Published in final edited form as:

Cogn Behav Pract. 2017 February ; 24(1): 1–13. doi:10.1016/j.cbpra.2015.12.005.

Developing an Acceptance-Based Behavioral Treatment for Binge Eating Disorder: Rationale and Challenges

Adrienne S. Juarascio, Stephanie M. Manasse, Leah Schumacher, Hallie Espel, and Evan M. Forman

Drexel University

Abstract

Binge eating disorder (BED), characterized by recurrent eating episodes in which individuals eat an objectively large amount of food within a short time period accompanied by a sense of loss of control, is the most common eating disorder. While existing treatments, such as cognitive behavioral therapy (CBT), produce remission in a large percentage of individuals with BED, room for improvement in outcomes remains. Two reasons some patients may continue to experience binge eating after a course of treatment are: (a) Difficulty complying with the prescribed behavioral components of CBT due to the discomfort of implementing such strategies; and (b) a lack of focus in current treatments on strategies for coping with high levels of negative affect that often drive binge eating. To optimize treatment outcomes, it is therefore crucial to provide patients with strategies to overcome these issues. A small but growing body of research suggests that acceptance-based treatment approaches may be effective for the treatment of binge eating. The goal of the current paper is to describe the development of an acceptance-based group treatment for BED, discuss the structure of the manual and the rationale and challenges associated with integrating acceptance-based strategies into a CBT protocol, and to discuss clinical strategies for successfully implementing the intervention.

Keywords

binge eating disorder; acceptance-based therapy; cognitive and behavioral therapy

BINGE eating disorder (BED) is the most common eating disorder, with an estimated lifetime prevalence rate of 2.0% among men and 3.5% among women in the United States (Hudson, Hirpi, Pope, & Kessler, 2007). BED is characterized by eating episodes during which individuals consume an objectively large amount of food in a discrete time period and experience a sense of loss of control over eating, but do not engage in regular compensatory behaviors (e.g., self-induced vomiting, excessive exercise). Diagnostic criteria for BED require that these binge eating episodes must have occurred, on average, at least once per week in the previous 3 months, and must be associated with significant distress (American Psychiatric Association, 2013). BED is also associated with high levels of co-occurring

Address correspondence to Adrienne S. Juarascio, Ph.D., Department of Psychology, Drexel University, Stratton Hall, 3141 Chestnut Street, Philadelphia, PA 19104; asj32@drexel.edu.

Video patients/clients are portrayed by actors

psychiatric disorders, obesity and related medical complications, impaired social functioning, and reduced quality of life (Grilo, White, & Masheb, 2009; Mitchell, Devlin, de Zwaan, Crow, & Peterson, 2008; Rieger, Wilfley, Stein, Marino, & Crow, 2005; Wilfley, Wilson, & Agras, 2003; Wonderlich, Gordon, Mitchell, Crosby, & Engel, 2009). Though evidence-based cognitive-behavioral treatments for BED exist, many patients fail to respond to these treatments, indicating the need for improvements upon existing treatment paradigms. The aim of this paper is three-fold: we will (a) explicate the evidence for limitations of current treatments for BED; (b) describe the development of an acceptance-based treatment approach to address these limitations; and (c) discuss the challenges encountered while integrating acceptance-based approaches with current gold-standard treatments for BED.

Numerous psychological treatments exist for the treatment of BED, including cognitive behavioral therapy (CBT), guided self-help CBT, interpersonal therapy, dialectical behavioral therapy, and behavioral weight loss treatment (for a review, see Iacovino, Gredysa, Altman, & Wilfley, 2012). Effective pharmacotherapies also exist, and can be delivered alone or in combination with psychological treatment (for reviews, see Brownley, Berkman, Sedway, Lohr & Bulik, 2007; Reas & Grilo, 2008). A recent meta-analysis of 38 studies of various psychological and pharmacological treatments for BED revealed that both psychotherapy and structured self-help based on cognitive behavioral interventions resulted in medium to large effect sizes for improvements in binge eating and related outcome variables (e.g., eating and weight concerns; Vocks et al., 2010). Based on these findings, as well as clinical treatment guidelines (e.g., NICE, 2004), CBT is currently considered the treatment of choice for BED. CBT for BED is delivered in both individual and group formats, and these formats appear to be equally effective in reducing binge eating in the long-term (Ricca et al., 2010).

Although CBT is considered an effective treatment for BED, with binge abstinence rates at posttreatment to 1-year follow-up ranging from approximately 50% to 80% (Grilo, Masheb, & Wilson, 2005; Peterson, Mitchell, Crow, Crosby, & Wonderlich, 2009; Wilfley et al., 2002), room for improvement in long-term outcome remains. In a large randomized control trial evaluating the efficacy of outpatient group CBT for BED, for example, only 52% of patients achieved recovery at 4 years posttreatment, and 72.0% remitted to at least subthreshold symptom severity (Hilbert et al., 2012). Thus, a considerable number of patients with BED continue to experience full- or subthreshold levels of binge eating despite receiving the current gold-standard treatment approach.

Symptom persistence after treatment may be partially attributed to difficulty complying with the prescribed behavioral components of CBT. The cognitive behavioral model of eating pathology posits that overvaluation of weight and shape and resulting dietary restriction are the primary maintenance factors of binge eating (Fairburn, Cooper, & Shafran, 2003; Fairburn, 2008a,b). As such, regularizing eating habits and addressing the dysfunctional scheme of self-evaluation are primary targets of treatment. CBT instructs patients to engage in numerous behaviors to address these treatment targets, such as self-monitoring of food intake and body image, and eating at regular intervals throughout the day (Fairburn, 2013; Mitchell et al., 2008). These behavioral recommendations appear to be effective in reducing

symptomology when patients successfully implement them (Wilson, Fairburn, Agras, Walsh, & Kraemer, 2002; Zengedui, West, & Zandberg, 2014), and compliance with homework assignments in CBT, such as self-monitoring, is predictive of treatment success across numerous disorders (Mausbach, Moore, Roesch, Cardenas, & Patterson, 2010). However, some patients may find the behavioral recommendations made in CBT for BED to be effortful or distressing, and may therefore feel unmotivated or unable to implement these key recommendations. For example, some patients may fail to self-monitor their food intake because they find it boring, time-consuming, or feel embarrassed by recording binge episodes. Other patients resist regularizing their eating patterns due to concerns about weight gain. Thus, while compliance with treatment recommendations likely reduces binge eating pathology, successful implementation proves difficult for many individuals. To optimize treatment outcomes, treatment must also provide strategies to overcome the emotional discomfort associated with enacting challenging behaviors (e.g., self-monitoring, regularizing eating), which are critical for reducing binge eating.

Prevailing theoretical models of the development and maintenance of binge eating pathology implicate affect as a primary precipitant of the behavior. For example, the widely accepted dual pathway model includes dietary restriction and negative affect as the two primary mechanisms through which body dissatisfaction increases risk of binge eating (Stice & Agras 1998; Stice, Nemeroff, & Shaw, 1996). Numerous studies support the role of negative affect and emotion dysregulation in binge eating (e.g., Agras & Telch, 1998; Berg et al., 2013; Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003; Greeno, Wing, & Shiffman, 2000; Hilbert & Tuschen-Caffier, 2007; Whiteside et al., 2007). Although diagnostic subtypes of BED do not currently exist, some research suggests that there is a subgroup of BED patients for whom emotion dysregulation may be particularly relevant to binge eating; notably, pathology may be greater in this group of patients (Grilo, Masheb, & Wilson, 2001; Stice et al., 2000). High emotional eating has also been found to predict treatment resistance (Ricca et al., 2010), suggesting that individuals for whom the relationship between negative affect and binge eating is stronger may fare less favorably in treatment. Although the cognitive behavioral model of eating pathology posits that mood intolerance is a maintenance mechanism of eating pathology for some individuals, and although mood intolerance is targeted by a newer, more complex version of CBT for eating disorders (i.e., CBT-E; Fairburn, 2008a,b; Fairburn, et al., 2015), it remains a relatively small focus of the overall treatment package, only introduced in later stages of treatment (Fairburn, 2008a,b; Fairburn et al., 2009). Given the apparent role of negative affect in binge eating, especially for some individuals, increased focus on addressing the link between affect and binge eating may improve treatment outcomes. Furthermore, although facilitating engagement with behavioral recommendations and devoting attention to emotion regulation skills may be two separate ways to improve treatment outcome, it is also possible these two avenues may influence each other. For example, provision of distress tolerance and/or emotion regulation skills may also increase the ability to tolerate the difficult process of behavior change.

In summary, although CBT for BED is relatively effective, patients often require additional skills that facilitate engagement with behavioral recommendations, as well as explicit focus on affect regulation and/or distress tolerance. Our acceptance-based behavioral treatment

(ABBT) for BED combines key behavioral elements of standard CBT protocols for BED with approaches and skills emphasized in “third wave” cognitive behavioral therapies that can address these two deficits. Generally speaking, third wave therapies utilize psychological acceptance (i.e., a willingness to experience distressing thoughts, feelings, and other internal experiences without attempting to avoid, suppress, or otherwise control them) and mindfulness (i.e., open, nonjudgmental awareness of the present moment) principles to facilitate the decoupling of subjective experiences from overt behavior (Herbert & Forman, 2011). Rather than attempting to change thoughts or feelings directly, these therapies modify the ways in which individuals relate to these internal experiences, and thereby directly address the function of these experiences in behavior.

The present treatment drew from Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2012). ACT is one of the most well-studied ABBTs (Kahl, Winter, & Schweiger, 2012), and fits well theoretically with several purported eating disorder maintenance factors (Manlick, Cochran, & Koon, 2013). ACT posits that much of the distress and pain that humans experience result from overattachment to thoughts, feelings, and other internal experiences, attempts to avoid uncomfortable internal experiences, and behaving in ways that alleviate short-term distress, but ultimately move one further from what one cares about most (i.e., one’s values; Hayes et al., 2012). The primary goal of ACT is to increase psychological flexibility, which refers to the ability to experience the present moment fully and without judgment, and to change or persist in behavior because doing so serves valued ends (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes et al., 2012). Although research on the use of ACT to treat eating disorders is relatively limited, ACT appears to hold promise for reducing eating pathology (Hill, Masuda, Melcher, Morgan, & Twohig, 2014; Juarascio, Forman, & Herbert, 2010; Juarascio et al., 2013; Lillis, Hayes, & Levin, 2011; Masuda & Hill, 2013). Research has demonstrated that changes in psychological flexibility mediate reductions in binge eating during treatment, highlighting the importance of this construct for behavior change (Lillis et al., 2011). The ACT concepts and skills utilized in the present treatment were derived from a variety of well-known sources and treatment manuals for ACT (e.g., Hayes et al., 2012; Hayes & Smith, 2005).

Emotion regulation and distress tolerance skills taught in Dialectical Behavioral Therapy (DBT; Linehan, 1993) were also integrated into the treatment, given that individuals with BED often exhibit difficulty with functional management of negative mood (Whiteside et al., 2007), and because negative affect is a known antecedent of binge eating episodes (Haedt-Matt & Keel, 2011). Although DBT was originally developed to treat borderline personality disorder, it has also demonstrated efficacy in treating eating disorders, including BED (Safer & Jo, 2010). Thus, DBT skills are likely to improve treatment outcomes for affect-driven binge eating.

Finally, we included values-driven behavioral activation strategies (Lejuez, Hopko, Acierno, Daughters & Pagoto, 2011; Martell & Kanter, 2011) as the final addition to the treatment protocol. Although only one session was devoted to values-based behavioral activation in the treatment, these strategies were briefly covered because many patients with BED experience depressed mood (Telch & Stice, 1998), and standard CBT treatments for BED only marginally improve depressive symptoms (Vocks et al., 2010).

In the remainder of this paper, we discuss the development of the ABBT with several key aims in mind. First, we describe the key elements of the ABBT manual and how the aforementioned groups of skills were integrated with key behavioral elements of existing, empirically supported CBT treatments. To supplement this aim, we have also filmed two videos demonstrating clinical techniques inherent to our approach. Video 1 demonstrates how we describe our therapeutic model to patients. Video 2 shows how we describe to patients how to use behavioral strategies and when to supplement behavioral strategies with acceptance-based strategies. For our second aim, we discuss challenges we encountered while combining the conceptually distinct approaches of acceptance-based treatments with the more conventional cognitive elements of CBT (e.g., thought restructuring). Finally, for our third aim, we provide concluding remarks on the potential of this approach for improving BED treatment outcomes, and discuss future directions for research.

Manual Development and Overview

CBT-E is currently considered the recommended treatment for BED. Therefore, widely utilized CBT protocols for BED (Fairburn, 2013; Mitchell et al., 2008) served as the foundation for the behavioral aspects of the treatment manual. We removed components of the protocol that were inconsistent with an acceptance-based framework (i.e., content focused on modifying or changing thoughts or feelings) from the manual, and added acceptance-based skills and exercises, as described below.

We selected a group format for the present treatment, given that: (a) individual and group-based treatments appear to be equally effective in reducing binge eating (Ricca et al., 2010); and (b) group treatments may be more disseminable. The length of the intervention remained brief, to further increase disseminability and allow for examination of the acceptability and efficacy of the treatment approach in a time-limited manner. The intervention consisted of 10 weekly sessions, the first 2 of which were 120 minutes each, and the remaining 8 of which were 90 minutes each. This length is consistent with other preliminary examinations of ACT interventions for eating disorders (e.g., Hill et al., 2014; Juarascio et al., 2013) as well as existing CBT for BED group interventions (e.g., Peterson et al., 2001). Adult women (diagnosed with BED according to DSM-5; American Psychiatric Association, 2013) attended outpatient groups in three treatment waves. Edits to the manual were made iteratively across the three waves. Changes consisted primarily of reordering of session content based on patient and group facilitator feedback, adjustments in the amount of session time devoted to particular skills, and modifications to the homework assignments. We discuss the core elements of the final treatment manual in greater detail below (and summarize them in Table 1). A figure demonstrating the hypothesized mechanisms of this treatment can be found in Figure 1.

Core Elements of the Intervention and Integration of Acceptance-Based and Behavioral Content

Check-In and Session Structure

With the exception of the first session, which began with a brief introduction of clients, each session began with a check-in about clients' progress during the previous week. Patients reported on their binge eating behavior, their progress with implementing behavioral changes (e.g., self-monitoring, regularization of eating), and completion of assignments or other exercises (e.g., worksheets, practicing acceptance-based skills). Clinicians praised patients' behavioral successes and efforts to use skills, collaboratively problem-solving any difficulties that patients experienced. Following check-in, clinicians briefly reviewed the material covered in the previous session, then spent the majority of the session presenting and discussing specific behavioral or acceptance-based skills. Whenever possible, patients were encouraged to actively participate through experientially based activities and discussion-oriented material presentation. Each session concluded with assignment assigning homework and goals for the coming week.

Retained Elements of Traditional Cbt Interventions for Binge Eating

Given the presumed importance of the behavioral elements of CBT for reducing binge eating, we retained nearly all of the key behavioral aspects of CBT for BED for ABBT. Skills retained included self-monitoring (of eating, contextual factors associated with eating and binge episodes, body image disturbances, mood, etc.), regularization of eating, identification of behavioral chains, stimulus control, healthy weight management (i.e., eating a balanced and flexible diet, engaging in moderate levels of physical activity in a noncompensatory fashion), and relapse prevention (Fairburn, 2013; Mitchell et al., 2008). The treatment placed a particular emphasis on regularization of eating patterns, given the hypothesized role of dietary restriction in the maintenance of binge eating, and given research demonstrating that reductions in rigid dietary restraint early in eating disorder treatment is a predictor of treatment outcome (Blomquist & Grilo, 2011; Wilson et al., 2002). We excluded cognitive elements of traditional CBT protocols, particularly those focused on modifying thoughts or emotions (e.g., the thought-behavior connection, identification of automatic thoughts, cognitive restructuring), given their incompatibility with an acceptance-based framework.

Acceptance-Based Strategies

As previously mentioned, according to the ACT model, many pathological behaviors (e.g., binge eating) and distress result from acting in ways that help one to avoid, suppress, or control distressing internal experiences in the short term but, in the long term, take one further away from one's values and the type of life one would like to be living (Hayes et al., 2012). With regard to binge eating, for example, individuals may become rigidly attached to (i.e., fused with) the belief that they are fat and need to lose weight, and thus refrain from eating certain types of foods in order to alleviate the experience of feeling fat. Additionally, when individuals experience an uncomfortable thought, feeling, or urge, they may binge eat in an attempt to alleviate or numb this experience in the short term, despite recognizing that

binge eating exacerbates their distress in the long term and interferes with their ability to fully live their lives. Such behaviors may interfere with important values that an individual has, such as being a healthy role model for one's children; being a devoted, honest, engaged friend; or being a loving, supportive partner.

Our model of ABBT implemented specific strategies from ACT that target these problematic tendencies. These strategies were designed to increase individuals' ability to behave flexibly in response to their internal experiences, particularly in ways that moved them closer to (rather than further away from) their personal values (Hayes et al., 2006). For example, patients learned to nonjudgmentally accept and embrace their internal experiences, even those that were uncomfortable, as part of being alive. Concurrently, they learned strategies to "step back from" thoughts and feelings and see them for what they were—just thoughts, feelings, etc.—that need not dictate their behavior. Finally, patients clarified their values, and learned specific strategies to increase their willingness to choose to engage in behaviors that are consistent with these values, even when doing so was uncomfortable or effortful.

The treatment also consisted of content and strategies derived from DBT for improving emotional regulation and distress tolerance abilities. These strategies, at times, aim to attenuate the intensity of certain thoughts or feelings (e.g., via self-soothing) and may at first seem inconsistent with an ACT framework. To address this, group discussion addressed the "workability" of individuals' behaviors (i.e., whether behaviors are contributing to a meaningful, values-consistent life; Harris, 2009). Although ACT generally discourages efforts to avoid, suppress, or change one's internal experiences as many such control-based efforts only intensify these experiences and lead to additional distress (Chawla & Ostafin, 2007), behaviors that facilitate values-consistent action, do not have problematic long-term consequences, and are "held lightly" (i.e., are seen as one of many tools for promoting valued action) are generally consistent with an acceptance-based approach. Overall, incorporation of all acceptance-based and skills from DBT into the treatment served two primary aims. These were (a) to facilitate the implementation of behavioral treatment recommendations, and (b) to increase patients' willingness to experience aversive internal experiences while providing patients with healthy, adaptive strategies that could be used to tolerate distress without engaging in values-inconsistent behaviors (i.e., binge eating).

To help delineate the connection between acceptance-based skills and increased adherence to behavioral recommendations, patients were encouraged to identify how recommended behaviors were consistent with their values. Clients learned concepts such as willingness, defusion, and committed action as tools they might use to engage in these values-consistent behaviors, despite inevitable challenges. For example, clients identified how tracking their food intake, though effortful and unpleasant at times, was consistent with long-term goals and values that they held, such as living a physically and psychologically healthy life. Willingness to accept these unpleasant aspects of self-monitoring (e.g., effort/time, embarrassment) while continuing to make behavioral choices (i.e., to self-monitor) consistent with these values was then emphasized. Metaphors such as the "passengers on the bus" metaphor (e.g., Hayes et al., 2012, p. 250; Hayes & Smith, 2005, p. 153) and other experiential exercises helped to illustrate this concept of willingness for patients. Similarly, patients were taught how to apply defusion (i.e., obtaining psychological distance from

distressing thoughts, feelings, or urges), acceptance, and willingness skills to the regularization of eating. To illustrate concepts such as acceptance, we included metaphors that are commonly used in ACT, such as the “tug-of-war with a monster” metaphor (e.g., Hayes et al., 2012; p. 276; Hayes & Smith, 2005, p. 32). Group leaders elicited specific, concrete examples from patients of what use of these concepts would look like in clients’ daily lives. All of these strategies facilitated behavior change by connecting behavioral recommendations with patients’ values and presenting acceptance-based skills as tools that patients could use to engage in these behaviors.

Patients also learned to improve distress tolerance and reduce frequency of emotionally driven binge eating through incorporation of “crisis survival” DBT skills, including distraction, self-soothing, improving the moment, and identifying pros and cons of tolerating distress (Linehan, 1993). Patients also learned the mindfulness-based distress tolerance strategy of “urge surfing,” which involves mindfully noticing and “riding out” urges as they rise and fall in intensity until they eventually subside (Bowen, Chala, & Marlatt, 2010). Notably, urge surfing is also presented briefly as a strategy in CBT-E; however, CBT-E fails to emphasize it as a core skill, and recommends introduction of this skill only after binge eating has already begun to diminish. In contrast with CBT-E, our treatment emphasized urge surfing more heavily and earlier in the current treatment. Group leaders presented emotion regulation and distress tolerance skills as strategies patients could use to engage in healthy or values-consistent behaviors when experiencing uncomfortable internal states, such as urges, rather than as means to avoid or control internal experiences. According to the ACT model, experiential avoidance impedes psychological flexibility by narrowing individuals’ repertoires of potential behavioral responses to distressing thoughts and emotions, and thus reduces individuals’ abilities to engage in values-consistent behaviors in the face of uncomfortable internal experiences (Hayes et al., 2012). Consistent with the functional contextual roots of ACT (Hayes, 2004), ABBT treatment included DBT skills as tools to facilitate acceptance, willingness, and values-driven behaviors (as opposed to new methods for avoiding or attempting to control internal experiences). DBT-based coping strategies thus allowed patients to accept and experience those sensations while at the same time engaging flexibly in behaviors that were consistent with their values (or, at the very least, engaging in behaviors that were not values-inconsistent), rather than avoid experiencing or to control their thoughts, feelings, or urges. Patients also practiced a wide range of distress tolerance and emotion regulation skills for homework. When patients reported on use of these strategies in group the following session, therapists identified any underlying control-based agendas (i.e., hopes of or attempts to use these strategies to avoid uncomfortable internal experiences), and reiterated the function of these strategies within an acceptance-based framework as necessary.

Challenges in ABBT for BED Manual Development

Changing or Adapting CBT for Bed Strategies to be ABBT-Consistent

Ensuring the treatment remained theoretically consistent despite incorporating components from multiple, and sometimes conflicting, theoretical models, posed a major challenge in developing an ABBT for BED treatment manual that incorporated gold-standard CBT for

BED components. For example, ACT discourages the testing and modification of irrational thought patterns (e.g., overvaluation of shape and weight), whereas CBT encourages this. In contrast, ACT theory holds that most attempts to avoid, control, or change internal experiences (such as thoughts, feelings, and urges) are ineffective in the long term and will ultimately take one further from his or her chosen values (Hayes, 2004). Because of this, we retained the behavioral components of CBT for BED that promote normalization of eating and challenge experiential avoidance (e.g., weekly weighing), removed all components focused on testing out and modifying maladaptive cognitions and thought patterns. For example, CBT for BED includes modules specifically focused on identifying and restructuring cognitions related to “feeling fat” and poor body image. CBT encourages use of distraction techniques and/or examining the underlying emotions tied to “feeling fat.” However, in an acceptance-based model, patients learn to embrace and expect these thoughts and feelings for what they are—momentary brain activity—which may never subside. Attempts to control or suppress these inevitable thoughts and emotions are considered fruitless and frequently inconsistent with one’s values. The treatment encourages taking action toward one’s values, even in the face of uncomfortable internal experiences (e.g., going out to meet friends despite feelings of fatness). Attempting to avoid such unpleasant thoughts and feelings related to poor body image (e.g., by restricting food intake or skipping social events) feeds into the cycle of binge eating and limits individuals’ ability to move toward their values (e.g., to be a present friend).

Removing the cognitive portions of CBT also allowed for more time to be dedicated to acceptance-based-focused content (e.g., psychological acceptance, values clarity). However, CBT is typically a 20-week treatment. We naturally encountered challenges in fitting the remaining, ABBT-consistent elements of CBT for BED, along with ACT and DBT components, into 10 sessions. Although removal of most of the cognitive components left room for acceptance-based strategies, we shortened presentation of the behavioral strategies considerably, in order to make room for acceptance-based components. Shortening these components facilitated deliberate integration of the behavioral and acceptance-based components (described below). However, the drastic shortening of both behavioral and acceptance-based components from ideal lengths (thus leading to a need to quickly move through material) remained a key area of improvement of the manual in pilot testing (see Challenges in Clinical Implementation).

Theoretical Consistency within ABBT Content

As described, we primarily incorporated ACT-focused concepts when integrating the acceptance-based components of the ABBT for BED manual, with a more limited integration of DBT skills. Although DBT and ACT are both considered “third-wave” treatments, group leaders were careful to introduce the DBT coping strategies in a way to prevent patients from misinterpreting how and why to use the skills. As described above, in some ACT protocols, coping strategies, such as self-soothing or improving the moment, could be considered a form of experiential avoidance because they are methods through which to alleviate (i.e., control or avoid, in the ACT model) internal experiences. However, we felt it was strongly warranted to include such coping strategies because of the strong relation between rises of negative affect and subsequent binge episodes (Berg et al., 2013),

and the initial promise of DBT in the treatment of BED (Safer & Jo, 2010). Thus, DBT coping strategies may be key, concrete ways for patients to weaken the relation between sharp increases in negative affect and binge eating. The manual therefore includes careful presentation of DBT-based emotion regulation and distress tolerance skills from the perspective of workability (as described above), and explains that coping strategies should not be used (and likely would not be effective) for avoidance of aversive thoughts, feelings, and urges. Rather, coping strategies “took the edge off” internal experiences and facilitated generation of alternative, values-positive (e.g., call a friend or family member) or at the least, values-neutral (e.g., listen to music), strategies for coping with their internal experiences.

Lastly, the ABBT for BED manual additionally included values-based behavioral activation strategies. We included this component on the basis that removing a central piece of a patient’s life (a focus on dietary restriction and eating) may necessitate learning skills to explore and try out new life values. Inclusion of values-based behavioral activation allowed for systematic scheduling of values-based activities, which has shown promise in improving symptoms of depressed mood, known to be highly comorbid with BED (Grilo et al., 2009). Additionally, alleviating symptoms of depressed mood via behavior activation may also lessen the severity of negative affect known to precede binge episodes.

Integrating Acceptance-Based and CBT Content

Although removal of components focused on identifying and modifying irrational thinking allowed for more theoretical consistency between the CBT and acceptance-based components, cohesive presentation of the two types of material (to prevent the perception that behavioral and acceptance-based strategies were two separate entities) remained a challenge. The manual described acceptance-based strategies as ways to facilitate engagement in, and maintenance of, the core behavioral recommendations of CBT (e.g., self-monitoring, normalization of eating patterns, elimination of dietary restriction and rules). Behavioral strategies were necessary for reducing binge eating, but not *sufficient*; specifically, knowledge of the behavior that one should engage in (or not engage in) is not enough for promoting long-term engagement (or nonengagement) in that behavior. For example, eating on a regular basis (a key component of normalizing eating patterns) is important because extreme hunger can serve as a trigger for binge episodes. However, for some individuals with BED, eating regularly can pose difficulties for several different reasons, such as needing to plan ahead of time, or eat when one doesn’t feel hungry (especially if she has been restricting her diet). Thus, knowing that one *should* eat every 4 hours may not be enough to overcome the unpleasant experience of having to plan ahead of time, or eat even when one has the thought that eating a snack may lead to weight gain. As such, an acceptance-based skill such as willingness may facilitate engagement in an important behavior (eating regularly) that is consistent with one’s values (e.g., being a healthy mother) despite unpleasant internal experiences associated with that behavior (e.g., feeling fat after eating an afternoon snack). To facilitate the integration of behavioral and acceptance-based skills/strategies, we presented all strategies under the framework of “control what you can, accept what you can’t.” Under this framework, behavioral strategies were presented as “controlling what you can,” as the ABBT models posits that behaviors (e.g., normalizing eating, self-monitoring, weekly weighing) are always under one’s control.

However, internal experiences (thoughts, feelings, urges, and sensations) are *not* under one's control (e.g., urges to eat when feeling anxious), and individuals should then use acceptance-based skills (e.g., willingness, defusion, acceptance) to facilitate adherence with behavioral strategies. Use of this framework throughout the manual allowed for a clear distinction between, yet integration of, acceptance-based and behavioral strategies for binge eating.

Incorporation of Weight Management Strategies

Most individuals with BED are overweight or obese, and endorse a strong desire to lose weight (Yanovski, Nelson, Dubbert, & Spitzer, 1993). Behavioral weight loss interventions and CBT generally fail to produce long-term weight loss in those with BED (Iacovino, Gredysa, Altman, & Wilfley, 2012), likely due to the counterproductive effects of dieting efforts on binge eating. Thus, our ABBT treatment discouraged weight loss attempts during the active phase of treatment; however, we presented general strategies for weight management/maintenance, in order to provide psychoeducation to patients who felt unsure about what constituted a healthy diet or appropriate portion sizes, especially after binge eating had reduced in frequency. For example, the treatment encouraged patients to incorporate fruits and vegetables into their diet and to eat smaller portions of food regularly throughout the day rather than relying on one or two big meals. Where possible, we integrated acceptance-based skills with weight management strategies. For example, patients were encouraged to routinely engage in noncompensatory physical activity to assist in weight management, even when they were tired or didn't feel like doing so. Patients who expressed interest in active weight loss were encouraged to focus on reducing their binge eating first. We emphasized that any future weight loss attempts that patients tried on their own must incorporate more flexible and less severe types of dietary restraint than previous attempts in which rigid dieting and food rules were employed.

Methods

Participants

The current study included adults (>18 years of age; body mass index >18.0 kg/m²) who met DSM-5 criteria for BED (i.e., an average of at least one objective binge episode per week in the past 3 months). Exclusion criteria included a change in the dose of a medication known to affect weight or appetite within the last 3 months, and concurrent receipt of psychotherapy for treatment of eating or weight-related problems. All patients were fluent in English and had the capacity to give consent. Recruitment for the trial took place through employee and student listservs, Internet advertising, and posting of flyers in the community.

Sample characteristics and procedures

A total of 19 patients enrolled in treatment. Although men were eligible to participate, our sample consisted only of female patients, which is likely attributable to reduced treatment-seeking behavior among men with eating disorders (Weltzin et al., 2005), but may also have been related to the group-based nature of the treatment (i.e., concern over being the only male patient in a group). Of those who enrolled in treatment, 2 dropped out, reflecting excellent retention rates. (One discontinued due to a scheduling conflict with the group meeting time, and 1 patient was withdrawn from treatment due to medical issues unrelated

to binge eating.) Of those who completed treatment ($n = 17$), 4 had received prior professional help for eating- and weight-related issues ($n = 2$ received outpatient therapy, and $n = 2$ received weight loss treatment). Patients' ages ranged from 20 to 61 years ($M = 37.88$; $SD = 13.21$), and all patients were female. BMI of patients ranged from 21.20–50.10 ($M = 33.80$, $SD = 8.89$). Treatment consisted of 10 weekly, manualized group therapy sessions, with consistent session structure across weeks. Sessions began with a brief skill review and patient check-in from the past week, which was followed by introduction of one to two new behavioral or psychological skills/concepts (e.g., reducing dietary restriction and practicing urge surfing, or regularizing eating and clarifying personal values). Finally, therapists assigned weekly homework to facilitate regular implementation of the skills learned in session.

Two trained doctoral students supervised by a licensed clinical psychologist ran each wave of groups. Three waves of treatment groups were run successively, and quantitative (electronic survey) and qualitative (interview-based) acceptability measures were administered upon completion of each treatment wave. We made minor adjustments to the treatment manual for Waves 2 and 3, respectively (described below), in response to feedback from Wave 1 group members. A complete analysis of outcome data is beyond the scope of the current paper and will be reported in a subsequent manuscript (Juarascio et al., in preparation). Below, we present acceptability data to highlight the iterative nature of treatment development and recommendations for future modifications to the treatment approach.

Results

Wave 1

Acceptability and Feedback—After the first wave of treatment ($n = 4$), group members reported that they found the treatment to be largely effective at improving their symptoms, and only wished that the treatment would have extended beyond 10 sessions. All patients indicated that they would recommend the treatment to a friend. Patients' responses to quantitative feedback questions are included in Table 2 with the full sample. During qualitative feedback interviews, two of the four patients identified the psychological strategies (i.e., ABBT skills such as a focus on values and willingness) as having been the most beneficial element of the treatment.

Wave 1 patients also provided several suggestions for improvement of the treatment protocol. A common theme among patients was feeling “a little rushed during sessions,” and that session time was too brief to cover all the material outlined in each session. One patient suggested that session duration be extended each week, which would allow clinicians to “break down strategies more, therefore having more opportunity to learn deeper and practice more.” In general, patients felt that the complexities of the material covered in-session required more extensive discussion and more opportunities to practice outside of session. Another primary challenge noted by clinicians was the need to address the heterogeneity of disordered eating symptoms that accompanied binge eating among patients (e.g., use of subthreshold compensatory behaviors, restrictive eating practices, food avoidance, and comorbid obesity).

Waves 2 and 3

Adaptations and Improvements—Groups exhibited wide variability in clinical BED presentation throughout each wave of treatment. For example, patients in Wave 2 were younger on average and had lower average BMI and shorter illness duration compared to Wave 1 patients. Additionally, patients in Wave 2 endorsed more compensatory behaviors (including more restrictive eating behavior, occasional driven exercise, and rare self-induced vomiting) than Wave 1 patients, although these behaviors were reported at a low frequency (i.e., were not recurrent) and thus precluded diagnosis of bulimia nervosa. In contrast to Wave 2, Wave 3, similar to Wave 1, tended to be older in age, have higher BMIs (in the overweight/obese range), and expressed legitimate concerns over their health due to excess weight. Small sample sizes precluded statistical comparisons between groups. However, the qualitative differences in clinical presentation among groups, combined with feedback received from Wave 1 group members, prompted us to add more flexible guidelines for discussion of each of the core treatment components. This ensured that session content was adaptable to the current needs of the group members' presenting symptoms, but that the core elements of the treatment approach would be delivered consistently.

In order to address the feedback from Wave 1 and meet the diverse needs of patients, we removed topics that clients reported to be less relevant and less helpful (e.g., mindful eating) from the treatment manual. More time was devoted to the topics that clients from Wave 1 found to be most helpful (e.g., applying the “dropping the rope” metaphor, focusing on valued action, and practicing acceptance). Group leaders paid specific attention to the treatment needs of each group for Waves 2–3, such that real-world examples for application of psychological strategies reflected those most commonly encountered by group members. For example, in Wave 2, given that several patients reported engaging in compensatory exercise, compensatory exercise was identified as an experiential avoidance strategy (“picking up the rope”), which also served to maintain the cycle of binge eating. For Wave 3, discussion of psychological strategies focused more on comorbid overweight and obesity (e.g., the application of willingness to portion control and engaging in other weight management behaviors). These modifications were intended to increase the clinical relevance of the material, to address the wide range of comorbid eating and weight concerns that often accompany binge eating. While the manual and patient worksheets remained the same, we applied the core ABBT skills flexibly to the variable needs of the groups.

Acceptability and Feedback—For the second and third waves of treatment, patients once again found the treatment to be highly beneficial. Of the nine patients who completed the posttreatment surveys and qualitative feedback interviews, responses generally indicated high treatment acceptability (refer to Table 2 for combined feedback from all waves). Patients' responses in the in-person interviews and free-response survey questions reflected a generally positive reception to the treatment, and a belief that the treatment had substantially helped improve their symptoms, stating, “It was all pretty beneficial,” “it was really successful,” and “I wish it was longer.”

At the end of treatment, patients were asked, “What did you find most helpful about the treatment?” to determine what they considered most crucial to their success at reducing

binge eating. Overall, patients tended to identify a *combination* of psychological ABBT strategies and cognitive-behavioral strategies as most beneficial. For example, one patient found regularization of eating (“having a set [meal] schedule and why that’s important”) to be crucial to her success, but also stated that “keeping values in mind ... when you’re feeling down or guilty and those feelings make you want to binge” was key. Similarly, another patient found that “tracking food” helped her understand patterns that contributed to binges, but found urge-surfing helpful in times when she was at imminent risk for an episode. This patient feedback corresponds well with clinician observations and the original conceptualization of the treatment; behavioral strategies are central to reducing binge eating, but psychological ABBT strategies may help to facilitate implementation of these strategies in the face of uncomfortable internal experiences (anxiety, cravings/urges, guilt, etc.).

Despite a reduction in the total amount of content delivered during each group session in later waves, patients still expressed desires to have the treatment extended, indicating that it was “difficult to put everything together in 10 weeks,” and “people were just having breakthroughs” during the final session. Patients suggested extending the program (e.g., to 16 or even 28 weeks), with sessions that gradually reduced in frequency. Of note, patients also endorsed difficulty with assimilating new psychological strategies each week, and found the introduction of a new strategy each week (with multiple illustrative metaphors) to be overwhelming. In the future, identification of a few key, overarching psychological strategies (e.g., values, acceptance, and willingness), which can be introduced early on and woven throughout each weekly session, may help facilitate comprehension. Similarly, the complexity of the psychological strategies may require additional sessions beyond the 10 weeks used in the current treatment, and a longer course of treatment is warranted.

Conclusions, Limitations, and Future Directions

Although CBT for BED is an effective treatment that can produce large reductions in binge eating episodes, many patients remain partially or fully symptomatic after a course of treatment. The behavioral strategies that make up the core protocol of CBT appear to be effective when clients regularly and consistently utilize these strategies, but for patients who find the strategies distressing, tiresome, or difficult to use in moments of discomfort, additional strategies may be needed to promote behavior change. Our initial work supports the feasibility, acceptability, and preliminary efficacy of incorporating acceptance-based strategies into existing CBT-E interventions for BED. Though existing approaches address mood intolerance and related maintenance factors to a certain extent and demonstrate efficacy for more severe BED patients (Fairburn et al., 2015), an earlier and more extensive focus on these concerns may serve to further enhance outcomes. In our study, clients found the acceptance-based strategies to be beneficial in facilitating use of the behavioral strategies, and found the combined treatment approach to be helpful in reducing their binge eating episodes. The initial acceptability and feasibility of this combined treatment approach suggests that further evaluation of its clinical utility is warranted.

Given the increased focus on distress tolerance and emotion regulation in ABBT, future research with larger samples should examine the moderating effect of baseline affect dysregulation on outcomes from ABBT. It is possible that ABBT may be especially

beneficial for those with deficits in emotion regulation and/or distress tolerance. Additionally, the present study examined the feasibility, acceptability, and potential utility of ABBT group treatment for binge eating only among individuals who met full diagnostic criteria for BED, as it was believed that this population would exhibit greater pathology and thus stand to benefit more from the present treatment approach relative to traditional CBT. However, it is quite possible that individuals with subthreshold BED (e.g., individuals with low binge frequency or limited illness duration) and individuals with other bulimic spectrum disorders would also benefit from an ABBT treatment approach, given commonalities among these eating disorders. Indeed, the present treatment reduced symptoms among a diversity of BED symptom profiles, and ABBT therefore shows at least preliminary potential as a transdiagnostic treatment approach. Future research should formally examine whether the current treatment holds promise for a broader spectrum of individuals with binge eating and affect dysregulation. Lastly, although patients in the present, noncontrolled treatment trial exhibited large reductions in binge eating episodes that are well maintained at 3-month follow-up (Juarascio et al., in preparation), comparative trials with longer followup periods will be needed to determine whether this treatment can improve outcomes compared to CBT-E for BED.

References

- Agras WS, Telch CF. The effects of caloric deprivation and negative affect on binge eating in obese binge-eating disordered women. *Behavior Therapy*. 1998; 29(3):491–503.
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5th. Washington, DC: Author; 2013.
- Berg KC, Crosby RD, Cao L, Peterson CB, Engel SG, Mitchell JE, Wonderlich SA. Facets of negative affect prior to and following binge-only, purge-only, and binge/purge events in women with bulimia nervosa. *Journal of Abnormal Psychology*. 2013; 122(1):111. [PubMed: 22985015]
- Blomquist KK, Grilo CM. Predictive significance of changes in dietary restraint in obese patients with binge eating disorder during treatment. *International Journal of Eating Disorders*. 2011; 44(6):515–523. [PubMed: 20957705]
- Bowen, S., Chala, N., Marlatt, AG. *Mindfulness-based relapse prevention for addictive behaviors: A clinician's guide*. New York, NY: Guilford Press; 2010.
- Brownley KA, Berkman ND, Sedway JA, Lohr KN, Bulik CM. Binge eating disorder treatment: A systematic review of randomized controlled trials. *International Journal of Eating Disorders*. 2007; 40(4):337–348. [PubMed: 17370289]
- Chawla N, Ostafin B. Experiential avoidance as a functional dimensional approach to psychopathology: An empirical review. *Journal of Clinical Psychology*. 2007; 63(9):871–890. [PubMed: 17674402]
- Deaver CM, Miltenberger RG, Smyth J, Meidinger A, Crosby R. An evaluation of affect and binge eating. *Behavior Modification*. 2003; 27(4):578–599. [PubMed: 12971129]
- Fairburn, CG. *Cognitive behavior therapy and eating disorders*. New York, NY: Guilford Press; 2008a.
- Fairburn, CG. *Cognitive behavior therapy and eating disorders*. New York: Guilford Press; 2008b.
- Fairburn, CG. *Overcoming binge eating*. 2nd. New York, NY: Guilford Press; 2013.
- Fairburn CG, Bailey-Straebler S, Basden S, Doll HA, Jones R, Murphy R, O'Connor ME, Cooper Z. A transdiagnostic comparison of enhanced cognitive behavior therapy (CBT-E) and interpersonal psychotherapy in the treatment of eating disorders. *Behaviour Research and Therapy*. 2015; 70:64–71. [PubMed: 26000757]
- Fairburn CG, Cooper Z, Shafran R. Cognitive behaviour therapy for eating disorders: A “transdiagnostic” theory and treatment. *Behaviour Research and Therapy*. 2003; 41(5):509–528. [PubMed: 12711261]

- Fairburn CG, Cooper Z, Doll HA, O'Connor ME, Bohn K, Hawker DM, Palmer RL. Transdiagnostic cognitive-behavioral therapy for patients with eating disorders: A two-site trial with 60-week follow-up. *The American Journal of Psychiatry*. 2009; 166(3):311–319. [PubMed: 19074978]
- Greeno CG, Wing RR, Shiffman S. Binge antecedents in obese women with and without binge eating disorder. *Journal of Consulting and Clinical Psychology*. 2000; 68(1):95. [PubMed: 10710844]
- Grilo CM, Masheb RM, Wilson GT. Subtyping binge eating disorder. *Journal of Consulting and Clinical Psychology*. 2001; 69(6):1066–1072. [PubMed: 11777111]
- Grilo CM, Masheb RM, Wilson GT. Efficacy of cognitive behavioral therapy and fluoxetine for the treatment of binge eating disorder: a randomized double-blind placebo-controlled comparison. *Biological Psychiatry*. 2005; 57(3):301–309. [PubMed: 15691532]
- Grilo CM, White MA, Masheb RM. DSM-IV psychiatric disorder comorbidity and its correlates in binge eating disorder. *International Journal of Eating Disorders*. 2009; 42(3):228–234. [PubMed: 18951458]
- Haedt-Matt AA, Keel PK. Revisiting the affect regulation model of binge eating: a meta-analysis of studies using ecological momentary assessment. *Psychological Bulletin*. 2011; 137(4):660. [PubMed: 21574678]
- Harris, R. ACT made simple: An easy-to-read primer on acceptance and commitment therapy. Oakland, CA: New Harbinger Publications; 2009.
- Hayes SC. Acceptance and commitment therapy, relational frame theory, and the third wave of behavioral and cognitive therapies. *Behavior Therapy*. 2004; 35(4):639–665.
- Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J. Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*. 2006; 44(1):1–25. [PubMed: 16300724]
- Hayes, SC., Smith, S. Get out of your mind and into your life: The new acceptance and commitment therapy. 1st. Oakland, CA: New Harbinger Publications; 2005.
- Hayes, SC., Strosahl, KD., Wilson, KG. Acceptance and commitment therapy: The process and practice of mindful change. 2nd. New York, NY: Guilford Press; 2012.
- Herbert, JD., Forman, EM., editors. Acceptance and mindfulness in cognitive behavior therapy: Understanding and applying the new therapies. Hoboken, NJ: Wiley; 2011.
- Hilbert A, Bishop ME, Stein RI, Tanofsky-Kraff M, Swenson AK, Welch RR, Wilfley DE. Long-term efficacy of psychological treatments for binge eating disorder. *The British Journal of Psychiatry*. 2012; 200(3):232–237. [PubMed: 22282429]
- Hilbert A, Tuschen-Caffier B. Maintenance of binge eating through negative mood: A naturalistic comparison of binge eating disorder and bulimia nervosa. *International Journal of Eating Disorders*. 2007; 40(6):521–530. [PubMed: 17573697]
- Hill ML, Masuda A, Melcher H, Morgan JR, Twohig MP. Acceptance and commitment therapy for women diagnosed with binge eating disorder: A case-series study. *Cognitive and Behavioral Practice*. 2014; 22(3):367–378.
- Hudson JI, Hirpi E, Pope HG Jr, Kessler RC. The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry*. 2007; 61(3):348–358. [PubMed: 16815322]
- Iacovino JM, Gredysa DM, Altman M, Wilfley DE. Psychological treatments for binge eating disorder. *Current Psychiatry Reports*. 2012; 14(4):432–446. [PubMed: 22707016]
- Juarascio AS, Forman EM, Herbert JD. Acceptance and commitment therapy versus cognitive therapy for the treatment of comorbid eating pathology. *Behavior Modification*. 2010; 34(2):175–190. [PubMed: 20308357]
- Juarascio A, Shaw J, Forman E, Timko CA, Herbert J, Butryn M, Lowe M. Acceptance and commitment therapy as a novel treatment for eating disorders: An initial test of efficacy and mediation. *Behavior Modification*. 2013; 37(4):459–489. [PubMed: 23475153]
- Juarascio AS, Manasse SM, Espel HM, Schumacher LM, Kerrigan SG, Forman EM. Outcomes from a pilot trial of acceptance-based behavioral therapy for binge eating disorder. in preparation.
- Kahl KG, Winter L, Schweiger U. The third wave of cognitive behavioural therapies: what is new and what is effective? *Current Opinion in Psychiatry*. 2012; 25(6):522–528. [PubMed: 22992547]

- Lejuez CW, Hopko DR, Acierno R, Daughters SB, Pagoto SL. Ten year revision of the brief behavioral activation treatment for depression: revised treatment manual. *Behavior Modification*. 2011; 35(2): 111–161. [PubMed: 21324944]
- Lillis J, Hayes SC, Levin ME. Binge eating and weight control: The role of experiential avoidance. *Behavior Modification*. 2011; 35(3):252–264. [PubMed: 21362746]
- Linehan, MM. *Cognitive behavioral therapy of borderline personality disorder*. New York, NY: Guilford Press; 1993.
- Manlick CF, Cochran SV, Koon J. Acceptance and commitment therapy for eating disorders: Rationale and literature review. *Journal of Contemporary Psychotherapy*. 2013; 43(2):115–122.
- Martell CR, Kanter J. Behavioral activation in the context of “third wave” therapies. *Acceptance and mindfulness in cognitive behavior therapy: Understanding and applying the new therapies*. 2011; 193
- Masuda A, Hill ML. Mindfulness as therapy for disordered eating: A systematic review. *Neuropsychiatry*. 2013; 3(4):433–447.
- Mausbach BT, Moore R, Roesch S, Cardenas V, Patterson TL. The relationship between homework compliance and therapy outcomes: An updated meta-analysis. *Cognitive Therapy and Research*. 2010; 34(5):429–438. [PubMed: 20930925]
- Mitchell, JE., Devlin, MJ., de Zwaan, M., Crow, SJ., Peterson, CB. *Binge-eating disorder Clinical foundations and treatment*. New York, NY: Guilford Press; 2008.
- NICE. *Eating Disorders: Core Interventions in the Treatment and Management of Anorexia Nervosa, Bulimia Nervosa and Related Eating Disorders*. NICE Clinical Guideline; 2004. p. 9 Available at www.nice.org.uk/CG9 [NICE guideline]
- Peterson C, Mitchell J, Crow S, Crosby R, Wonderlich S. The efficacy of self-help group treatment and therapist-led group treatment for binge eating disorder. *American Journal of Psychiatry*. 2009; 166(12):1347–1354. [PubMed: 19884223]
- Peterson CB, Mitchell JE, Engbloom S, Nugent S, Mussell MP, Crow SJ, Thuras P. Self-help versus therapist-led group cognitive-behavioral treatment of binge eating disorder at follow-up. *International Journal of Eating Disorders*. 2001; 30(4):363–374. [PubMed: 11746298]
- Reas DL, Grilo CM. Review and meta-analysis of pharmacotherapy for binge-eating disorder. *Obesity*. 2008; 16(9):2024–2038. [PubMed: 19186327]
- Ricca V, Castellini G, Mannucci E, Lo Sauro C, Ravaldi C, Rotella CM, Faravelli C. Comparison of individual and group cognitive behavioral therapy for binge eating disorder. A randomized, three-year follow-up study. *Appetite*. 2010; 55(3):656–665. [PubMed: 20870000]
- Rieger E, Wilfley DE, Stein RI, Marino V, Crow SJ. A comparison of quality of life in obese individuals with and without binge eating disorder. *International Journal of Eating Disorders*. 2005; 37(3):234–240. [PubMed: 15822089]
- Safer DL, Jo B. 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*. 2010; 41(1):106–120. [PubMed: 20171332]
- Stice E, Agras WS. Predicting onset and cessation of bulimic behaviors during adolescence: A longitudinal group analyses. *Behavior Therapy*. 1998; 29:257–276.
- Stice E, Akutagawa D, Gaggan A, Agras WS. Negative affect moderates the relation between dieting and binge eating. *International Journal of Eating Disorders*. 2000; 27(2):218–229. [PubMed: 10657895]
- Stice E, Nemeroff C, Shaw HE. Test of the dual pathway model of bulimia nervosa: Evidence for dietary restraint and affect regulation mechanisms. *Journal of Social and Clinical Psychology*. 1996; 15(3):340–363.
- Telch CF, Stice E. Psychiatric comorbidity in women with binge eating disorder: Prevalence rates from a non-treatment-seeking sample. *Journal of Consulting and Clinical Psychology*. 1998; 66(5):768. [PubMed: 9803695]
- Vocks S, Tuschen-Caffier B, Pietrowsky R, Rustenbach SJ, Kersting A, Herpertz S. Meta-analysis of the effectiveness of psychological and pharmacological treatments for binge eating disorder. *International Journal of Eating Disorders*. 2010; 43(3):205–217. [PubMed: 19402028]

- Weltzin TE, Weisensel N, Franczyk D, Burnett K, Klitz C, Bean P. Eating disorders in men: Update. *The Journal of Men's Health and Gender*. 2005; 2(2):186–193.
- Whiteside U, Chen E, Neighbors C, Hunter D, Lo T, Larimer M. Difficulties regulating emotions: Do binge eaters have fewer strategies to modulate and tolerate negative affect? *Eating Behaviors*. 2007; 8(2):162–169. [PubMed: 17336786]
- Wilfley DE, Welch RR, Stein RI, Spurrell EB, Cohen LR, Saelens BE, Matt GE. A randomized comparison of group cognitive-behavioral therapy and group interpersonal psychotherapy for the treatment of overweight individuals with binge-eating disorder. *Archives of General Psychiatry*. 2002; 59(8):713–721. [PubMed: 12150647]
- Wilfley DE, Wilson GT, Agras WS. The clinical significance of binge eating disorder. *International Journal of Eating Disorders*. 2003; 34(S1):S96–S106. [PubMed: 12900990]
- Wilson GT, Fairburn CC, Agras WS, Walsh BT, Kraemer H. Cognitive-behavioral therapy for bulimia nervosa: Time course and mechanisms of change. *Journal of Consulting and Clinical Psychology*. 2002; 70(2):267. [PubMed: 11952185]
- Wonderlich SA, Gordon KH, Mitchell JE, Crosby RD, Engel SG. The validity and clinical utility of binge eating disorder. *International Journal of Eating Disorders*. 2009; 42(8):687–705. [PubMed: 19621466]
- Yanovski SZ, Nelson JE, Dubbert BK, Spitzer RL. Association of binge eating disorder and psychiatric comorbidity in obese subjects. *The American Journal of Psychiatry*. 1993; 150(10):1472. [PubMed: 8379549]
- Zendegui EA, West JA, Zandberg LJ. Binge eating frequency and regular eating adherence: The role of eating pattern in cognitive behavioral guided self-help. *Eating Behaviors*. 2014; 15(2):241–243. [PubMed: 24854811]

Figure 1.
Acceptance-based Behavioral Therapy for BED Theoretical Model.

Video 1.
Describing the therapeutic model.

Video 2.

Incorporating acceptance-based strategies and behavioral strategies.

Table 1

Session outlines and core behavioral and acceptance-based content

Session	Behavioral Content/Skills	Acceptance-Based Content/Skills
1	<ul style="list-style-type: none"> • Psychoeducation about BED • Overview of dual pathway model of binge eating • Introduction to self-monitoring and weekly weighing • Check in • Review of model of BED • Regularization of eating and following a meal plan 	<ul style="list-style-type: none"> • Human suffering is universal • Suffering inventory • Control as the problem (creative hopelessness) • Yellow jeep/chocolate cake exercise • ACT “informed consent” • Review of creative hopelessness • Tug-of-war with a monster and “dropping the rope” • Urge surfing • Willingness to regularize eating
3	<ul style="list-style-type: none"> • Check in • Review or regularization of eating • Importance of pleasant events 	<ul style="list-style-type: none"> • Review of tug-of-war with monster and urge surfing • Introduction to values (values mountain) • Passengers on the bus metaphor • Using values to identify and increase willingness to engage in pleasant events
4	<ul style="list-style-type: none"> • Check in • Review of importance of pleasant events • Behavior chains • Cues and consequences 	<ul style="list-style-type: none"> • Review of valued domains and values-based behavioral activation • Difference between cues that can control versus experiences that need to accept • DBT-based coping strategies – Part 1
5	<ul style="list-style-type: none"> • Check in 	<ul style="list-style-type: none"> • Review of DBT-based coping strategies – Part 1 • DBT-based coping strategies – Part 2 • Automatic word associations • Storytelling • Introduction to defusion • Thank your mind • Pattern smashing
6	<ul style="list-style-type: none"> • Check in • Introduction to body image • Healthy weight management • Overvaluation of weight and shape • Reducing overvaluation of weight and shape • Self-monitoring of feeling “fat” 	<ul style="list-style-type: none"> • Applying willingness to weight management • Values as a guide for reducing overvaluation of weight and shape • Defusion from feelings of “fatness”
7	<ul style="list-style-type: none"> • Reducing body checking and body avoidance • Addressing feeling “fat” • Exposure to high-risk foods and situations • Body exposure 	<ul style="list-style-type: none"> • Willingness, defusion, values, and committed as tools to engage in body image work and food exposures

Session	Behavioral Content/Skills	Acceptance-Based Content/Skills
	<ul style="list-style-type: none"> Cultural influences on body image 	
8	<ul style="list-style-type: none"> Check in Review of addressing weight and shape concerns Dieting/food avoidance and exposure to high-risk foods 	<ul style="list-style-type: none"> Acceptance and cranky Aunt Ida Mindful eating Willingness, urge surfing, values, and committed action to engage in exposures
9	<ul style="list-style-type: none"> Review of key behavioral strategies 	<ul style="list-style-type: none"> Review of acceptance-based framework and strategies, and coping skills
10	<ul style="list-style-type: none"> Introduction to relapse prevention Behavioral triggers of lapses/relapse Relapse scenario worksheet Relapse prevention plan Review of progress 	<ul style="list-style-type: none"> Control-based triggers of lapse/relapse (e.g., lowered commitment, experiential avoidance) Importance of acceptance-based skills to relapse prevention

Table 2

Summary of quantitative acceptability measures, end-of-treatment

Survey Item	Participant Responses					
	Not at all satisfied	Somewhat satisfied	Neutral	Mostly satisfied	Completely satisfied	
Overall Satisfaction ^a						
How satisfied are you with the treatment you received?	0	1	2	10	2	
How satisfied are you with your therapist?	0	0	3	4	5	
Symptom Improvement ^b	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
How much do you agree/disagree that this treatment has ...reduced your binge eating?	0	0	3	5	6	
...reduced your distress over binge eating?	2	3	3	3	3	
Expected Future Symptom Severity ^b	Not at all severe	Somewhat severe	Neutral	Fairly severe	Very severe	
How severe do you expect your binge eating to be 5 years from now?	8	3	2	1	0	
How severe do you expect your binge eating to be 10 years from now?	8	1	4	1	0	
Recommendation to Others ^b	Yes			No		
Would you recommend this treatment to a friend?	14			1		

^a
n = 15;

^b
n = 14 (one participant chose not to respond to these items).