for eating disorders* (2nd ed., pp. 354–360). New York: The Guilford Press.
- Klein, A. S., Skinner, J. B., & Hawley, K. M. (2012). Adapted group-based dialectical behaviour therapy for binge eating in a practicing clinic: Clinical outcomes and attrition. *European Eating Disorders Review*, *20*, 148–153.
- Kong, S. (2005). Day treatment programme for clients with eating disorders: Randomized controlled trial. *Journal of Advanced Nursing*, *51*, 5–14.
- Kröger, C., Schweiger, U., Sipos, V., Kliem, S., Arnold, R., Schunert, T., et al. (2010). Dialectical behavior therapy and an added cognitive behavioral treatment module for eating disorders in women with borderline personality disorder and anorexia nervosa or bulimia nervosa who failed to respond to previous treatments. An open trial with a 15-month follow-up. *Journal of Behavior Therapy and Experimental Psychiatry*, *41*, 381–388.
- Linehan, M. M. (1993). *Cognitive behavioral treatment of borderline personality disorder*. New York: Guilford Press.
- Luce, K. H., & Crowther, J. H. (1999). The reliability of the eating disorder examination—Self-report questionnaire version (EDE-Q). *International Journal of Eating Disorders*, *25*, 349–351.
- Nowakowski, M. E., McFarlane, T., & Cassin, S. (2013). Alexithymia and eating disorders: A critical review of the literature. *Journal of Eating Disorders*, *1*, 1–14.
- Overton, A., Selway, S., Strongman, K., & Houston, M. (2005). Eating disorders—the regulation of positive as well as negative emotion experience. *Journal of Clinical Psychology in Medical Settings*, *12*, 39–56.
- Palmer, R. L., Birchall, H., Damani, S., Gatward, N., McGrain, L., & Parker, L. (2003). A dialectical behavior therapy program for people with an eating disorder and borderline personality disorder: Description and outcome. *International Journal of Eating Disorders*, *33*, 281–286.
- Safer, D. L., Robinson, A. H., & Jo, B. (2010). Outcome from a randomized controlled trial of group therapy for binge eating disorder: Comparing dialectical behavior therapy adapted for binge eating to an active comparison group therapy. *Behavior Therapy*, *41*, 106–120.
- Safer, D. L., Telch, C. F., & Agras, W. S. (2001). Dialectical behavior therapy for bulimia nervosa. *American Journal of Psychiatry*, *158*, 632–634.
- Schaffner, A. D., & Buchanan, L. P. (2008). Integrating evidence-based treatments with individual needs in an outpatient facility for eating disorders. *Eating Disorders: Journal of Treatment and Prevention*, *16*, 378–392.
- Spitzer, R. L., Williams, J. B. W., Gibbon, M., & First, M. B. (1990). *User's guide for the structured clinical interview for DSM-III-R: SCID*. Washington, DC, US: American Psychiatric Association.
- Stice, E., Fisher, M., & Martinez, E. (2004). Eating disorder diagnostic scale: Additional evidence of reliability and validity. *Psychological Assessment*, *16*, 60–71.
- Stice, E., Telch, C. F., & Rizvi, S. L. (2000). Development and validation of the eating disorder diagnostic scale: A brief self-report measure of anorexia, bulimia, and binge-eating disorder. *Psychological Assessment*, *12*, 123–131.
- Svaldi, J., Griepenstroh, J., Tuschen-Caffiera, B., & Ehring, T. (2012). Emotion regulation deficits in eating disorders: A marker of eating pathology or general psychopathology? *Psychiatry Research*, *197*, 103–111.
- Telch, C. F., Agras, W. S., & Linehan, M. M. (2000). Group dialectical behavior therapy for binge-eating disorder: A preliminary, uncontrolled trial. *Behavior Therapy*, *31*, 569–582.
- Telch, C. F., Agras, W. S., & Linehan, M. M. (2001). Dialectical behavior therapy for binge eating disorder. *Journal of Consulting and Clinical Psychology*, *69*, 1061–1065.
- Vitousek, K., & Hollon, S. D. (1990). The investigation of schematic content and processing in eating disorders. *Cognitive Therapy Research*, *14*, 191–214.
- Willinge, A. C., Touyz, S. W., & Thornton, C. (2010). An evaluation of the effectiveness and short-term stability of an innovative Australian day client programme for eating disorders. *European Eating Disorders Review*, *18*, 220–233.
- Wisniewski, L., Safer, D., & Chen, E. Y. (2007). Dialectical behavior therapy for eating disorders. In L. A. Dimeff & K. Koerner (Eds.), *Dialectical behavior therapy in clinical practice* (pp. 174–221). New York: The Guilford Press.
- Zonnevijlle-Bendek, M. J. S., van Goozen, S. H. M., Cohen-Kettenis, P. T., van Elburg, A., & van Engeland, H. (2002). Do adolescent anorexia nervosa clients have deficits in emotional functioning? *European Child and Adolescent Psychiatry*, *11*, 38–42.