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## Can patients with eating disorders learn to eat intuitively? A 2-year pilot study

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### ABSTRACT

The present article reports on a 2-year pilot study that evaluated the effectiveness of an intuitive eating program for patients in an eating disorder treatment center. Standardized measures of intuitive eating and eating disorder and psychological symptoms were administered. Psychotherapists and dietitians rated patients on the healthiness of their eating attitudes and behaviors. Preliminary findings indicated that patients can develop the skills of intuitive eating, and that the ability to eat intuitively is associated with positive treatment outcomes for each diagnostic category (i.e., anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified). We conclude by offering recommendations about how to implement intuitive eating training safely and effectively in inpatient and residential treatment programs.

Some psychologists and medical professionals believe that intuitive eating is a more balanced and realistic approach to health than typical dieting and exercise programs (Cadena-Schlam & López-Guimerà, 2015; Outland, 2010). This view is supported by research showing that intuitive eating is associated with a lower body mass index (BMI) (Anderson, Reilly, Schaumberg, Dmochowski, & Anderson, 2016), improved cardiovascular functioning (Hawks, Madanat, Hawks, & Harris, 2005), and weight maintenance and/or loss (Camilleri et al., 2016). Other benefits connected to intuitive eating include better emotion regulation (Bruce & Ricciardelli, 2016), decreased body image discrepancy (Spoor & Madanat, 2016), and greater pleasure and less anxiety with eating (Smith & Hawks, 2006). Recent literature also shows that this approach is negatively correlated with eating disorder symptomatology (Bruce & Ricciardelli, 2016; Denny, Loth, Eisenberg, & Neumark-Sztainer, 2013; Van Dyke & Drinkwater, 2014) and positively correlated with psychological well-being (Schaefer & Magnuson, 2014; Tylka, Calogero, & Daniélsdóttir, 2015; Tylka & Wilcox, 2006), whereas rigid control of food intake is positively correlated with eating disorder

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symptomatology and negatively correlated with psychological well-being (Tylka et al., 2015).

Education programs based on intuitive eating have demonstrated success in encouraging healthy eating attitudes (Cole & Horacek, 2010; Healy, Joram, Matvienko, Woolf, & Knesting, 2015; Humphrey, Clifford, & Neyman Morris, 2015). There is limited evidence, however, concerning the effectiveness of teaching intuitive eating principles to patients with eating disorder. Controversy exists in the eating disorders field concerning the question of whether it is even possible for patients with eating disorders, particularly patients with anorexia nervosa, to learn how to eat intuitively, and whether attempting to teach this skill is helpful or harmful (Marek, Ben-Porath, Federici, Wisniewski, & Warren, 2013). Only a few recent studies have tested intuitive eating programs with women who have eating disorder pathology.

Smitham (2011) examined an intuitive eating program for binge eating disorder. The program spanned 8 weeks and was based on the book *Intuitive Eating* (Tribole & Resch, 2003). Thirty women and one male ranging from 30 to 62 years of age participated. Following the intervention, participants described less frequent bingeing episodes and the majority of participants (80.6%) no longer qualified for binge eating disorder.

In another study, researchers evaluated mindfulness based eating awareness training with patients with binge eating disorder in a 12-week group treatment (Kristeller, Wolever, & Sheets, 2014). The mindfulness approach incorporated the same techniques as intuitive eating, namely, separating emotional hunger from physical hunger, consciously selecting food, and developing emotional awareness. The researchers concluded that the mindfulness program was associated with decreases in binge episodes and increased feelings of self-control among the participants.

Bacon and colleagues used intuitive eating and the size acceptance model with female chronic dieters (Bacon, Stern, Van Loan, & Keim, 2005). Women aged 30 to 45 participated in 6 months of weekly group intervention and a subsequent 6 months of monthly group follow-up. The women manifested symptoms of eating disorder pathology as revealed by scores on a number of eating disorder inventories. After treatment, the women displayed decreased dieting behaviors, decreased body dissatisfaction, and increased body awareness. The study found the health at every size approach, which emphasizes intuitive eating, was more successful in encouraging long-term behavior change in comparison with the diet approach.

## **Purpose**

This article reports the findings of the 2-year pilot study we conducted to empirically evaluate whether it is possible to teach intuitive eating principles to inpatients with anorexia nervosa (AN), bulimia nervosa (BN), and eating

disorder not otherwise specified (EDNOS). Based on our experience, we hypothesized that patients with anorexia nervosa—especially in earlier phases of treatment—would have more difficulty learning to eat intuitively compared to other patients. We also investigated whether improvements in patients' ability to eat intuitively was associated with other positive outcomes of treatment, including reductions in eating disorder symptoms, depression, anxiety, and social conflict and improvements in body image and spiritual well-being.

## **Method**

### ***Setting***

Center for Change (CFC) is an inpatient-residential care facility for women with anorexia nervosa, bulimia nervosa, eating disorder-not otherwise specified, binge eating, and additional comorbid diagnoses. Treatment at CFC is guided by current research and established guidelines for eating disorder management and is provided by approximately 50 staff, including medical doctors, psychiatrists, psychologists, social workers, marriage and family therapists, registered nurses, registered dietitians, educators, and recreational therapists. Treatment intensity is personalized for each patient based on their initial assessment and ongoing evaluations, and is gradually tapered as progress is made ([www.centerforchange.com](http://www.centerforchange.com)).

### ***Intuitive eating intervention***

CFC's dietary program includes a stepwise structured program that progresses from more dietary structure and intervention to less structure and intervention as patients exhibit readiness for management of dietary choices. Further, consultations as a treatment team occur each week to accurately assess patients' readiness to implement this stepwise approach. Patients begin learning about principles of intuitive eating soon after being admitted for treatment, but they do not receive permission to begin practicing intuitive eating until they exhibit a clear readiness to do so. The priorities of medical stabilization, weight restoration, symptom management, normalizing dietary intake, and accurately assessing portion size and hunger-fullness cues take precedent over using intuitive eating principles.

All patients in the study initially participated in a menu wherein they were expected to eat 100% of their plated portions. Eventually, they transitioned to family style dining wherein they were able to choose menu items within guidelines and were expected to eat 100%. Only after a period of time wherein patients were able to demonstrate ability to plate and eat appropriately, accurately assess hunger-fullness, and resist eating disorder urges

were they advanced to intuitive eating. Once they received approval to begin intuitive eating, patients were allowed to choose menu items in accordance with intuitive eating principles and choose what portion of a meal or snack to complete. Throughout this process, patients were closely monitored to assess the integration of intuitive eating principles.

Patients received education about the following 10 intuitive eating principles described by Tribole and Resch (2003): (a) reject the diet mentality; (b) honor your hunger; (c) make peace with food; (d) challenge the food police; (e) respect your fullness; (f) discover the satisfaction factor; (g) honor your feelings without food; (h) respect your body; (i) exercise—feel the difference; and (j) honor your health. Registered dietitians met individually each week with the patients and discussed the 10 intuitive eating principles with them. Weekly nutrition classes were also held where the 10 principles were reviewed and applied. Patients were also given opportunities to practice the principles during weekly cooking classes, Friday night snack times, and meal pass outings for lunch or dinner with Center for Change dietitians at a nearby restaurant. Although registered dietitians primarily conducted the intuitive eating education, these principles were also incorporated into various aspects of the treatment program by other treatment staff.

### **Patients**

Patients for the study were 120 adult women with an eating disorder who were admitted to the in-patient treatment unit at the Center for Change during 2008–2009. Forty-seven (39%) of the patients were diagnosed with anorexia nervosa, 36 (30%) were diagnosed with bulimia nervosa, and 37 (31%) were diagnosed with eating disorder-not otherwise specified. One hundred and eight (90%) of the patients were Caucasian and the remainder were from some other heritage (e.g., African American, Asian, Hispanic). Forty-nine (41%) of the patients were from Utah, 27 (22.5%) were from another Western state (Idaho, Nevada, Wyoming, Colorado), and the remainder came from many other states. The average age of the patients was 21.2 and ranged from 13 to 55 years. The majority of the patients were single (79.2%), while 18.3% were married, and 2.5% were divorced. Fifty-six (46.7%) of the patients were Latter-day Saints, 24 (20.0%) were “non-affiliated but spiritually minded,” 17 (14.2%) were Protestant, 14 (11.7%) were Roman Catholic, 2 (1.7%) were Jewish, and 7 (5.8%) were agnostic or atheist.

### **Procedure**

On admission, each patient was informed that the assessment data collected from them at Center for Change would be used for research and evaluation

purposes. They were also informed that the research department was evaluating the effectiveness of the intuitive eating intervention, but that because this intervention was a regular part of the treatment program it would not require anything extra from them. After patients were informed of their rights as a research participant and issues of confidentiality were discussed, each woman signed a consent form. Within the first week after patients were admitted to the inpatient unit, they completed a battery of assessment measures administered by either the unit nurse or one of two psychology technicians (described below). After transition to the residential treatment program and again at discharge, patients completed the post-treatment measures following the same procedure as at intake.

### ***Standardized outcome measures***

The standardized measures that were used to assess the outcomes of treatment included the Intuitive Eating Scale (IES; Hawks, Madanat, & Merrill, 2004), Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987; Rosen, Jones, Ramirez, & Waxman, 1996), Outcome Questionnaire (OQ-45.2; Lambert, Okiishi, Finch, & Johnson, 1998), and the Theistic Spiritual Outcome Survey (TSOS; Richards et al., 2007). We also administered an early version of Tylka's (2006) Intuitive Eating Scale, which yielded similar results to Hawkes et al.'s (2004) IES. Because the item pool we used for Tylka's scale did not correspond with a revised, improved version of Tylka's measure that was published after our study was completed (Tylka & Kroon Van Diest, 2013), we decided to only report our findings from the Hawkes IES.

Hawks et al.'s (2004) IES is a 30-item self-report questionnaire that was developed to measure intuitive eating behaviors. Evidence supporting the construct validity of the IES has been reported (e.g., Hawks et al., 2005, 2004; Hawks, Madanat, Smith, & Da La Cruz, 2008; Smith et al., 2010). Cronbach's alpha for the 30-item IES in the present study was .94. Because of concerns about somewhat low internal consistency reliabilities of the IES subscales, we focused our data analysis exclusively on the composite 30-item IES score (Hawks et al., 2004; Smith et al., 2010).

The EAT is a 40-item self-report measure that assesses symptoms associated with anorexia nervosa and bulimia nervosa (e.g., restricting, bingeing, purging) (Garner & Garfinkel, 1979). Evidence supporting the construct validity of the EAT has been reported among patients with anorexia nervosa (e.g., Garner & Garfinkel, 1979). Cronbach's alpha for the EAT in the present study was .93.

The BSQ is a 34-item measure that assesses concerns about body shape and feelings of self-consciousness and shame about one's body. Evidence

supporting validity of the BSQ has been reported among samples of patients with bulimia nervosa, patients in body image therapy, individuals identified as obese dieters, university undergraduates, occupational therapy students, university staff, and family planning clinic attenders (e.g., Cooper et al., 1987; Rosen et al., 1996). Cronbach's alpha for the BSQ in the present study was .97.

The OQ-45.2 is a 45-item outcome measure that assesses the severity of patients' psychological symptoms (i.e., anxiety, depression, and substance abuse), relationship conflict, and social role performance (Lambert et al., 1998). Evidence supporting the construct validity of the OQ-45.2 has been reported (e.g., Lambert et al., 1998). Cronbach's alpha for the OQ-45.2 in the present study was .92.

The TSOS is a 17-item questionnaire that assesses clients' perceptions of their spirituality from a theistic perspective, including their closeness to God, love for other people, and feelings of moral congruence and self-acceptance (Richards et al., 2007). Evidence supporting the construct validity of the TSOS has been reported (Richards et al., 2007). Cronbach's alpha for the TSOS in the present study was .88.

### ***Psychotherapists and dietician ratings***

Psychotherapists rated the overall health of their patients' attitudes toward food when each patient was transferred from the inpatient program into the residential program and when they were discharged from the residential program. Dieticians conducted a dietary assessment when patients were transferred from the inpatient to residential program and again immediately before they were discharged from the residential program. After conducting the dietary assessment, the dieticians rated each patient on five behavioral criteria: flexibility and variety of food choices; comfort eating with others; appropriate eating while on passes; using food to cope with emotions; and obsessing about food. Both the psychotherapists' and dieticians' ratings were made on a 4-point Likert scale, ranging from 1 (*disagree*) to 4 (*agree*).

### ***Statistical analyses***

*t*-tests were used to determine whether patients collectively improved on the EAT, BSQ, OQ-45.2, and TSOS from admission to discharge. Repeated-measures analysis of variance were used to determine whether patients in the three eating disorder diagnostic subgroups improved in their ability to eat intuitively as measured by the IES during the course of treatment from admission to residential treatment center (RTC) transition to discharge. Repeated-measures analysis of variance were also used to determine whether psychotherapists and dieticians perceived that patients' eating attitudes and

behaviors became healthier between the time of RTC transition to discharge from residential treatment. Effect sizes using Cohen's  $d$  were also computed in order to estimate the magnitude of the observed pre- to post-treatment changes. Finally, Pearson correlations were used to examine the relationship between improvements in intuitive eating measured by the IES and the other outcome measures described above.

## Results

The findings indicate that collectively the patients' scores on the outcome measures all improved significantly between the time of admission and the time of discharge from the treatment program. Changes on three of the measures were large and clinically significant: Eating Attitudes Test (Pre-test mean = 58.5, Post-test mean = 18.7),  $t(1,113) = 18.3$ ,  $p < .001$ ,  $d = 1.91$ ; Body Shape Questionnaire (Pre-test mean = 148.3, Post-test mean = 108.2),  $t(1,117) = 10.1$ ,  $p < .001$ ,  $d = 1.02$ ; Outcome Questionnaire (Pre-test mean = 95.9, Post-test mean = 60.7),  $t(1,115) = 13.7$ ,  $p < .001$ ,  $d = 1.40$ . Changes on the Theistic Spiritual Outcome Survey were moderate in size (Pre-test mean = 39.6, Post-test mean = 44.1),  $t(1,117) = -3.4$ ,  $p = .001$ ,  $d = 0.36$ . Patients' scores on all of these measures at the time of discharge fell into normal ranges, or close to it. Thus, at the time of discharge from treatment the eating disorder patients reported clinically significant improvements in eating disorder, psychological, relationship, social role, and spiritual symptoms and attitudes.

The findings presented in [Table 1](#) indicate that the Center for Change intuitive eating intervention and treatment program produced significant improvements in patients with eating disorders' ability to engage in intuitive eating behaviors and attitudes. The analysis of intuitive eating scores showed that the patients with eating disorders' scores significantly increased between the time they were admitted to the inpatient treatment program the time they were discharged from treatment,  $F(2, 108) = 51.0$ ,  $p < .001$ . The patients in each diagnostic group showed large and clinically significant increases in their ability to eat intuitively (the effect sizes were large and ranged from 1.45 to 1.65).

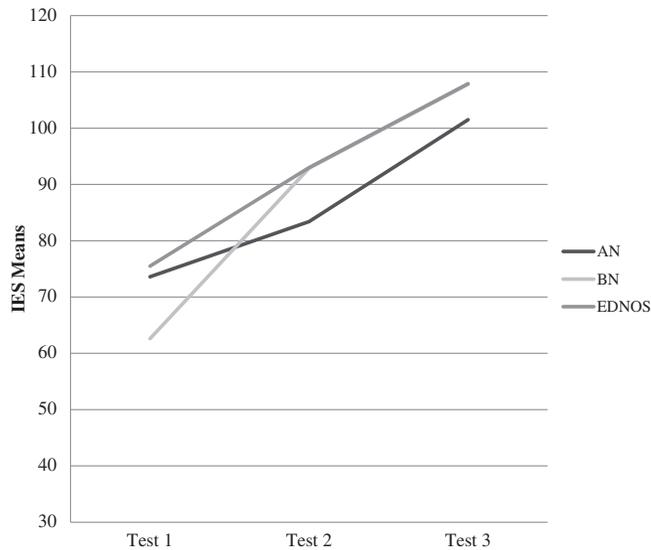
There was also a significant interaction effect between testing time and diagnostic category,  $F(2, 108) = 3.20$ ,  $p < .015$ , which indicates intuitive eating increased at different rates in the three diagnostic groups. [Figure 1](#) illustrates the interaction between mean intuitive eating scores and eating disorder diagnosis. Patients with bulimia nervosa had the lowest average intuitive eating score when admitted ( $M = 62.6$ ,  $SD = 20.5$ ) although they showed the greatest improvement at residential transition ( $M = 92.9$ ,  $SD = 24.5$ ) and discharge ( $M = 107.8$ ,  $SD = 33.0$ ). Patients with anorexia nervosa had a higher average admit intuitive eating score than patients with

**Table 1.** Comparisons by diagnosis in patients' intuitive eating scores from admission to RTC transition to discharge.

Measure	RTC						Statistics			
	Admission		Transition		Discharge		Effect size ( <i>d</i> )	<i>F</i>	<i>df</i>	<i>p</i>
Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>					
Intuitive Eating Scale										
All patients	69.3	22.1	89.6	22.9	104.6	25.7	1.44	51.0 <sup>a</sup>	1, 108	< .001
Anorexia nervosa	73.6	4.8	83.4	5.0	101.5	5.7	1.45	3.2 <sup>b</sup>	2, 108	.015
Bulimia nervosa	62.6	3.9	92.9	4.1	107.8	4.6	1.65	0.6 <sup>c</sup>	2, 108	.559
EDNOS	75.5	4.9	93.0	5.1	107.9	5.8	1.55			
Clinical assessment										
Healthy food attitudes										
All patients	n/a	n/a	1.80	0.77	2.46	0.72	0.91	96.3a	1, 110	.001
Anorexia nervosa	n/a	n/a	1.64	0.63	2.49	0.72	1.26	2.2b	2, 110	.114
Bulimia nervosa	n/a	n/a	2.04	0.74	2.56	0.73	0.71	2.5c	2, 110	.084
EDNOS	n/a	n/a	1.80	0.78	2.34	0.72	0.64			
Dietary assessments										
Eating flexibility*										
All patients	n/a	n/a	1.63	0.85	1.33	0.81	0.38	27.5a	1, 115	< .001
Anorexia nervosa	n/a	n/a	2.03	0.89	1.53	0.73	0.61	2.68b	2, 115	.073
Bulimia nervosa	n/a	n/a	1.28	0.71	1.09	0.78	0.25	7.56c	2, 115	.001
EDNOS	n/a	n/a	1.70	0.77	1.45	0.87	0.30			
Comfortable eating*										
All patients	n/a	n/a	1.97	1.01	1.41	0.89	0.59	53.3a	1, 115	< .001
Anorexia nervosa	n/a	n/a	2.47	0.81	1.69	0.89	0.92	2.59b	2, 115	.080
Bulimia nervosa	n/a	n/a	1.49	0.94	1.13	0.69	0.44	9.87c	2, 115	< .001
EDNOS	n/a	n/a	2.09	1.01	1.48	1.03	0.60			
Appropriate eating*										
All patients	n/a	n/a	1.41	0.83	1.18	0.65	0.31	11.7a	1, 115	.001
Anorexia nervosa	n/a	n/a	1.45	0.87	1.39	0.56	0.08	3.0b	2, 115	.054
Bulimia nervosa	n/a	n/a	1.32	0.79	1.15	0.62	0.24	0.92c	2, 115	.402
EDNOS	n/a	n/a	1.48	0.87	1.00	0.76	0.59			
Using food to cope										
All patients	n/a	n/a	2.00	0.59	2.20	0.76	0.29	10.6a	1, 115	.002
Anorexia nervosa	n/a	n/a	1.84	0.64	2.11	0.76	0.40	0.2b	2, 115	.803
Bulimia nervosa	n/a	n/a	2.11	0.52	2.28	0.71	0.27	1.5c	2, 115	.231
EDNOS	n/a	n/a	2.03	0.59	2.21	0.82	0.25			
Obsessing about food										
All patients	n/a	n/a	1.66	0.78	2.08	0.83	0.52	31.6a	1, 115	< .001
Anorexia nervosa	n/a	n/a	1.29	0.65	1.97	0.89	0.87	3.1b	2, 115	.050
Bulimia nervosa	n/a	n/a	2.02	0.71	2.26	0.77	0.32	7.1c	2, 115	.001
EDNOS	n/a	n/a	1.58	0.79	1.97	0.81	0.49			

Note. Interpretation: \*Lower scores on these measures means greater improvement; *p* = significant level. a = Testing time, b = Testing time x diagnosis, c = Between subjects (diagnostic groups).

bulimia nervosa ( $M = 73.6$ ,  $SD = 22.7$ ) and demonstrated modest improvement at residential transition ( $M = 83.4$ ,  $SD = 18.7$ ) and discharge ( $M = 101.5$ ,  $SD = 15.1$ ). Patients with EDNOS had the highest average intuitive eating scores when admitted ( $M = 75.5$ ,  $SD = 22.2$ ) and displayed steady improvement at residential transition ( $M = 93.0$ ,  $SD = 22.3$ ) and discharge ( $M = 107.9$ ,  $SD = 19.6$ ). These results reveal that while diagnosis appeared to be an important factor in the speed and overall level of progress achieved, all patients with eating disorder were able to enhance their intuitive eating skills.



**Figure 1.** Intuitive Eating Scale (IES) means for patients with anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS) at admission (test 1), residential transition (test 2), and treatment discharge (test 3).

Table 1 also reveals that psychotherapists' ratings of the patients' attitude toward food significantly changed during treatment,  $F(2, 110) = 96.3$ ,  $p < .001$ . This indicates the psychotherapists perceived that the patients' attitudes about food grew healthier during treatment (the effect size for all patients combined was large: 0.91). There was not a significant interaction effect between diagnosis and testing time on the psychotherapist ratings, which indicates the psychotherapists did not perceive any significant differences between patients in the three diagnostic groups in regards to the healthiness of their attitudes toward eating at the conclusion of treatment.

Dieticians also perceived that the patients' eating behaviors became healthier during the course of treatment on all five of the behavioral dimensions they assessed. Interestingly, the dieticians' ratings of patients' progress on the five behavioral dimensions were not as large compared to the psychotherapists' ratings of patients' attitudes toward food (effect sizes were mostly small to moderate and ranged from 0.08 to 0.92).

Finally, at the time patients were discharged from the treatment program, intuitive eating scores significantly associated with other indicators of positive treatment outcomes, including fewer eating disorder symptoms ( $r(119) = -.52$ ,  $p < .01$ ), body shape concerns ( $r(112) = -.36$ ,  $p < .01$ ), and psychological symptoms ( $r(110) = -.63$ ,  $p < .01$ ), and greater spiritual well-being ( $r(112) = .50$ ,  $p < .01$ ). That is, improvements in patients' ability to eat intuitively are associated with other important psychological, social, and spiritual indicators of patient outcomes.

## Discussion

The findings of our 2-year pilot study provide preliminary evidence that intuitive eating behaviors and attitudes can be taught and learned in an inpatient and residential eating disorder treatment program. That intuitive eating principles can be effectively taught in a highly structured treatment setting with many medical, nutritional, and psychological considerations may help allay concerns that principles of intuitive eating are beyond the capacity for women with severe eating disorders to learn and internalize. The psychotherapists and dieticians in our study perceived that patients were able to develop healthier attitudes toward food and eating and apply these attitudes to make healthier choices in their eating behavior.

The finding that patients with anorexia nervosa were able to develop intuitive eating skills is important. Some eating disorder treatment professionals have questioned whether patients with anorexia have the ability to learn to eat intuitively, but our study provides initial evidence that they do. Research has found that intuitive eating correlates with greater trust in the body's ability to monitor food requirements (Denny et al., 2013) and closer adherence to recommended levels of calorie consumption (Banks, 2008). This may be particularly helpful for anorexia patients as their "restriction of energy intake relative to requirements" involves a tendency to ignore the body's hunger cues (American Psychiatric Association [APA], 2013, p. 338).

Another interesting finding of our study was that patients with bulimia nervosa showed rapid progress in their ability to eat intuitively. During binge episodes, patients with bulimia nervosa have difficulty recognizing and responding to satiety cues (APA, 2013). Research has linked intuitive eating to decreases in bingeing episodes and increases in feelings of self-control (Denny et al., 2013; Kristeller et al., 2014; Smitham, 2011). As a result, patients with bulimia nervosa may especially benefit from the connection between intuitive eating and sensitivity to body signals.

Our study also provided evidence that improvements in patients' ability to eat intuitively is associated with other important indicators of healing and recovery, including reductions in eating disorder symptoms, depression, anxiety, and social conflict and improvements in body image and spiritual well-being. These findings are consistent with, and add to, previous experimental studies that have shown intuitive eating interventions help reduce disordered eating behaviors and attitudes, such as binge eating and chronic dieting (e.g., Bacon et al., 2005; Cole & Horacek, 2010; Healy et al., 2015; Humphrey et al., 2015; Kristeller et al., 2014; Schaefer & Magnuson, 2014; Shouse & Nilsson, 2011; Smitham, 2011). Although our correlational findings do not prove that intuitive eating principles and practices cause reductions in eating disorder and psychological symptoms, they do nevertheless provide some support for the idea that growing in one's capacity to eat intuitively can be one important aspect of eating disorder recovery.

### ***Limitations of the study***

There is a need for additional studies about the effectiveness of intuitive eating interventions that use true experimental research designs that employ control and comparison groups (randomized controlled trials or RCTs). Our single group, pre-test post-test experimental design was helpful as a pilot study for documenting that patients were able to learn and internalize intuitive eating principles and behaviors, and it also showed that improvements in intuitive eating are associated with improvements in other important treatment outcomes. But it was unable to prove that the intuitive eating intervention causally influenced other types of patient improvements. We hope that larger-scale randomized controlled research designs will be used in the future. Although randomized controlled trials are expensive to conduct and require major commitments of time from treatment facilities and staff, they are a valuable research design for helping establish an evidence base for new treatment approaches because they could provide stronger evidence that intuitive eating interventions causally influence patient improvement (American Psychological Association, 2006).

Our pilot study also did not enable us to learn whether an intuitive eating intervention is more effective than other methods for teaching patients to regulate their eating behavior in healthy ways. We recommend that future studies compare intuitive eating interventions with other nutrition approaches such as meal exchange or calorie intake programs. Our data also did not provide any empirical insight into differences between patients who showed large increases in intuitive eating and those who did not. Future research studies will need to address this.

Finally, we also were unable to conclusively rule out the possibility that demand characteristics influenced patients' responses to the intuitive eating measure (IES). Although the intuitive eating intervention was well-integrated into the overall treatment program—and both staff and patients knew that it was part of the regular treatment program, the patients were aware that the effectiveness of the intuitive eating intervention was being evaluated in a study by the research and clinical staff. Thus, it is possible that some patients wished to cooperate by responding in socially desirable ways to the IES. Despite these limitations, The present study provides preliminary evidence supporting the idea that intuitive eating may be an effective tool in the treatment and recovery of patients with eating disorder.

### ***Recommendations for clinical practice***

We now offer, based on our clinical experience, several guidelines that we have found helpful when teaching intuitive eating principles to patients who have severe eating disorders:

- (1) Intuitive eating should never be used as the immediate intervention and dietary model for medical stabilization and weight restoration. Re-nourishment of the brain and body based on a formal re-feeding schedule with structured meal plans is the initial intervention and of high priority. This is true for those suffering with anorexia, bulimia, binge eating disorder, and other mixed or varied eating disorders.
- (2) Intuitive eating is not intended to be a stand-alone treatment. It is always used as a developmental step that comes after success with structured dietary interventions. Patients can, however, begin learning about intuitive eating early in the process of treatment and be encouraged to practice intuitive eating skills at the level for which they are prepared. The exposure to the idea of intuitive eating gives patient's hope for more internal and independent dietary mastery in the future and something to work towards in the present.
- (3) Occasionally, patients who are early in the recovery process may misuse intuitive eating as a rationale or excuse for eating less than is needed to maintain proper nourishment of the brain and body. Intuitive eating should not be relied upon when patient attempts at eating are resulting in loss of proper nourishment or weight loss in underweight patients.
- (4) We recommend that intuitive eating be taught within a broader set of skills which include honoring hunger and fullness, honoring and respecting one's body and oneself, listening to and following the heart, increasing in awareness, presence, and understanding of self, and in making choices which are consistent with self-care and self-respect in their physical, emotional, and spiritual needs.
- (5) Teach patients that intuitive eating is a process. In the beginning, intuitive eating includes creating a breadth of choices in foods and flexibility in the kinds of food eaten. Making choices in food increases flexibility and decreases rigidity in allowed choices for patients. Eventually, intuitive eating goes beyond choice of food items and circumstance to achieving the skill and lifestyle of listening to and honoring the body.
- (6) Clinicians should recognize that while the majority of patients do well with intuitive eating, there is a subset of patients who will not respond well to this dietary plan and intervention. These patients will require a more structured approach during treatment and the early stages of recovery. While we may hope for intuitive eating as an acquired skill for our patients, the most important thing is that they are nourished back to health with an approach that helps them attain and maintain recovery from illness.

## Conclusion

Both our clinical experience and research findings suggest that there are many potential benefits of intuitive eating. Intuitive eating is not just a tactical approach, but a lifestyle based on the philosophy of honoring self which can persist throughout the life of the patient. Another advantage of intuitive eating is that it directs patients away from the rigidity and micromanagement of food that parallels the rigidity of the eating disorder illness itself. It also directs patients away from the extreme and incessant dieting that can trigger them back into their illness. The intuitive eating approach honors individuals and what they are capable of achieving, and it provides patients with an opportunity to change without the monitoring and pressure of an external locus of control. Finally, it provides hope for patients that someday they can become better at noticing, understanding, honoring, and providing what they need in order to take care of themselves physically and emotionally.

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## References

- American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- American Psychological Association. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*, 271–285. doi:10.1037/0003-066X.61.4.271
- Anderson, L. M., Reilly, E. E., Schaumberg, K., Dmochowski, S., & Anderson, D. A. (2016). Contributions of mindful eating, intuitive eating, and restraint to BMI, disordered eating, and meal consumption in college students. *Eating and Weight Disorders—Studies on Anorexia, Bulimia and Obesity*, *21*(1), 83–90. doi:10.1007/s40519-015-0210-3
- Bacon, L., Stern, J. S., Van Loan, M. D., & Keim, N. L. (2005). Size acceptance and intuitive eating improve health for obese, female chronic dieters. *Journal of the American Dietetic Association*, *105*(6), 929–936. doi:10.1016/j.jada.2005.03.011
- Banks, A. W. (2008). *Nutritional analyses of intuitive eaters as compared to dieters*. All Graduate Theses and Dissertations. Paper 100. Logan, UT: Utah State University. Retrieved from <http://digitalcommons.usu.edu/etd/100>
- Bruce, L. J., & Ricciardelli, L. A. (2016). A systematic review of the psychosocial correlates of intuitive eating among adult women. *Appetite*, *96*, 454–472. doi:10.1016/j.appet.2015.10.012
- Cadena-Schlam, L., & López-Guimerà, G. (2015). Intuitive eating: An emerging approach to eating behavior. *Nutricion Hospitalaria*, *31*, 995–1002. doi:10.3305/nh.2015.31.3.7980
- Camilleri, G. M., Méjean, C., Bellisle, F., Andreeva, V. A., Kesse-Guyot, E., Hercberg, S., ... Péneau, S. (2016). Intuitive eating is inversely associated with body weight status in the general population-based NutriNet-Santé study. *Obesity*, *24*, 1154–1161. doi:10.1002/oby.21440

- Cole, R. E., & Horacek, T. (2010). Effectiveness of the “My Body Knows When” intuitive-eating pilot program. *American Journal of Health Behavior*, 34(3), 286–297. doi:10.5993/AJHB.34.3.4
- Cooper, P., Taylor, M., Cooper, Z., & Fairburn, C. (1987). The development and validation of the body shape questionnaire. *International Journal of Eating Disorders*, 6, 485–494. doi:10.1002/1098-108X(198707)6:4<485::AID-EAT2260060405>3.0.CO;2-O
- Denny, K. N., Loth, K., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Intuitive eating in young adults. Who is doing it, and how is it related to disordered eating behaviors? *Appetite*, 60, 13–19. doi:10.1016/j.appet.2012.09.029
- Garner, D., & Garfinkel, P. (1979). The eating attitudes test: An index of the symptoms of anorexia nervosa. *Psychological Medicine*, 9, 273–279. doi:10.1017/S0033291700030762
- Hawks, S., Madanat, H., Hawks, J., & Harris, A. (2005). The relationship between intuitive eating and health indicators among college women. *American Journal of Health Education*, 36, 331–336. doi:10.1080/19325037.2005.10608206
- Hawks, S. R., Madanat, H., Smith, T., & De La Cruz, N. (2008). Classroom approach for managing dietary restraint, negative eating styles, and body image concerns among college women. *Journal of American College Health*, 56, 359–366. doi:10.3200/JACH.56.44.359-368
- Hawks, S. R., Madanat, H. N., & Merrill, R. M. (2004). The intuitive eating scale: Development and preliminary validation. *American Journal of Health Education*, 35, 90–99. doi:10.1080/19325037.2004.10603615
- Healy, N., Joram, E., Matvienko, O., Woolf, S., & Knesting, K. (2015). Impact of an intuitive eating education program on high school students’ eating attitudes. *Health Education*, 115, 214–228. doi:10.1108/HE-03-2014-0043
- Humphrey, L., Clifford, D., & Neyman Morris, M. (2015). Health at every size college course reduces dieting behaviors and improves intuitive eating, body esteem, and anti-fat attitudes. *Journal of Nutrition Education and Behavior*, 47, 354–360. doi:10.1016/j.jneb.2015.01.008
- Kristeller, J., Wolever, R. Q., & Sheets, V. (2014). Mindfulness-based eating awareness training (MB-EAT) for binge eating: A randomized clinical trial. *Mindfulness*, 5, 282–297. doi:10.1007/s12671-012-0179-1
- Lambert, M. J., Okiishi, J. C., Finch, A. E., & Johnson, L. D. (1998). Outcome assessment: From conceptualization to implementation. *Professional Psychology: Research and Practice*, 29, 63–70. doi:10.1037/0735-7028.29.1.63
- Marek, R. J., Ben-Porath, D. D., Federici, A., Wisniewski, L., & Warren, M. (2013). Targeting premeal anxiety in eating disordered clients and normal controls: A preliminary investigation into the use of mindful eating vs. distraction during food exposure. *International Journal of Eating Disorders*, 46, 582–585. doi:10.1002/eat.22152
- Outland, L. (2010). Intuitive eating: A holistic approach to weight control. *Holistic Nursing Practice*, 24, 35–43. doi:10.1097/HNP.0b013e3181c8e560
- Richards, P. S., Smith, T. B., Schowalter, M., Richard, M., Berrett, M. E., & Hardman, R. K. (2007). Development and validation of the theistic spiritual outcome survey. *Psychotherapy Research*, 17, 643–655. doi:10.1080/10503300500091405
- Rosen, J. C., Jones, A., Ramirez, E., & Waxman, S. (1996). Body shape questionnaire: Studies of validity and reliability. *International Journal Of Eating Disorders*, 20, 315–319. doi:10.1002/(ISSN)1098-108X
- Schaefer, J. T., & Magnuson, A. B. (2014). A review of interventions that promote eating by internal cues. *Journal of the Academy of Nutrition & Dietetics*, 114, 734–760. doi:10.1016/j.jand.2013.12.024
- Shouse, S. H., & Nilsson, J. (2011). Self-silencing, emotional awareness, and eating behaviors in college women. *Psychology of Women Quarterly*, 35, 451–457. doi:10.1177/0361684310388785

- Smith, M. H., Tylka, T. L., Madanat, H., Passmore, K., Richards, P. S., & Hawks, S. R. (2010, June). *Validation of two intuitive eating scales among females receiving inpatient eating disorder treatment*. Poster presentation at International Conference on Eating Disorders (ICED) of the Academy for Eating Disorders (AED), Salzburg, Austria.
- Smith, T., & Hawks, S. R. (2006). Intuitive eating, diet composition, and the meaning of food in healthy weight promotion. *American Journal of Health Education*, 37, 130–136. doi:[10.1080/19325037.2006.10598892](https://doi.org/10.1080/19325037.2006.10598892)
- Smitham, D. A. (2011). Evaluating an intuitive eating program for binge eating disorder: A benchmarking study. *Dissertation Abstracts International*, 72, 1807.
- Spoor, K. D., & Madanat, H. (2016). Relationship between body image discrepancy and intuitive eating. *International Quarterly of Community Health Education*, 36, 189–197. doi:[10.1177/0272684X16641847](https://doi.org/10.1177/0272684X16641847)
- Tribole, E., & Resch, E. (2003). *Intuitive eating: A revolutionary program that works* (2nd ed.). New York, NY: St. Martins.
- Tylka, T. L. (2006). Development and psychometric evaluation of a measure of intuitive eating. *Journal of Counseling Psychology*, 53, 226–240. doi:[10.1037/0022-0167.53.2.226](https://doi.org/10.1037/0022-0167.53.2.226)
- Tylka, T. L., Calogero, R. M., & Daníelsdóttir, S. (2015). Is intuitive eating the same as flexible dietary control? Their links to each other and well-being could provide an answer. *Appetite*, 95, 166–175. doi:[10.1016/j.appet.2015.07.004](https://doi.org/10.1016/j.appet.2015.07.004)
- Tylka, T. L., & Kroon Van Diest, A. M. (2013). The Intuitive Eating Scale–2: Item refinement and psychometric evaluation with college women and men. *Journal of Counseling Psychology*, 60, 137–153. doi:[10.1037/a0030893](https://doi.org/10.1037/a0030893)
- Tylka, T. L., & Wilcox, J. A. (2006). Are intuitive eating and eating disorder symptomatology opposite poles of the same construct? *Journal of Counseling Psychology*, 53, 474–485. doi:[10.1037/0022-0167.53.4.474](https://doi.org/10.1037/0022-0167.53.4.474)
- Van Dyke, N., & Drinkwater, E. J. (2014). Review article relationships between intuitive eating and health indicators: Literature review. *Public Health Nutrition*, 17, 1757–1766. doi:[10.1017/S1368980013002139](https://doi.org/10.1017/S1368980013002139)