

**TRAIN-THE-TRAINER: IMPLEMENTATION OF COGNITIVE BEHAVIORAL GUIDED  
SELF-HELP FOR EATING DISORDERS IN A UNIVERSITY SETTING**

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## ABSTRACT

**Background:** Cognitive behavioral guided self-help (CBTgsh) is a brief, evidence-based treatment for recurrent binge eating. Little is known, however, about implementation strategies that effectively translate evidence-based treatments into routine clinical care settings. **Aims:** The present study evaluates the effectiveness and acceptability of CBTgsh for college students seeking treatment at a university counseling center (CAPS) employing the “train-the-trainer” implementation strategy. **Method:** A doctoral student received expert-led training in CBTgsh and subsequently trained and supervised more junior graduate students to implement the treatment in an open clinical trial. Therapists provided 10 sessions of CBTgsh to 23 treatment-seeking students with bulimia nervosa, binge eating disorder, or eating disorder not otherwise specified. **Results:** Intent-to-treat analyses revealed 48.7% abstinence from binge eating at post-treatment and 56.5% at one-month follow-up. Participants reported significant pre-to-post treatment reductions on measures of specific eating disorder psychopathology, general psychopathology, and functional impairment. Participants and counseling center staff reported high levels of treatment acceptability. **Conclusions:** The results of the current study provide “proof-of-concept” for the train-the-trainer method of implementation. Outcomes were comparable to findings from two of the largest randomized controlled trials of CBTgsh conducted to date and suggest that, given adequate training and supervision, specialized therapist credentials are not necessary for successful CBTgsh implementation. These results add to the evidence supporting the acceptability, feasibility, and clinical effectiveness of CBTgsh for eating disorders in non-specialized settings.

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## Introduction

Eating disorders characterized by recurrent binge eating are serious and often chronic conditions associated with psychiatric co-morbidity, medical problems, and low quality of life (Klump, Bulik, Kaye, Treasure, & Tyson, 2009; Mond & Hay, 2007; Striegel-Moore, Seeley, & Lewinsohn, 2003). Even at subclinical levels, binge eating has been linked to significant psychological impairment and distress (Fairburn, Cooper, & Bohn, 2007; le Grange et al., 2006). From a public health perspective, eating disorders with binge eating as a core clinical feature are costly. Individuals who report binge eating demonstrate higher rates of health service utilization (Striegel-Moore et al., 2008) and increased risk for future onset of obesity and depression (Mond, Hay, Rodgers, & Owen, 2009). Research indicates that approximately 5% of women report clinical or subclinical eating disorders, with symptoms typically developing in adolescence and young adulthood (Hudson, Hiripi, Pope, & Kessler, 2007). In college counseling centers in particular, eating disorders rank among the most common presenting complaints (Zivin, Eisenberg, Gollust, & Golberstein, 2009).

Cognitive behavioral therapy (CBT) for eating disorders has gained robust empirical support from methodologically rigorous efficacy studies (Wilson, Grilo, & Vitousek, 2007) and is considered the treatment of choice for bulimia nervosa (BN) and binge eating disorder (BED) (NICE, 2004; Wilson, 2010). However, few clients receive CBT in routine clinical settings (Hart, Granillo, Jorm, & Paxton, 2011; Mussell et al., 2000; Shafran et al., 2009). Crow et al. (1999) note that out of 353 people seeking treatment of an eating disorder at a specialized center, 65.4% had received previous treatment, while only 6.9% had received therapy that contained even minimal elements of CBT. Reasons for this research-practice divide include broad barriers to treatment (e.g., client delays in seeking help; distance from service centers) as well as specific impediments in the dissemination of empirically supported therapies (e.g., therapist



attitudes; therapist training). Cook et al. (2009) identified absence of requisite training as the foremost barrier to therapist adoption of evidence-based treatments. Indeed, a survey of clinical psychologists treating eating disorders suggests that most do not provide CBT, and only a minority (21%) had received training in the approach for any presenting problem (Mussell et al., 2000).

This “implementation gap” between empirical findings and routine clinical practice has produced novel research imperatives for the field. First, non-traditional models of treatment delivery have been called for to enhance dissemination (Kazdin & Blase, 2011). Guided self-help based on cognitive behavioral principles (CBTgsh) provides one such alternative, consolidating treatment by providing a user-friendly, step-by-step manual for the client to work through with minimal support from a “coach” or therapist. By substantially reducing therapist-contact time, CBTgsh holds the potential to expand the reach of CBT at lower cost to organizations and clients. Second, research is required to assess how best to transfer evidence-based treatments into routine settings in a manner that is effective and sustainable over time. Proctor et al. (2009) identify this as the end-goal of clinical research: the “study of processes and strategies that move, or integrate, evidence-based effective treatments into routine use in usual care settings” (p. 27). To accomplish this goal, Proctor et al. recommend that research samples and treatment conditions more closely approximate those of routine care and that research outcomes expand beyond client-level symptom improvement to factors such as treatment acceptability, treatment feasibility, and treatment uptake by organizational stakeholders (Proctor et al., 2011).

Most randomized controlled trials employ a “gold standard” training procedure that includes expert-led didactic workshop, training cases with intensive supervision, and ongoing clinical supervision throughout the trial, often supplemented by expert review of audio or video-recorded sessions. While effective, this model of training is costly, time-

consuming, and dependent upon a short supply of expert trainers in a given treatment (Wilson et al., 2011). In contrast, the current “training-as-usual” approach typically entails an expert-led workshop and independent review of a treatment manual. A growing body of evidence suggests that while this training package increases therapist knowledge and self-reported proficiency, it does little to produce actual therapist behavior change or training to competency (Beidas & Kendall, 2010; Herschell, Kolko, Baumann, & Davis, 2010).

The discrepancy between research and real-world training cannot be overlooked in translating evidence-based treatments to routine settings (Roth, Pilling, & Turner, 2010). Feasible implementation strategies are required that promote therapist training and treatment adoption within organizations. The “train-the-trainer” model (TTT)<sup>1</sup> is a promising, theoretically grounded implementation strategy that has garnered preliminary support. In TTT, an expert trains a designated practitioner both to implement an evidence-based treatment and to train others in the intervention. This trained practitioner then assumes the role of trainer and supervisor in his/her program, monitoring the implementation of the treatment and promoting sustainability within the organization. By prompting active learning via modeling and inter-therapist support in the development of new skills, TTT capitalizes on the principles of social cognitive theory. Theoretically, training could subsequently be “paid forward” in a cascading design with less required contact with the original treatment experts.

A paucity of research has been conducted on implementation strategies in general and TTT in particular (Herschell et al., 2011; Proctor et al., 2009). Martino et al. (2010) tested the effectiveness of TTT compared to expert-led training (EX) and self-directed training (SS) in a sample of community practitioners learning motivational

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<sup>1</sup> TTT has been alternatively referred to in the literature as “cascading diffusion” and the “pyramid” model.

interviewing for substance abuse. TTT was comparable to EX and significantly superior to SS in facilitating therapist competence, defined as the percentage of clinicians within participating centers reaching certification standards for the intervention. The TTT model is further supported by evidence from effectiveness research. The *Reflections* dissonance-based prevention program for eating disorders (Perez, Becker, & Ramirez, 2010), for example, was successfully implemented and sustained by training non-specialist facilitators (i.e., peer sorority members) to train other facilitators within the organization. Benchmarking effectiveness studies of CBT in community clinics have also demonstrated support for the TTT model in the treatment of panic disorder and major depression (Wade, Treat, & Stuart, 1998; Merrill, Tolbert, & Wade, 2003). In these investigations, clinical outcomes were comparable to efficacy trials of CBT when a single staff member received expert-led training and subsequently trained other self-selected staff members. Research is required to evaluate the TTT model in the treatment of eating disorders.

CBTgsh is a desirable candidate for TTT implementation research. Time-limited and cost-effective (Lynch et al., 2010), CBTgsh is an evidence-based treatment for BN, BED, and EDNOS with considerable support from controlled outcome research (Sysko & Walsh, 2008; Wilson & Zandberg, in press). Tables 1-3 summarize the controlled research on CBTgsh across diagnostic categories. Intent-to-treat rates of binge eating abstinence following guided self-help range from 11 to 44 percent in the treatment of BN, and 28 to 58 percent in the treatment of BED. CBTgsh has consistently produced outcomes superior to waitlist control conditions (e.g., Carrard et al, 2011; Ljotsson et al., 2007) and frequently demonstrated outcomes comparable to other specialty therapies, including family therapy for youth with BN (Schmidt et al., 2007) and interpersonal psychotherapy for BED (Wilson, Wilfley, Agras, & Bryson, 2010). Furthermore, in some

investigations, CBTgsh has produced outcomes equivalent to traditional CBT (e.g., Mitchell et al., 2011).

Effectiveness studies employing broader inclusion criteria, abridged assessment protocols, and recruitment strategies designed to capture naturalistic samples have provided initial support for CBTgsh in non-specialized mental health settings. For example, Debar et al. (2010) conducted a blended efficacy-effectiveness study of CBTgsh versus treatment-as-usual, recruiting treatment-seeking patients from a large health maintenance organization in the Pacific Northwest. Consistent with previous investigations, CBTgsh participants showed greater cessation from binge eating and greater improvements in eating, shape, and weight concern than those in the treatment-as-usual condition. In addition, CBTgsh has been successfully implemented by a variety of service providers, ranging from master- and doctoral-level clinicians (Grilo & Masheb, 2005; Striegel-Moore et al., 2010), general practitioners (Banasiak, Paxton, & Hay, 2005), graduate students (Wilson et al., 2010), and “facilitators” without formal clinical qualifications (Carter & Fairburn, 1998). Given the disparity between the demand for clinical services and the supply of professional psychologists (Patel et al., 2009), the potential for implementation by non-specialist practitioners is perhaps the most significant advantage conferred by CBTgsh in addressing the research-practice divide. However, not all investigations with less credentialed providers have produced positive outcomes. The Walsh, Fairburn, Mickley, Sysko, and Parides (2004) study, for example, employed minimally trained nurse practitioners in a primary care setting and produced the poorest results for CBTgsh to date, reporting a 71 percent attrition rate and no evidence of treatment efficacy. In order to develop practical guidelines for implementation, additional research is necessary to assess the type and amount of training required for effective implementation by non-specialists.

The current investigation is a “proof-of-concept” TTT implementation study of CBTgsh for recurrent binge eating conducted in a university setting with doctoral student trainers and therapists. College counseling centers are particularly well-suited for implementation research, given both high reports of eating pathology in these settings and the organization’s accessibility to students. Consistent with the objectives of implementation research (Proctor et al., 2009), all students were treatment-seeking at the university counseling center, inclusion criteria were broad, and exclusion criteria were minimized to enhance ecological validity. It was hypothesized that TTT employed with graduate student therapists would produce statistically significant reductions on measures of eating disorder symptoms and general psychopathology that would be maintained at short-term follow-up. Symptom abstinence rates were benchmarked against two randomized controlled trials of CBTgsh to facilitate comparison between treatment provided in “real-world” and research settings.

In further accordance with the recommendations of Proctor et al. (2009), the secondary aim of the study was to test the feasibility and acceptability of the intervention among students and referring counseling center therapists. Previous investigations have reported high suitability and acceptability ratings for CBTgsh with both adult (e.g., Stiegel-Moore et al., 2010; Wilson et al., 2010) and adolescent samples (Pretorius et al., 2009; Schmidt et al., 2007). We predicted that CBTgsh would be feasibly administered within a semester-schedule with high acceptability among students. Acceptability among counseling center therapists was considered exploratory in nature, as no previous research has investigated this outcome.

## Method

### Participants and Recruitment

Participants were treatment-seeking undergraduate and graduate students at Rutgers University referred exclusively from the Rutgers Counseling, ADAP, and Psychiatry Services (CAPS). Following a brief orientation to the treatment presented by the first author, CAPS clinicians (i.e., social workers, psychologists, and psychiatrists) used inclusion and exclusion guidelines to make referrals at their discretion. Subsequently, referred students were invited to attend a confirmatory diagnostic interview with the author to determine eligibility. Participants were required to meet criteria for recurrent binge eating, defined as at least one objective binge episode per week on average over the previous month. Exclusion criteria were severe current substance abuse, suicidal intent (defined as a “2” or above on question 9 of the Beck Depression Inventory), and body mass index less (BMI) of less than 19 or greater than 40. Concurrent psychopharmacological or psychological treatments did not preclude participation, and information about other treatment services was reported at pre- and post-treatment. All procedures were approved by the Rutgers University human subjects review board.

### Intervention

Treatment consisted of 10 sessions of manual-based CBTgsh using the book *Overcoming Binge Eating* (Fairburn, 1995) over a 12-week period. *Overcoming Binge Eating* is the self-help manual most frequently employed in randomized controlled trials of guided self-help (Wilson & Zandberg, in press) and has demonstrated effectiveness for BN, BED, and ED-NOS across multiple studies (e.g., Mitchell et al., 2011; Striegel-Moore et al., 2010). Treatment was provided free of cost at the Psychological Clinic at the Rutgers Graduate School of Applied and Professional Psychology (GSAPP). Following an initial 60-minute session, all subsequent sessions were 20-30 minutes.

Sessions 1-8 were scheduled weekly, and the final two sessions were held at two-week intervals. Adjustments were made to accommodate student vacation schedules, resulting in one participant receiving nine weekly sessions. All participants reporting compensatory vomiting or laxative abuse were required to consult with a nurse practitioner at one of three Rutgers medical centers.

*Overcoming Binge Eating* contains two sections. The first comprises psychoeducation about eating disorders and the second a six-step self-help program. Each step includes specific homework tasks (e.g., self-monitoring, regular eating, problem solving) and check-lists that allow the participant to monitor his or her progress. This study incorporated a supplemental module on body checking, avoidance, and acceptance used in previous guided self-help studies to address shape and weight concerns (DeBar et al., 2010; Striegel-Moore et al., 2010). Each session focuses on review of the previous week's tasks with the aim of facilitating adherence to the self-help program. The therapist's role entails enhancing motivation, trouble shooting problems, determining the treatment pace, and referring the client to the book to enhance knowledge and skills usage.

### **Therapists and Training**

The therapists were five Rutgers University doctoral students in clinical psychology (Ph.D. and Psy.D.) with limited or no previous experience treating eating disorders. These included the author (LJZ) and designated trainer. Two of the study therapists were first-year graduate students with no previous psychotherapy training, and the remaining therapists were third ( $n = 1$ ) and fourth-year ( $n = 1$ ) students. Therapists were self-selected based on expressed interest in treating eating disorders.

The study was designed to evaluate the feasibility of the TTT model of implementation. The trainer was a third-year doctoral student in clinical psychology with experience conducting cognitive behavioral therapy for eating and anxiety disorders.

Prior to the start of the study, the trainer independently reviewed the CBTgsh therapist manual and completed one training case with weekly individual supervision with an expert in the treatment of eating disorders (GTW). Following completion of the training case, the trainer was provided materials for training others (e.g., workshop slides, clinical vignettes). All direct therapist training and supervision during the study was executed by the trainer. The expert provided weekly one-hour trainer consultation throughout the trial to review client progress and to monitor the trainer's approach to supervision tasks. See Table 4 for a summary of trainer and therapist training.

Therapist training consisted of three components: 1) Therapists were provided Carter and Fairburn's (1998) CBTgsh therapist manual for independent review; 2) Therapists attended a three-hour workshop on the application of guided self-help; and 3) Therapists received 1-2 hours of weekly, group supervision for the duration of the study. A "Therapist's Checklist" was developed to promote therapists self-assessment of their adherence to the manual (Appendix A). Students with no previous psychotherapy experience ( $n = 2$ ) conducted one study case in co-therapy format prior to treating participants independently. Sessions were audio-recorded and reviewed by the trainer to monitor treatment integrity.

Consistent with the recommendations proposed by Beidas and Kendall (2010), supervision monitored patient progress and promoted active learning via experiential role-plays. Supervision meetings were structured as follows: 1) collaborative agenda setting, 2) therapist brief (i.e., 3-5 minute) review of session content, 3) trainer reinforcement of adherent therapist behaviors and identification of non-adherent behaviors, and 4) role-play practice with live coaching to facilitate skill-building. The model of supervision employed mirrored the style and structure of a CBTgsh session. For example, agenda setting was used to facilitate effective time management. When a therapist reported a problem, concern, or question, the trainer elicited ideas from the



therapist with reference to the book or therapist workshop before providing corrective information. To promote shaping, the trainer made effort to notice and reinforce marks of therapist progress vis-à-vis CBTgsh skills. Areas in need of improvement were addressed in an active, collaborative manner. This approach to therapist “error” is synchronous with that used for client non-compliance: validating or normalizing the difficulty, eliciting the rationale behind a proposed change, and then trouble-shooting actively with the team or practicing in-vivo with team members. The trainer monitored her adherence to this model with a corresponding “Supervisor’s Checklist” (Appendix B).

## **Measures**

All participants were assessed at baseline, week 12 (immediately post-treatment), and one-month follow-up using the questionnaire assessments described below. As noted by Proctor et al. (2009), brief and feasible outcome measures are integral to implementation research in routine settings. Given this objective, measures and assessment procedures were abbreviated to decrease participant burden. Pre-treatment and post-treatment assessments took place in the clinic waiting room, and follow-up assessment took place via telephone to promote retention. No compensation was provided for assessment completion.

*Demographic questionnaire.* The demographic form collected information about client age, stage of education, ethnic and racial background, current medications, and concurrent psychological treatment.

*Eating Psychopathology.* The Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 2008) was edited to a 10-item, short-form version (EDE-Q-SF). This measure contained EDE-Q questions addressing overeating, loss of control, compensatory vomiting and laxative use, and body weight and height. Two single EDE-Q items (question #1 and question #22/23) were used to evaluate severity of dietary restraint and shape and weight concern (e.g., “Have you been deliberately trying to limit

the amount of food you eat to influence your shape or weight [whether or not you have succeeded]?” “Has your shape or weight influenced how you think about [judge] yourself as a person?”) These items were selected due to strong demonstrated correlation with subscale totals in factor analytic studies (Grilo, Crosby et al., 2010; Hrabosky et al., 2008). Ratings range from 0 (no days, or *not at all*) to 6 (every day, or *markedly*). The EDE-Q-SF was administered at baseline, post-treatment, and follow-up to determine abstinence from binge eating and purging over the preceding 28 days.

*Body Checking/Avoidance.* As a further index of shape and weight concern, two additional items were included to assess frequency of body checking and body avoidance behaviors using a 1 (never) to 6 (always) scale (Striegel-Moore et al., 2010) (e.g., “Have you engaged in activities designed to check your body shape or weight [e.g. pinching certain areas to measure body fat, checking to see if fat jiggles or spreads, repeatedly viewing targeted areas of the body in the mirror]?”; “Have you tried to avoid checking your body shape or weight [e.g. avoiding seeing yourself in the mirror, avoiding wearing clothes which make you particularly aware of the shape of your body, avoiding weighing yourself]?”)

*Negative Affect.* The 21-item Beck Depression Inventory (BDI-I; Beck, Steer, & Garbin, 1988) was administered at baseline and post-treatment to assess depressive symptoms. Total scores range from 0 to 63, with higher scores indicating more severe condition.

*Functional Impairment.* The 16-item Clinical Impairment Assessment (CIA; Bohn, Doll, Cooper, O’Conner, Palmer, & Fairburn, 2008) was administered at baseline and post-treatment to assess psychosocial interference due to eating, shape, and weight concerns. The CIA demonstrates high internal consistency and acceptable test-retest reliability. Scores range from 0-48, with higher score indicating greater functional impairment.

*Treatment Satisfaction.* Treatment completers and referring clinicians from CAPS were asked to rate their overall satisfaction with the self-help program on a 5-point Likert scale, where 1 indicates “extremely dissatisfied;” 2 “dissatisfied;” 3 “indifferent;” 4 “satisfied;” and 5 “extremely satisfied.”

*Treatment Compliance.* At follow-up, participants were asked to rate their continued implementation of the self-help program over the preceding month, using an 11-point scale from 0 (i.e., “never, not at all”) to 10 (i.e., “every day, fully”).

### **Data Analysis**

Data were analyzed using baseline-carried-forward, intent-to-treat (ITT) analyses. Primary outcome variables were rates of abstinence from binge eating and purging (i.e., 0 binge or purge episodes over the preceding 28 days) and rates of diagnostic remission (i.e., less than 2 binge or purge episodes per week over the preceding 28 days), assessed with the EDE-Q-SF at post-treatment and one-month follow-up. Secondary outcomes were additional eating disorder features (i.e., shape and weight concerns, dietary restraint, body checking, and body avoidance), negative affect, and functional impairment. Paired sample t-tests were performed to compare pre- to post- and post- to follow-up outcomes. Independent t-tests were used to test whether completers and non-completers differed significantly on pre-treatment variables. When variances were not equivalent, non-parametric analyses (i.e., Mann-Whitney U tests) were used. All tests were two-tailed and  $p$  value of .05 was used to indicate statistical significance. Cohen’s  $d$  effect sizes (Cohen, 1988) were calculated as the mean difference between pre- and post-treatment scores divided by the standard deviation. Effect sizes were defined as .20 = small effect, .50 = medium effect, and .80 = large effect. Data analyses were conducted with SPSS for Windows, version 19.0.

## Results

### Participants

Figure 1 shows participant recruitment and flow throughout the study. CAPS clinicians referred 28 students between September 2010 and May 2011. Five students were deemed ineligible following baseline assessment and referred back to CAPS. Reasons for ineligibility were lack of objective binge episodes ( $n = 2$ ), BMI less than 19 ( $n = 2$ ), and BMI greater than 40 ( $n = 1$ ). 100% of those who were offered participation consented to treatment.

Participants were 21 female and 2 male students (60.9% Caucasian; 17.4% Asian; 8.7% Latino; 4.3% African American) with a mean age of 21.17 years ( $SD = 3.42$ ) and mean BMI of 23.9 ( $SD = 3.99$ ), where 20-24.9 is considered healthy weight. Table 5 details participant characteristics at baseline. The majority of participants (52.2%;  $n = 12$ ) met DSM-IV diagnostic criteria for BN; seven (30.4%) met criteria for BED; and four (17.4%) were classified EDNOS due to sub-threshold binge frequency (i.e., less than two objective binge episodes per week). One of the four EDNOS participants endorsed purging behavior (EDNOS-purge type). Average number of objective binge episodes over the preceding month was 18.52 ( $SD = 12.54$ ). More than half ( $n = 13$ , 56.5%) of the sample endorsed vomiting, and only one participant reported use of laxatives (4.3%).

Mean pre-treatment score on the CIA (35.57) was 4.7 standard deviations higher than the norm for non-clinical undergraduate women (Reas, Rø, Kapstad, & Lask, 2010), and mean BDI score (25.13) indicated moderate depression. A history of inpatient hospitalization was reported by 30.4% of the sample. Concurrent treatment with psychotropic medication was endorsed by 21.7% of participants, and 35% attended at least one concurrent session of individual or group counseling at CAPS.

### **Treatment Attendance**

Treatment retention was high, with 78.4% of the sample completing all ten sessions. Four participants (17.4%) dropped out of treatment, and one participant (4.3%) was withdrawn due to imminent suicidal risk. All attrition took place prior to session 4. Independent t-tests revealed no significant differences between treatment completers and non-completers on baseline levels of depression (BDI), functional interference (CIA), dietary restraint (EDE-Q-SF), or shape and weight concern (EDE-Q-SF). Nonparametric tests were performed to compare pre-treatment binge and purge frequencies across completers and non-completers due to inequality of variances. No significant differences were found between groups on either variable. The non-completion figures were 10% for participants with BED or EDNOS-subthreshold BED and 30.8% for participants with BN or EDNOS-purge type.

### **Treatment Acceptability**

Treatment completers reported high ratings of satisfaction with the program at post-treatment assessment ( $M = 4.56$ ;  $SD = 0.62$ ) and one-month follow-up ( $M = 4.33$ ;  $SD = .59$ ). These ratings indicate that participants were satisfied-to-extremely satisfied with the intervention received. No eligible student refused treatment after being oriented to the self-help format. The high enrollment and low attrition rates in the current study provide an indirect measure of treatment acceptability among students.

The treatment program was acceptable at the institutional level. Referring CAPS clinicians rated their satisfaction with the program favorably ( $M = 4.45$ ;  $SD = .69$ ) at the conclusion of the study. 12 out of 22 eligible counselors, psychologists, and psychiatrists at CAPS (54.5%) made at least one referral during the recruitment period. This referral rate provides a marker of acceptability, as there were no incentives associated with staff participation in the program. Members of the CAPS Eating Disorder Treatment Team expressed personal interest in training in the intervention, and the first author was invited

to attend bi-monthly meetings held by the team to facilitate partnership. In the second semester, nurse practitioners at the Rutgers medical centers responsible for examining study participants requested IRB revision to allow referring power from the medical centers.

### **Primary Outcomes**

Table 6 presents proportions of participants rated as abstinent or subclinical for binge eating and purging at baseline and follow-up. At post-treatment, 47.8% ( $n = 11$ ) of the ITT sample reported abstinence from objective binge eating and purging over the preceding 28 days. 47.8% ( $n = 11$ ) reported abstinence from objective binge eating during the preceding month, and an additional 11% ( $n = 3$ ) reported no more than one objective binge episode in that time frame. At post-treatment, 69.6% ( $n = 16$ ) of the sample had achieved diagnostic remission (i.e., binge eating and purging less than twice per week).

When primary outcomes were calculated separately based on diagnostic subtype, participants with BN or EDNOS-purge type ( $n = 13$ ) reported 30.8% abstinence from objective binge eating and purging over the preceding 28 days; 38.5% abstinence from objective binge eating; and 61.5% diagnostic remission at post-treatment. Participants with full or sub-threshold BED ( $n = 10$ ) reported 60% abstinence from objective binge eating over the preceding 28 days and 80% diagnostic remission.

### **Secondary Outcomes**

Paired sample t-tests (ITT) revealed statistically significant reductions in binge and purge episodes, negative affect (BDI), clinical impairment (CIA), body shape and weight concern, dietary restraint, and body checking behavior between pre- and post-treatment. All significant outcomes showed large effect sizes with the exception of purge frequency, which showed medium effects. Change in body avoidance behavior was non-

significant between pre- and post-treatment. Table 7 presents a summary of results across measures.

### **Follow-up Outcomes**

All treatment gains were maintained at the group level over one-month follow-up ( $df = 22$ ,  $SD = 10$ ,  $p < .0001$ ), and additional reductions were reported on shape and weight concerns ( $p = .02$ ) and body avoidance behaviors ( $p = .02$ ). 52.2% of ITT participants reported binge and purge abstinence at follow-up; 56.5% were abstinent from objective binge eating; and 69.9% achieved diagnostic remission. Between post-treatment and follow-up, the percentage of participants who fell beneath the clinical cutoff for shape and weight concerns increased from 30.4% ( $n = 7$ ) to 47.8% ( $n = 11$ ). Mean report of ongoing compliance with the program was a 6.30 ( $SD = 1.94$ ) on a 0-10 scale.

### **Benchmarking Findings**

Table 8 compares the abstinence and attrition rates obtained in this investigation to the Wilson et al. (2010) study of CBTgsh for BED ( $n = 205$ ) and the Mitchell et al. (2011) study of CBTgsh for BN ( $n = 293$ ). Both comparison studies employed the Fairburn book *Overcoming Binge Eating* and accompanying therapist manual (Carter & Fairburn, 1998), required that therapists complete two supervised cases before study participation, audio-recorded sessions for use in supervision (Mitchell et al., 2011) or treatment adherence audits (Wilson et al., 2010), and reported intent-to-treat post-treatment abstinence rates over the preceding 28 days. As seen in Table 8, clinical outcomes based on diagnosis are roughly analogous among trials. In the current study, patients with full or subthreshold BED reported a 60% abstinence rate from binge eating at 12-week post-treatment. This finding approximates the 58% cessation rate found by Wilson and colleagues (2010) following 24 weeks of treatment. BN and EDNOS-purge type patients demonstrated a 30.8% abstinence rate from binge eating and purging at

post-treatment. This outcome is superior to the 11% post-treatment symptom abstinence rate reported by Mitchell et al. (2011). Of note, 34% of participants in the Mitchell et al. study received fluoxetine in addition to CBTgsh after failing to demonstrate 70% symptom reduction by session six. Attrition rates in the current study, Wilson et al. (2010), and Mitchell et al. (2011) investigations were roughly comparable: 21.7%, 30%, and 25%, respectively.

### **Discussion**

Little is known about specific implementation strategies that promote the transfer of evidence-based treatments into real-world settings. The present study provides “proof-of-concept” for the train-the-trainer model of implementation in the treatment of eating disorders characterized by recurrent binge eating. In this pilot trial, a doctoral student received expert-led training in CBTgsh and subsequently trained and supervised more junior graduate student therapists with weekly expert consultation. Consistent with study hypotheses, treatment-seeking university students provided CBTgsh showed significant reductions on measures of specific eating disorder psychopathology, general psychopathology, and functional impairment that were maintained or improved at one-month follow-up. The 47.8% intent-to-treat binge eating abstinence rate observed in this study compares favorably to that obtained in randomized controlled trials of CBTgsh with mixed diagnostic samples (e.g., Debar et al., 2011; Traviss, Heywood-Everett, & Hill, 2011). Indeed, this outcome rivals that of full-format CBT for BN (29%; Agras, Walsh, Fairburn, Wilson, & Kramer, 2000) and BED (50%; Grilo, Masheb, Wilson, Gueorguieva, & White, 2011). These results provide evidence that the train-the-trainer model can be employed to effectively implement CBTgsh under conditions of routine clinical care.

Open-trial, effectiveness studies frequently benchmark results from naturalistic settings against the findings of large randomized controlled studies (e.g., Byrne, Fursland, Allen, & Watson, 2011; Merrill et al., 2003). To achieve this end, primary



outcomes in the current study were divided according to diagnostic subtype. Consistent with the broader literature on specialized treatment for eating disorders, outcomes were more favorable for BED patients than BN patients (Wilson & Zandberg, in press). Patients with full or subthreshold BED reported a 60% abstinence rate from binge eating at 12-week post-treatment. This finding is nearly identical to the 58% cessation rate obtained by Wilson and colleagues (2010) following 24 weeks of treatment provided by expert-trained graduate students. BN and EDNOS-purge type patients demonstrated a 30.8% abstinence rate from binge eating and purging at post-treatment, an outcome superior to the 11% post-treatment symptom abstinence rate reported by Mitchell et al. (2011). This finding is promising, as the Mitchell et al. study employed Master's- and doctoral- level psychologists and clinical psychiatric nurse specialists with training overseen by the treatment developer (C.G. Fairburn) and included adjunctive medication management for early treatment non-responders. Across studies, retention rates were high, ranging from 70% (Wilson et al., 2010), 75% (Mitchell et al., 2011), to 78.2% in the current study. Taken together, these benchmarking findings suggest that the present clinical outcomes are comparable, or slightly superior, to two of the largest and best-controlled studies of CBTgsh conducted to date.

Symptom improvement remained stable over the one-month follow-up period, with the exception of shape and weight concern and body avoidance behavior which showed additional, significant reductions. The observation that outcomes were maintained at follow-up parallels the results of numerous CBTgsh studies, which have typically employed a six month follow-up assessment (Sysko & Walsh, 2008). Additional reduction of shape and weight concern over follow-up has not been previously reported, although this phenomenon is referred to anecdotally in the second-generation CBT manual (Fairburn, 2008). In the current study, a supplemental module on body checking and avoidance was incorporated to address shape and weight concern directly.

Participants typically received this module in the final stages of treatment (e.g., session 8, 9, or 10), subsequent to completion of the core guided self-help protocol. Given that the post-treatment evaluation queried the patient about his or her symptoms over the preceding 28 days, this intervention timing is potentially responsible for the observed pattern of results.

Previous studies of CBTgsh have reported little or nothing about the type of therapist training provided (Wilson & Zandberg, in press). The model of training employed in the present investigation is outlined explicitly to promote comparisons and clarify the level of instruction associated with positive patient outcomes. This training curriculum was designed to capitalize on the Hershell et al. (2011) and Beidas and Kendall (2011) reviews of the therapist training literature, and thus emphasized active learning through role-plays and behavioral rehearsal. Although non-specialist facilitators have been successfully employed in previous investigations, the striking ineffectiveness of CBTgsh in the Walsh et al. (2004) study with minimally trained and supervised nurse practitioners serves as a reminder that therapist training cannot be overlooked. The present study suggests that, with adequate training and continuing supervision, CBTgsh can be implemented effectively by relatively inexperienced practitioners lacking formal professional credentials. The implications of these results are considerable, as it greatly expands the number of candidate facilitators who can provide evidence-based treatment for an underserved clinical population. This objective is consistent with “task shifting” to non-specialists, described by Patel and colleagues (2009) as the most practical method of bridging the research-practice divide.

The secondary aim of the study was to evaluate the feasibility and acceptability of CBTgsh in a treatment-seeking college student population. As hypothesized, CBTgsh proved acceptable to student participants, and the 10-session treatment was conducted feasibly within the semester schedule. Treatment completers reported high satisfaction

with the program at post-treatment and follow-up, with mean ratings of 4.56 and 4.33 out of 5, respectively. In addition, the observed uptake of treatment (100%) following orientation to the self-help model bears upon the perceived suitability of the approach in this young adult sample. Previous investigations of guided self-help provided in face-to-face and internet-based format have reported similar acceptability findings with youth participants (Pretorius et al., 2009; Schmidt et al., 2007). Anecdotally, students reported liking the concept of “becoming their own therapist” as well as the short-term nature of the treatment. In addition, no patients cited brevity of sessions or duration of treatment as one of the “parts of treatment [he or she] found the least helpful” on post-treatment evaluation forms. As noted by Wilson and Sysko (2006), the idea of recovering from an eating disorder in a manner that promotes self-sufficiency and independence may be particularly well matched to the developmental tasks of young adulthood.

The present findings underscore the demand present in college counseling centers for increasing access to evidence-based eating disorder treatment. First, the descriptive characteristics of the sample suggest that students presenting to college counseling centers with eating disorders report symptom and impairment levels that match or exceed clinical population norms (Welch, Birgegard, Parling, & Ghaderi, 2011). As noted, 30.4% of participants reported a history of mental health hospitalization, and the average baseline rate of binge eating was 18.52 (i.e., greater than four binge episodes per week). Second, during the academic year in which the program was offered, CAPS electronic record keeping system documented that eating disorders ranked as the fourth most common diagnosis among the 3347 total students seeking treatment. This information positions college counseling centers as fertile grounds for eating disorder implementation efforts.

Assessment of the program’s acceptability on an organizational level was considered exploratory in nature. These non-clinical outcomes are particularly critical to

implementation research (Proctor et al., 2011), as acceptability provides a proxy for conditions that may support the uptake and adoption of treatment. Referring CAPS clinicians reported being satisfied-to-extremely satisfied with the guided self-help program, and more than half of the eligible counselors, psychologists, and psychiatrists at CAPS made at least one referral during the study. This referral rate provides an indirect measure of acceptability, as clinicians were encouraged to make referrals at their discretion with no associated incentives. In addition, staff on the counseling center's eating disorder treatment team made requests to receive direct training in the intervention, voiced concerns about how the setting could continue to offer this program when the study expired, and advocated for IRB revision to allow nurse practitioners to make referrals to the program from Rutgers medical centers. Although unanticipated, these qualitative findings suggest high levels of organizational acceptability among a subset of counseling center clinicians. If replicated, these results have positive implications for future partnerships with college health and wellness centers.

It is worth considering systemic factors that may have contributed to the level of organizational acceptability observed in the current study. Of note, the program earned early "buy-in" from the counseling center director and other key stakeholders (e.g., the eating disorder team leader), who recognized a need for additional services for eating disorders and gave a "face" to the program on site. Secondly, the trainer maintained regular contact with staff therapists in the form of case updates following baseline and post-treatment assessment and was present at a small number of staff meetings to publicize the program. This allowed for collaborative relationship building and may have improved staff investment in the program. Efforts were made in designing the project to ensure that the center assumed ownership of the program. For example, a feedback loop was established where the trainer honored staff requests for changes in the referral process, and clinicians were given carte blanche to make additional treatment

recommendations based on their clinical judgment. In other words, the program was positioned as an enhancement to the services currently offered by CAPS while addressing a targeted systemic need (i.e., shortage of providers for students presenting with eating disorders).

In their appeal for effectiveness research, Green and Glasgow (2006) commented that “if we want more evidence-based practice, we need more practice-based evidence” (p. 126). In the current study, as counseling staff worked collaterally with students in the program, several therapists witnessed personally the effect CBTgsh had on their clients’ eating disorder symptoms. This testimonial evidence likely interacted with pre-existing attitudes toward manual-based treatment over the course of the academic year, creating – as the eating disorders team leader noted – a “culture shift” at the center. Indeed, cognitive behavioral treatments emphasize the principle that evidence derived from direct, personal experience (e.g., via self-monitoring) will prove more effective in changing beliefs and behavior than externally imposed claims or instruction. Likewise, the present findings suggest that acceptability within an organization should be approached as a dynamic, rather than static, concept. Future implementation efforts may benefit from a preliminary implementation phase in which local evidence is accumulated.

### **Limitations**

Study limitations include a small sample size and the absence of a control condition. Although eating disorders are typically not responsive to waitlist conditions (e.g., Carrard et al., 2011; Fairburn et al., 2009; Telch, Agras, Rossiter, Wilfley, & Kenardy, 1990), without a treatment control the possibility that factors independent of the program were responsible for clinical change cannot be ruled out. This was considered a deliberate trade-off between internal and external validity, where the aim of the present study focused on the latter. Proctor et al. (2009) have remarked on this dilemma as a

common feature of implementation research, noting that "...implementation research is typically beset by a 'small *n*' problem" (p. 30). In addition, clients were permitted to access additional treatments to address co-morbid concerns, and CAPS clinicians made these referrals as they deemed appropriate. It is helpful to note, however, that a minority of clients reported participating in concurrent psychological treatment (30%) during the study. As stated above, the counseling staff's ability to prescribe additional treatments at their discretion may have contributed to their willingness to refer students to the program. Rather than being "disseminated on or disseminated at" (Westen, Novotny, & Thompson-Brenner, 2005, p. 431), clinicians were given strong ownership of treatment planning and coordination. This feature of the study was strategically employed in a manner that is consistent with the community participatory approach (Becker, Stice, Shaw, & Woda, 2009).

It should also be noted that the amount and intensity of training in the current investigation resembles the "gold standard" of controlled research (Roth, Pilling, & Turner, 2009), albeit with significantly lower demands on the treatment expert. In routine service centers, the transportability of this precise level of training may be limited. For example, group supervision in this trial was supplemented by the trainer's review of session audio-recordings, a practice that will not be feasible in all settings. Additional research is necessary to determine the adequate dosage of training and supervision required for effective implementation, including the requisite amount of expert consultation. In addition, the therapists and trainer in this trial were self-selected students at a competitive doctoral program (Rutgers, the State University of New Jersey) with strong interests in learning to treat eating disorders. Standards in the field would nonetheless categorize these therapists as "inexperienced," as all lacked experience either in eating disorder treatment, direct clinical service provision, or both.

## **Conclusions and Future Directions**

This study presents promising findings for the train-the-trainer implementation strategy in the treatment of recurrent binge eating. The results of the current study suggest that, given adequate training and supervision, specialized credentials are not necessary for successful implementation of CBTgsh. Further, these results add to the evidence supporting the acceptability, feasibility, and clinical effectiveness of CBTgsh in non-specialized settings. Future research should seek to replicate the train-the-trainer strategy with an organizational stakeholder assuming the role of the “trainer” and fellow staff members as “trainees.” Both client-level symptom improvement and organizational-level factors, such as treatment adoption, uptake, and long-term sustainability in the setting, should be considered in extending the implementation research agenda (Proctor et al., 2011). Moreover, evaluating the impact of therapist factors (i.e., interest-level, treatment expectancies, attitudes toward evidence-based treatment) on effective implementation will help to clarify the systemic conditions that foster successful translation to routine settings. Based on the results from this pilot study, college counseling centers are recommended as premier candidates for future implementation efforts in the treatment of eating disorders.

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**TABLE 1**  
**Summary of controlled studies of guided self-help for bulimia nervosa (BN)**

Reference	<i>n</i>	Patients	Self-Help Manual	Guidance	Therapists	Duration	Comparison	Follow-Up	Attrition	Results
Mitchell et al. (2011)	293	BN	<i>Overcoming Binge Eating</i>	Eight, 20 minute sessions in the context of a stepped care sequence*	MA and PhD psychologists and psychiatric nurses	18 wks	CBT (20 sessions)*	12 mo.	25%	ITT: 11% abstinent from binge eating and purging at post-treatment and 26% at follow-up. 66% of GSH participants achieved 70% reduction in purging by session 6 (vs. 35% in CBT). Stepped care patients showed significantly greater improvement at 12 month follow-up than the CBT group.
Sanchez-Ortiz et al. (2011)	76	BN (51.3%) and EDNOS (48.7%)	<i>iCBT Overcoming Bulimia Online</i>	Therapist email support once every 1-2 weeks and response to Client emails. Average amount of therapist time per participant: 45 minutes.	CBT therapists with eating disorder experience	12 wks	Delayed treatment control (DTC)	3 mo.	21.1%**	ITT: 25.8% abstinent from binge eating, vomiting, and laxative use over the preceding 28 days at post-treatment. 39.1% abstinent at three month follow-up. Significant differences between iCBT and DCT on EDE-G scores, binge eating, general psychopathology, and quality of life.
Steele & Wade (2008)	48	BN (93%) and EDNOS w/compensatory behaviors once per week and/or purging without OBE	<i>Bulimia Nervosa and Binge Eating</i>	Eight, 40 minute sessions	Post-graduate psychology students	6 wks	Self-help targeting perfectionism; Self-help targeting mindfulness	6 mo.	23%	ITT not reported. Completer analyses: 5% abstinent at post-treatment. At follow-up, 19% abstinent. No significant difference between treatment conditions.
Schmidt et al. (2007)	85	BN (68.2%) and EDNOS (31.8%) w/compensatory behaviors less than twice per week and/or compensatory behaviors without OBE Aged 13-20	<i>Getting Better Bit(e) by Bit(e)</i>	Thirteen sessions of undisclosed length and two optional sessions with a loved one	Therapists from diverse backgrounds	24 wks	Maudsley Family Therapy	12 mo.	30%	ITT: 41.9% abstinent from binge eating at post-treatment and 52% at follow-up. Of those who reported bingeing and purging at baseline, 19.4% were abstinent from both behaviors at post-treatment; 36% at follow-up. A higher proportion of participants in GSH achieved abstinence from binge eating at post-treatment compared to family therapy, with earlier improvement reported. No differences found between groups at 12 month follow-up.

TABLE 1 (Continued)

Reference	N	Patients	Self-Help Manual	Guidance	Therapists	Duration	Comparison	Follow-Up	Attrition	Results
Ghaderi (2006)	29	BN (55%), BED (21%), and EDNOS (24%)	<i>Overcoming Binge Eating</i>	Six, 25 minute sessions	Undergraduate psychology students	12 weeks	PSH	6 mo.	37.5%	ITT: 44% abstinent from binge eating and purging at post-treatment. Gains maintained at follow-up. No significant differences between GSH and PSH.
Banasiak et al. (2005)	109	BN (90.7%) & EDNOS w/compensatory behaviors once per week	<i>Bulimia Nervosa and Binge Eating: A Guide to Recovery</i>	One, 30-60 minute session followed by nine, 20-30 minute sessions	General Practitioners	17 wks	Delayed treatment control (DTC)	3 & 6 mo.	33%	ITT: 28% abstinent from all symptoms, 46% showed cessation from bingeing, and 33% achieved cessation from purging at post-treatment. GSH was superior to DCT on all indices of eating and general psychopathology. Gains maintained at 3 and 6 month follow-up. At follow-up (by completer analyses), 35% abstinent from all symptoms, 58% cessation from bingeing, and 39% from purging.
Walsh et al. (2004)	91	BN (83.5%) and EDNOS w/compensatory behaviors once per week and/or compensatory behaviors without OBE	<i>Overcoming Binge Eating</i>	Six-eight, 30 minute sessions + medication management sessions for Fluoxetine or Placebo	Nurses without ED specialization	16 wks	Fluoxetine or Placebo Alone	None	71.4%	ITT: Abstinence rate not reported in GSH plus placebo condition. GSH did not provide any additive benefit over placebo-alone.
Durand & King (2003)	68	BN	<i>Bulimia Nervosa: A Guide to Recovery</i>	Regular contact with referring general practitioners (mean number of visits: 4.9)	General Practitioners	24-36 wks	Specialist treatment at outpatient clinics, including CBT and IPT	None	0%	Abstinence rates not reported. ITT (LOCF): Both groups improved significantly over time, with no significant difference between conditions. 29.4% of GSH clients achieved diagnostic remission based on the Bulimic Investigatory Test, Edinburgh.

TABLE 1 (Continued)

Reference	n	Patients	Self-Help Manual	Guidance	Therapists	Duration	Comparison	Follow-Up	Attrition	Results
Ghaderi & Scott (2003)	31	BN (29%), EDNOS subthreshold BN (35.5%), and BED (35.5%)	<i>Overcoming Binge Eating</i>	Six-eight, 25 minute sessions	Undergraduate psychology students	16 wks	PSH	6 mo.	43.8%	ITT: 18.8% abstinent from binge eating at post-treatment (abstinence from purging not reported). No differences found between GSH and PSH on ED psychopathology. Improvements maintained at follow-up based on completer analyses.
Palmer et al. (2002)	121	BN (59%), BED (23%), EDNOS (18%)	<i>Overcoming Binge Eating</i>	Four, 30 minute face-to-face (FF-GSH) sessions; OR four, 30 minute telephone sessions (T-GSH).	Nurses with ED experience	16 wks	Waitlist	12 mo.	23%(FF) 25%(T)	ITT not reported. Completer analyses: 10% abstinent from binge eating and purging in FF-GSH condition at post-treatment; 14% in T-GSH condition; 6% in minimal guidance condition. Both FF-GSH and T-GSH were significantly superior to waitlist in producing abstinence.
Thiels et al. (1998)	62	BN	<i>German translation of Getting Better Bit(e) by Bit(e)</i>	Eight, 50-60 minute sessions	2 Psychologists and 1 Health Sciences graduate student	16 wks	CBT (16 sessions)	6-24 mo.	29%	ITT (LOCF): 12.9% abstinent from bingeing and purging during the week preceding post-treatment (vs. 54.8% in CBT). No differences between GSH and CBT on outcome measures. At follow up (completer analyses), 60.9% abstinent from symptoms in GSH (vs. 70.8% in CBT).
Huon (1985)	120	BN	Seven mailed components (chapters) developed by the author	Participants randomized to one of two GSH conditions: Contact with a "cured" BN patient (cured-contact) or contact with an "improved" BN patient (improved-contact). Type or amount of contact uncontrolled.	"Cured" or "Improved" BN patients who were graduates of group therapy for bulimia	12 wks	PSH; Waitlist	3 & 6 mo.	0% ***	ITT: 23.3% abstinent in the cured-contact condition and 16.6% in the improved-contact condition at post-treatment. No statistically significant difference between self-help groups. All were superior to waitlist. At 6 month follow-up, a significantly greater proportion of GSH participants were abstinent compared to PSH.

Note: GSH, guided self-help; PSH, pure self-help (i.e., unguided); CBT, cognitive behavioral therapy; IPT, interpersonal psychotherapy; ED, eating disorder; OBE, objective binge eating; ITT, intention-to-treat analyses using baseline carried forward; LOCF, analyses using last observation carried forward. Completer analyses are reported only in the absence of ITT. Attrition rates refer exclusively to the GSH condition. \*Mitchell et al. (2011): Fluoxetine was offered in both GSH and CBT treatment conditions given less than 70% reduction in purging by session 6. \*\* Sanchez-Ortiz et al. (2011): The reported attrition rate (21.1%) refers to patients assigned to iCBT who did not complete any sessions. Of those who started treatment, mean number of completed online sessions was 5.5 out of 8.

\*\*\* Huon (1985): 22.4% did not return the prerequisite binge monitoring records and were therefore not randomized.

**TABLE 2**  
**Summary of controlled studies of guided self-help for binge eating disorder (BED)**

Reference	N	Patients	Self-Help Manual	Guidance	Therapists	Duration	Comparison(s)	Follow-Up	Attrition	Results
Carrard et al. (2011)	74	BED (54.1%) BED (45.9%)	<i>SALUT</i> internet-based program adapted for BED	Weekly email contact	Psychologists	24 wks	Waitlist	6 & 12 mo.	16.2%	ITT: 35.1% abstinent from binge eating at post-treatment. At follow-up, 43.2% abstinent. Significant difference between GSH and waitlist at post-treatment favoring GSH.
Wilson et al. (2010)	205	BED	<i>Overcoming Binge Eating</i>	Ten, 20-25 minute sessions	Graduate students	24 wks	BWL (20 sessions); IPT (20 sessions)	6, 12, 18, & 24 mo.	30%	ITT: 58% abstinent at post-treatment. No differences between treatments found on binge eating rates, eating disorder psychopathology, negative affect, or self-esteem. At two year follow-up, GSH and IPT maintained treatment gains and were superior to BWL in producing abstinence.
Stiegel-Moore et al. (2010)	123	BN (10.6%), BED (48%), & EDNOS (41.4%)	<i>Overcoming Binge Eating</i>	One, 60 minute session follow by seven, 20-25 minute sessions	Master's-level therapists	12 wks	Treatment as Usual (TAU)	6 & 12 mo.	28.8%	ITT: 63.5% abstinent from binge eating at post-treatment. GSH showed large effect size and significantly superior results as compared to TAU. At 12 month follow-up, 64.2% abstinent.
Peterson et al. (2009)	259	BED	Developed by authors	Fifteen, 80 minute group sessions consisting of psychoeducational videotapes, followed by therapist-assisted homework and discussion	Doctoral-level psychotherapists	20 wks	Waitlist; Therapist-Led CBT groups; Un-guided groups (PSH)	6 & 12 mo.	31.7%	ITT: 33.3% abstinent in the therapist-assisted condition at post-treatment (vs. 51.7% in the therapist-led condition). There were no statistically significant differences between therapist-assisted and therapist-led groups at post-treatment, and both conditions proved significantly superior to waitlist. At 12 month follow-up, no differences in abstinence rates were observed between therapist-led (20.8%), therapist-assisted (27.0%), and PSH (25.4%) conditions.
Cassin et al. (2008)	108	BED	<i>Defeating Binge Eating</i>	One, 80 minute motivational interviewing session	Graduate students	4-16 wks	PSH	1, 2, & 4 mo.	13%	ITT: 27.8% abstinent from binge eating at post-treatment (vs. 11.1% in PSH). Significant difference between groups favoring GSH.

TABLE 2 (Continued)

Reference	n	Patients	Self-Help Manual	Guidance	Therapists	Duration	Comparison(s)	Follow-Up	Attrition	Results
Ljotsson et al. (2007)	73	BED (51.4%) & Full and Sub. BN (48.6%)	<i>Overcoming Binge Eating</i>	Up to twice weekly email contact and online discussion forum	Graduate Psychology Students	12 wks	Waitlist	6 mo.	31%	ITT: 37% abstinent from bingeing and purging at post-treatment. GSH superior to waitlist on primary and secondary outcome measures. At follow-up, improvements were maintained.
Grilo & Masheb (2005)	90	BED	<i>Overcoming Binge Eating</i>	Six, 15-20 minute biweekly sessions	Doctoral-level research clinicians	12 wks	Behavioral Weight Loss Self-Help; Attention Control (Self-monitoring & support sessions)	None	13%	ITT: 46% abstinent at post-treatment. GSH obtained significantly higher diagnostic remission rates than BWL (18%) or control (13%).
Grilo et al. (2005)	50	BED	<i>Overcoming Binge Eating</i>	Six, 15-20 minute sessions + placebo	Doctoral research clinicians experienced with CBT and BED	12 wks	GSH plus Orlistat	3 mo.	20%	ITT: 36% abstinent at post-treatment in GSH plus Placebo condition; 64% in GSH plus Orlistat. At follow-up, both groups showed 52% remission rates.
Loeb et al. (2000)	40	BED (82.5%), BN (5%), Sub. BED (7.5%), & Sub. BN (5%).	<i>Overcoming Binge Eating</i>	Six, 30 minutes sessions	1 licensed clinical psychologist and 1 advanced doctoral student	10 wks	PSH	6 mo.	32.5%	ITT: 50% abstinence rate at post-treatment (vs. 30% in PSH). GSH superior to PSH on reduction of binge eating and associated symptoms, but not rates of remission.
Carter & Fairburn (1998)	72	BED	<i>Overcoming Binge Eating</i>	Six-eight, 25 minute sessions	Non-specialist facilitators w/out clinical qualifications	12 wks	Waitlist; PSH	3 & 6 mo.	33.3%	ITT: 50% abstinent at post-treatment (vs. 43% PSH). Both self-help conditions were significantly superior to waitlist, with a trend toward the superiority of GSH over PSH. At 6 month follow-up, 50% abstinent (vs. 40% PSH). No differences between GSH and PSH at 3 or 6 month follow-up.

Note: GSH, guided self-help; PSH, pure self help (i.e., unguided); CBT, cognitive behavioral therapy; IPT, interpersonal psychotherapy; ED, eating disorder; Sub., subthreshold diagnosis; OBE, objective binge eating; ITT, intention-to-treat analyses using baseline carried forward; LOCF, analyses using last observation carried forward. Completer analyses are reported only in the absence of ITT. Attrition rates refer exclusively to the GSH condition.

**TABLE 3**  
**Summary of controlled studies of guided self-help for eating disorder not otherwise specified (EDNOS)**

Reference	N	Patients	Self-Help Manual	Guidance	Therapists	Duration	Comparison	Follow-Up	Attrition	Results
DeBar et al. (2011)	160	Recurrent binge eating with purging (27%) or without purging	<i>Overcoming Binge Eating</i>	One, 60 minute session followed by seven, 20-25 minute sessions	Master's-level therapists	12 wks	Treatment As Usual (TAU)	6 & 12 mo.	32%*	ITT: 33% abstinent from binge eating at post-treatment. GSH showed greater cessation from binge eating than TAU (5%) and greater improvements in dietary restraint and eating, shape, and weight concerns. At 6 and 12 month follow-up, abstinence rates for GSH were 38% and 35%, respectively.
Traviss, G., Heywood-Everett, & Hill (2011)	81	BN (27%); BED (24.3%); EDNOS (24.3%); & no ED diagnosis (24.3%)	<i>Working to Overcome Eating Difficulties</i>	Seven, 1 hour sessions	Non-ED specialist clinicians e.g., counselors, psychologists, and cognitive behavioral therapists	12 wks	Waitlist	3 & 6 mo.	35%	ITT: Of those who reported binge episodes at pre-treatment, 30.4% were abstinent at post-treatment. Authors note similar cessation rates for compensatory behaviors (exact percentages not reported). Significant difference favoring GSH over waitlist on overall eating psychopathology and global distress, but no difference in cessation of binge and purge behaviors. Gains maintained at 3 and 6 month follow up.
Dunn, Neighbors, & Larimer (2006)	90	BN (23.3%), BED (27.8%), ED-NOS (33.3%)	<i>Overcoming Binge Eating</i>	One, 45 minute session of motivational enhancement training	Psychology graduate students and senior undergrad. research assistants	8-16 wks	PSH	None	34%	ITT: 24.4% abstinent from binge eating at post-treatment (vs. 8.9% in the PSH condition). Significant difference between groups favoring guided condition.

Note: GSH, guided self-help; PSH, pure self help (i.e., unguided); ED, eating disorder; ITT, intention-to-treat analyses using baseline carried forward. Attrition rates refer exclusively to the GSH condition. Studies were included in this section a higher percentage of EDNOS was reported than either BN or BED.

\*DeBar et al. (2011): 32% of the sample attended fewer than 6 sessions

Table 4  
*Summary of Trainer and Therapist Training*

Personnel	Training and Supervision
Trainer	Independent review of therapist manual One CBTgsh case with weekly expert-led supervision Weekly expert consultation on training tasks
Therapists	Independent review of therapist manual One, three-hour clinical workshop Weekly group supervision

*Note: All therapist training and supervision was conducted by the trainer. Therapists with no prior psychotherapy experience (n = 2) completed one case as part of a co-therapy team with another student therapist prior to treating clients independently.*

Table 5  
*Baseline Participant Characteristics*

Characteristic	Patients (N = 23)	
	N	%
Female	21	91.3
Ethnicity		
Caucasian	14	60.9
Asian	4	17.4
Latino	2	8.7
African American	1	4.3
Other	2	8.7
Education		
Freshman Undergraduate	5	21.7
Sophomore Undergraduate	5	21.7
Junior Undergraduate	4	17.4
Senior Undergraduate	4	17.4
Transfer/Undergraduate	1	4.3
Graduate Student	4	17.4
Prior inpatient eating disorder treatment	4	17.4
Other prior inpatient hospitalization	3	13.0
Current psychotropic medication	5	21.7
Concurrent psychological treatment	8	34.0
	<i>Mean</i>	<i>SD</i>
Age	21.17	3.42
Body Mass Index	23.90	3.99
BDI	25.13	9.45
CIA	35.57	6.70
EDE-Q Binge Frequency	18.52	12.54
EDE-Q Purge Frequency	13.04	15.41
EDE-Q Shape and Weight Concern	5.43	0.95
EDE-Q Dietary Restraint	4.87	1.66



Table 6  
*Treatment outcome in total (intent-to-treat) sample and treatment completers*

	Intent-to-Treat Analyses (N = 23)		Completer Analyses (N = 18)	
	Post-TX	Follow-up	Post-TX	Follow-up
Abstinence: Binge Eating and Purging	47.8%	52.2%	55.6%	66.7%
Abstinence: Binge Eating	47.8%	56.5%	61.1%	72.2%
Diagnostic Remission	69.6%	69.6%	88.9%	88.9%

Table 7  
*Pre- to post-treatment scores (ITT) on measures of eating and general psychopathology*

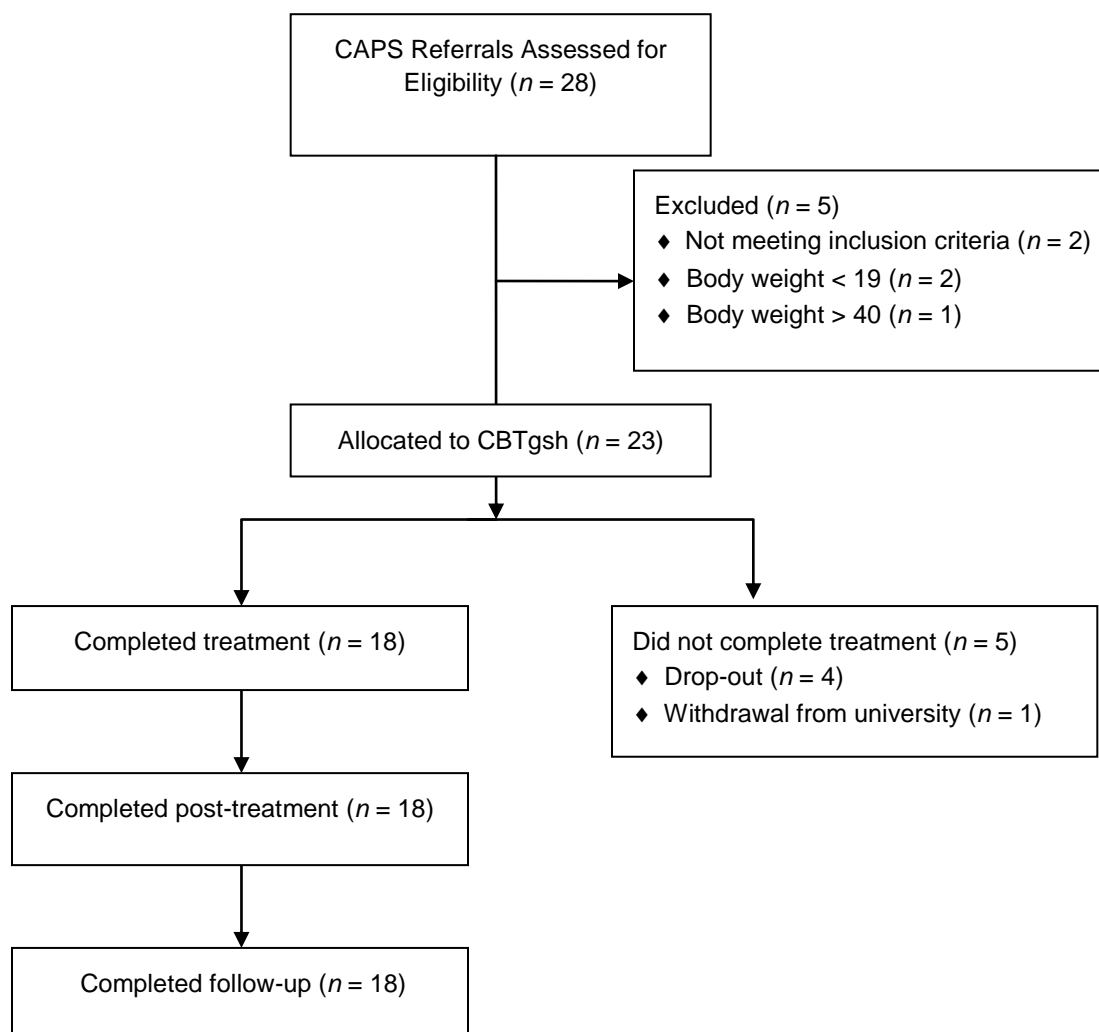
Measure	Baseline Mean (SD)	Post-Treatment Mean (SD)	<i>p</i>	<i>d</i>
BDI	25.13 (9.45)	11.52 (10.54)	<.01	1.36
CIA	35.56 (6.70)	22.30 (14.07)	<.01	1.20
EDE-Q Binge Frequency	18.52 (12.54)	7.83 (14.18)	<.01	0.80
EDE-Q Purge Frequency	13.04 (15.41)	6.43 (14.09)	.01	0.45
EDE-Q Shape & Weight Concern	5.43 (.95)	4.13 (1.69)	<.01	0.95
EDE-Q Dietary Restraint	4.87 (1.66)	3.26 (2.15)	.01	0.84
Body Checking	4.87 (1.63)	3.61 (1.62)	.01	0.78
Body Avoidance	2.96 (1.55)	2.65 (1.53)	.49	

Table 8

*Comparison of results to Wilson et al. (2010) BED study and Mitchell et al. (2011) BN study*

Study	Zandberg	Wilson et al.	Zandberg	Mitchell et al.
Diagnostic Sample	BED and Sub-threshold BED	BED	BN and EDNOS-purge type	BN
<i>N</i>	10	205	13	293
Symptom Abstinence	60%	58%	30.8%	11%
Attrition	10%	30%	30.8%	25%

*Figure 1.* Schematic presentation of referral, enrollment, retention, and assessment completion



## Appendix A

### CBTgsh Therapist's Checklist

#### STARTING WELL

Did you...

- State the session number and remaining number of sessions?
- Briefly (< 5 minutes) assess Ct's progress on assigned targets from the previous week?
- Summarize Ct feedback and note any areas of non-compliance as important to address later in the session?

#### THE AGENDA

- Review two monitoring forms (good day, bad day)?
- Highlight all marks of adherence? Can you enhance your attention to and reinforcement of Ct compliance and progress?
- Guide the Ct to notice patterns and departures from program guidelines? E.g., "What might you have done to make this more consistent with (Step \_)"
- Address questions and non-compliance with reference to the book (i.e., "what does the book say about that?"). Did you highlight rationale and encourage a temporary experiment (e.g. "would you be willing to try this week and really test this out")?

#### ENDING WELL

- *If moving on:* Provide brief orientation to next step and agree upon when Ct will start?
- Ask Ct to summarize his/her targets for the week (and enhance the specifics, if necessary)?

#### STYLE

Did you....

- Remain supportive and instill hope?
- Validate and normalize Ct concerns/problems (before addressing them)?
- Take non-compliance seriously, by noting it and non-judgmentally assessing 1) what got in the way, and 2) how it can be changed?
- Show expertise by referring as appropriate to the literature, research, or clinical experience (as detailed in the book)?

## Appendix B

### CBTgsh Trainer's Checklist

Did you...

- Collaboratively set an agenda for supervision?<sup>2</sup>
- Follow-through on all agenda items?
- Effectively manage time (starting and ending as planned)?

In reviewing completed sessions:

Did you...

- Ask Trainee for his/her overall impression of the session?
- Review key points on the Therapist's Check List?
- Praise all trainee progress and adherence to the protocol?<sup>3</sup>
- Organize critical feedback into one or two (maximum) teaching points?<sup>4</sup>
- If applicable, practice via in-supervision role-play?
- Trouble-shoot anticipated difficulties implementing suggested changes?<sup>5</sup>
- Address Trainee questions about upcoming session?

Style:

- Can my modeling of guided self-help style (empathic and firm) be improved?

---

<sup>2</sup> Identify cases to be reviewed, with relative priority assigned. Ask trainees if other matters need discussion.

<sup>3</sup> Do not discredit the importance of reinforcement no matter how novice or advanced the trainee.

<sup>4</sup> Overwhelming a trainee is not likely to produce behavior change. Validate challenges wherever possible, provide rationale for suggested changes, and be specific in your guidance. Seek feedback to ensure the trainee understands/agrees. If the same trainee has two cases, search for common teaching points across sessions to aid time management.

<sup>5</sup> Ask trainee if they can foresee anything getting in the way of implementing this change. Co-generate solutions and role-play, wherever applicable.