

## References for AAT

### Books

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**Craighead, L.W.**, Martinez, M.A., Klump, K.L., Lock, J., & Kirz, N. (2017). Eating disorders. In W.E. Craighead, D.J. Miklowitz, & L.W. Craighead (Eds.). *Psychopathology: History, Diagnosis, and Empirical Foundations* (3<sup>rd</sup> ed.), (pp. 465-519). New York: John Wiley & Sons.

Goode, R.W., Kalarchian, M.A., **Craighead, L.**, Conroy, M.B., Wallace, J., Eack, S.M. & Burke, L.E. (2018). The Feasibility of a Binge Eating Intervention in Black Women with Obesity. *Eating Behaviors*. 29, 83-90. DOI: <https://doi.org/10.1016/j.eatbeh.2018.03.005>

Introduction: U.S. Black women have the highest rates of obesity and report frequent binge eating behaviors. To our knowledge, no intervention research has aimed to treat binge eating specifically among Black women. The purpose of this study was to investigate the feasibility and preliminary effect of Appetite Awareness Treatment (AAT), an 8-week cognitive-behavioral binge eating intervention, among Black women with obesity, and who report binge eating.

Methods: Participants (N=31), had a mean ( $\pm$ SD) age of  $48.8 \pm 12.8$  years, a body mass index of  $33.7 \pm 3.9$  kg/m<sup>2</sup>, and reported at least one binge eating episode monthly over the last three months. Using a randomized controlled trial design, Black women were randomized to AAT or a wait-list control group (WAIT) group. We examined recruitment, attendance, retention, and adherence. Linear mixed models explored preliminary differences between the AAT and WAIT on the primary outcome variables of binge eating and eating self-efficacy measured at baseline and 8-weeks.

Results: Approximately one-third of screened participants were eligible and did enroll. Participants completed 55% of homework assignments, and attended 59% of intervention sessions. Retention to AAT was 87.5%. Compared to participants in the WAIT group, AAT participants had greater decreases in binge eating scores and greater improvements in eating self-efficacy scores at the end of Week 8.

Conclusion: Results suggest that AAT is feasible among Black women with binge eating behaviors, with evidence of preliminary efficacy, providing a rationale for a trial of AAT in a larger sample of Black women.

Njardvik, U. Gunnarsdottir, T., Olafsdottir A., **Craighead, L.**, Boles, R. & Bjarnason, R. (2018) Incorporating Appetite Awareness Training Within Family-Based Behavioral Treatment of Pediatric Obesity: A Randomized Controlled Pilot Study, *Journal of Pediatric Psychology*, , jsy055, <https://doi.org/10.1093/jpepsy/jsy055>

### Abstract

**Objective:** To assess additive effects of incorporating appetite awareness training (AAT), a strategy to encourage eating in response to hunger and satiety cues, within a family-based behavioral treatment (FBT) for childhood obesity.

**Methods:** 84 families with a child with obesity in the age range of 8-12, BMI-SDS $\geq$ 2, and a participating parent were randomly allocated to two conditions; standard FBT was compared to FBT incorporating AAT strategies (FBT-AAT). Treatment consisted of group therapy sessions (held separately for children and parents) as well as single family (parent-child dyad) sessions (24 sessions total) delivered over 18 weeks at a tertiary-care outpatient clinic. One booster session was provided one-year post-treatment and a final follow-up assessment was conducted at two years. The primary outcome was change in child standardized body-mass index (BMI-SDS).

**Results:** The two conditions did not differ significantly at post-test, but the FBT-AAT group was at a significantly lower weight compared to FBT at both the first year ( $F(1,82) = 4.150, p < .05$ ) and the second year follow-ups ( $F(1,82) = 14.912, p < .001$ ). It was notable that over the second year of follow-up, the FBT-AAT group continued to show improvement whereas the FBT group did not.

**Conclusions:** Incorporating specific self-regulatory training in attending to hunger and fullness signals during a standardized family-based treatment may have enhanced the long-term maintenance of treatment effects. Findings are promising and warrant further study.

## Abstracts for AAT Presentations

**Craighead, L.W.,** Elder, K. E., Niemeier, H.M., & Pung, M. (November 2002). Food versus appetite monitoring in CBWL for Binge Eating Disorder. Paper presented at the meetings of the Association of Behavior Therapy. Reno, Nevada.

This study randomly assigned 48 overweight/obese women diagnosed with BED to CBT-AF or to standard CBT for BED. ) The goal was to determine if AM would be rated as more acceptable than FM, particularly early in treatment when the focus is on stopping binge eating rather than on weight loss; and 2) confirm that altering treatment to focus on appetite cues would not compromise CBT's effectiveness. Clients received individual, weekly therapy for 24 weeks. In both conditions, tx focused on eliminating binge eating before weight loss was targeted. We found that at pretest both treatment rationales were rated very highly (as logical, appropriate, and would recommend to a friend) and not differently (either as rated after the first session or at posttest). Ratings 5 weeks into treatment showed that initial response to the two types of monitoring was not different; both were rated as helpful and as not too much of a hassle or too unpleasant. However, of those assigned to CBT-AF, 17 had had prior experience with food monitoring (FM) and were able to compare their current experience with AM to their prior experiences with FM. Thirteen (76%) rated appetite monitoring (AM) as more helpful, and more focused on what they thought was important, while 3 (18%) rated FM as more helpful; one indicated both were equally helpful. Only one individual reported being more willing to do FM than AM. At this point in treatment, 6 (35%) specifically did not want to monitor food in addition to AM, while 6 (35%) wanted to monitor both, and the remainder did not have a preference. Clients assigned to CBT were not able to make those comparisons, as they had no experience with AM.

During the weight loss phase, participants assigned to CBT-AF were allowed to add FM to AM to the extent needed to obtain therapist feedback regarding food type. At posttest, 10 (60%) still rated AM as more helpful, 3 (18%) rated FM more helpful, but 4 (22%) now rated the two types as equally helpful. When asked what type of monitoring they would recommend for others, 2 (12%) recommended AM only, none recommended FM only, and 15 (88 %) recommended some type of combined use. Of those 15, 10 (67%) recommended starting with AM then adding FM, 2 (13%) recommended the opposite order, and 3 (20%) recommended combining them from the start. At posttest, both treatments were rated as highly acceptable and both were equally effective (91% abstinent from OBEs; Binge eating scale score reduced from 32 to 10) in reducing binge eating. Neither was effective for weight loss.

Thus, for BED, we conclude that both types of monitoring are useful and some type of combination is likely best; most of these individuals need help altering type as well as amount of food eaten. However, we found it helped most clients to focus first on setting up the amount boundary and then working to make lower calorie choices within that constraint. We discouraged participants from trying to really fill up on high volume foods. For most clients, the most acceptable strategy appeared to be working on reducing their preference for fullness so they ate smaller amounts but they could more often ate the type of food they wanted so deprivation was not triggered. Thus, for BED we recommend broadening the application of CBT to incorporate the appetite focus but allowing flexibility in the degree to which altering amount versus type is the focus (depending on client preference and progress during treatment. Some individuals are likely to have clear preferences regarding type of monitoring and/or when to do which type, but many do not find FM particularly aversive. AM was experienced as a very positive addition to treatment, particularly during the early stages which focused on binge reduction. However, during the weight loss phase, adding some FM seemed to be helpful to many participants to focus attention on altering type (while maintaining the focus on moderate amounts). Thus individuals who respond negatively to FM are likely to do better with CBT-AF. Others, who appear to need the greater accountability/structure of FM and the greater focus on food type, may do better with CBT. Alternatively, simply broadening the application of CBT to incorporate the appetite focus, with flexibility in the degree to which altering amount versus type is the focus of treatment, may be a simpler solution. Further work is needed to determine if strategies such as counting calories and setting clear calorie goal can help more women with BED who want to lose weight without retriggering binge eating.

Dicker, S. & **Craighead, L.W.** (May 2003) Appetite monitoring in CBT for Bulimia Nervosa. Paper presented at the International Conference on Eating Disorders-Academy for Eating Disorders, Denver, CO.

Since CBT-AF was originally designed to reduce OBEs and food preoccupation, we believed it might also be useful in the treatment of BN. In fact, because most individuals with BN are not objectively overweight, omitting FM altogether is a more viable option than with BED, where many individuals are objectively overweight and many need help altering type as well as amount of food eaten. Since AM specifically targets overeating (called satiety violations) as well as binges, it can be used to address a fairly broad range of eating episodes (both OBEs and SBEs) that trigger purging behavior. We modified the original CBT-AF to address the purging behaviors directly so it would be even more appropriate for BN. This study compared CBT-AF for BN with an 8 week wait-list control and showed that replacing FM with AM was very acceptable and effective. Fourteen of the 26 participants had had some type of prior treatment for their eating problems that had not been successful in ameliorating their disorder; two specifically noted having had CBT which they “hated” or discontinued. Twenty-five reported prior experience with food monitoring; 21 of those (88%) reported either that FM had not been helpful or that it was a hassle or was unpleasant. Only 3 initially had positive expectations regarding FM. Participants were randomly assigned to CBT-AF (in which they were not allowed to FM at any point) or an 8-week wait-list. After 6 sessions of CBT-AF, participants (13 treatment plus 7 treated wait-list controls) were asked to compare AM to their past experiences with FM. All who had had experience with FM (n=19) rated AM as more helpful than FM, and none indicated they were more willing to do FM than AM. However, 4 (21%) indicated they would like to monitor both food and appetite. At posttest, CBT-AF was rated very positively as a treatment (mean 5.4 on a 6-point scale) and there were no dropouts. CBT-AF was very effective compared to published reports of CBT for BN. At posttest (after 12 sessions over 16 weeks), 8 (62%) were recovered; 10 (77%) remitted; among controls, none were recovered, 3 (23%) were remitted. For CBT-AF, 77% were recovered at follow-up. Since there was no dropout in CBT-AF, these results can be compared to the Agras et al. (2000) ITT results, 29% recovered (40% remitted) at follow-up. Notably, the 3 who never remitted were participants who would have been excluded from the Agras et al. study because they were taking anti-depressants when they entered the study. However, four participants on anti-depressants (2 initially treated and 2 treated controls) have recovered, making the recovery rate among women on anti-depressants 57%. We have now treated a total of 13 individuals who would have been included in typical trials (8 initially treated and 5 treated controls). Of these, 77% were recovered, 85% remitted at posttest, and 85% recovered at follow-up. The 2 who did not remit did improve but they needed further treatment; one was down to 10 purges/month (from 40) but wanted to continue on her own while the other was down to 22 (from 87) and did accept a referral for continued treatment. Thus, initial severity (rather than medication use) seemed to be the mediating variable. If we combine the initially treated and treated controls, a total of 20 women have received CBT-AF with 75% being recovered by follow-up with no drop out.

The issue of decreased rates of attrition for alternative approaches is highlighted in a recent study by Safer, Telch, and Agras (2001), which evaluated DBT (20 sessions) for BN. DBT had no dropout so their sample is also comparable to an ITT sample; 29% were recovered and 65% were remitted at posttest, rates similar to the Agras et al. 2000 ITT rates. DBT incorporates much of CBT but, as in CBT-AF, FM is not used. However, other types of self-monitoring are required. Since both of these alternative versions of CBT do not utilize FM, we hypothesize that FM may contribute in some way to dropout. Perhaps standard CBT is experienced as more aversive or as not focused adequately on what participants think is important. We include items to assess these constructs in our acceptability measures. Since both previous results were on small samples with no active treatment as a control, it is, of course, necessary to replicate our CBT-AF results (low drop-out with high recovery rates) with a somewhat larger sample. We also need to compare dropout and acceptability of CBT-AF to CBT (directly) before we propose a RCT.

It is also interesting to note that across all three treatments just discussed, about 25% of participants did not remit by posttest. We offered continued treatment to 3 of our poor responders; they continued to improve but were still not remitted at the follow-up assessment (4 months later). Thus, we concur with Mitchell et al.'s (2002) observation that switching to (or adding) alternative treatment or providing more intensive intervention is likely to be better option than simply extending weekly outpatient treatment.

Hill, D. **Craighead, L. W.**, & Trenary, L. (November, 2004). The acceptability and reactive effects of food versus appetite monitoring in women with heightened eating and weight concerns. Poster presented at the annual meeting of the Association for the Advancement of Behavior Therapy. New Orleans, LA.

Self-monitoring is integral in the assessment and treatment of binge eating disorder (BED) and bulimia nervosa (BN). In cognitive behavioral therapy (CBT), daily food records provide information about eating behaviors, track treatment progress, and contribute to rapid treatment response. However, monitoring food intake may increase preoccupation with food and eating in individuals with heightened eating and weight concerns. Appetite monitoring is an alternative form of self-monitoring that draws attention away from food type and amount toward internal signals of hunger and fullness. Preliminary studies have demonstrated that appetite monitoring is acceptable and useful when applied as part of Appetite Awareness Training (AAT) for BED, BN, and subclinical BED. However, the acceptability and reactivity of appetite versus food monitoring have yet to be directly compared. This randomized study assigned 38 women with heightened weight and shape concerns to food monitor or appetite monitor for a period of 7-10 days. Self-monitoring produced significant reductions in eating related pathology across groups. However, the food monitoring group showed significantly greater increases in preoccupation with food and eating and shape and weight compared to the appetite monitoring group, controlling for baseline pathology. Food monitoring was also rated as producing significantly more guilt about food intake. There was a significant interaction between dietary intent and group in predicting change in eating pathology, such that appetite monitoring had a greater advantage over food monitoring at lower dietary intent. The results of the present study support the utility of appetite monitoring as an alternative to food monitoring in the treatment of women with heightened eating and weight concerns.

Hill, Diana (Dissertation 2007) Appetite-Focused Dialectical Behavior Therapy for the Treatment of Binge Eating with Purging: A Randomized Controlled Trial

Cognitive behavior therapy (CBT) is the preferred treatment for bulimia nervosa (BN). However, less than half of patients treated with CBT fully recover. Dialectical behavior therapy (DBT) is a promising alternative that combines cognitive and behavioral change strategies with Eastern philosophies of awareness and acceptance. DBT is increasingly popular in clinical settings (Swenson, 2000) and recently has been adapted for the treatment of binge eating (Telch, Agras, & Linehan, 2001) and bulimia nervosa (BN; Safer, Telch, & Agras, 2001b).

The present study seeks to extend existing research by integrating DBT with Appetite Awareness Training (AAT; Craighead, 2006). AAT is another approach to treating BN that uses appetite monitoring to re-sensitize women to their internal, appetite signals and teaches them to rely primarily on these signals to guide them towards more “normal” eating. Thus, the goals of this modified treatment, Appetite Focused DBT (DBT-AF), are to increase women’s awareness of *both* their emotional *and* appetite signals and to teach them to use appetite awareness skills and adaptive emotion regulation to replace maladaptive eating behaviors. In the present study, 32 women with binge and purge episodes of at least once per week were randomly assigned to receive 12 sessions of DBT-AF ( $n = 18$ ) or to a 6-week delayed treatment control group ( $n = 14$ ). At 6-weeks, the DBT-AF group reported significantly greater reductions in BN symptoms compared to delayed treatment. Of the participants who received treatment (including 8 delayed-treatment controls), 30.8% were recovered and an additional 23.1% had remitted by the post-test assessment. Participants reported significant reductions in focal and secondary symptoms of BN, as well as significant increases in appetite awareness and effective emotion regulation. Replicating prior findings, participants demonstrated a rapid rate of response to treatment, with 72.7% of the reduction in binges and 67.8% of the reduction in purges occurring by the first half of treatment. Mediation analysis identified early improvement in restraint and appetite awareness as the central mechanisms of DBT-AF in reducing purge episodes. No mediators were significant for binge episodes. Treatment attrition was low (15.4%) and DBT-AF was rated as highly acceptable by both therapists and clients. Results suggest that DBT-AF warrants further investigation as a potentially effective alternative to DBT and CBT for BN.