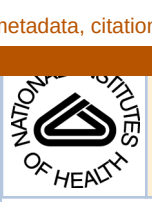



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# Eating Expectancies in Relation to Eating Disorder Recovery

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## Abstract

This study examined the relation between eating expectancies, assessed via the Eating Expectancy Inventory, and eating disorder recovery. Individuals formerly seen for an eating disorder were categorized as having an active eating disorder ($n$ = 53), as partially recovered ($n$ = 15), or as fully recovered ($n$ = 20). The expectancies of these groups were compared to each other and to 67 non-eating disorder controls. Results revealed that three of the five eating expectancies differed across groups. Non-eating disorder controls and fully recovered individuals endorsed similar levels of the expectancies that eating helps manage negative affect, eating is pleasurable and useful as a reward, and eating leads to feeling out of control. Partially recovered individuals looked more similar to active eating disorder cases on these expectancies. The other two expectancies did not differ across groups. Results provide some indication that certain eating expectancies may be associated with eating disorder recovery.

### Keywords

eating expectancies; expectancy theory; eating disorders; eating disorder recovery

What do people believe they will get out get out of eating? This question underscores the relevance of expectancies as related to eating and is of particular interest in relation to eating disorders. The notion of expectancies broadly refers to learned associations between behaviors and their consequences that are stored in memory and that affect future behavior (Tolman, 1932). With respect to eating, expectancies represent the culmination of one's learning history as related to eating (Combs, Smith, & Simmons, 2011) and act as primary cognitive mechanisms that guide one's future eating behaviors (Dingemans, Martijn, van Furth, & Jansen, 2009).

Expectancies about eating have been found to play an important role in both the etiology and maintenance of eating pathology (e.g., Bohon, Stice, & Burton, 2009; Hohlstein, Smith, & Atlas, 1998). For example, eating disorder symptoms can be understood in part as extreme eating behaviors that are thought to stem from extreme and/or unusual learning histories (e.g., Combs et al., 2011; Hohlstein et al., 1998), and eating expectancies have been found to predict later disordered eating (e.g., Smith, Simmons, Flory, Annus, & Hill, 2007). Eating expectancies may also play a role in eating disorder maintenance. For instance, Bohon et al. (2009) found that strongly holding the expectation that food is rewarding predicted greater time to remission from binge eating among those with bulimia nervosa (BN). Given the role that eating expectancies have been found to play in both the etiology and maintenance of

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eating disorders, it is important to consider how such expectancies are related to eating disorder recovery. However, to the authors' knowledge, the relation between beliefs regarding the consequences of eating and eating disorder recovery has yet to be examined. Perhaps having eating expectancies that are similar to those with no eating disorder history is essential to achieving *full* eating disorder recovery. Or, perhaps even for recovered individuals, vestiges of eating expectancies that were present during the eating disorder remain. The goal of the present study was to examine similarities and differences in the eating expectancies of non-eating disorder controls and former eating disorder patients at different stages of recovery (i.e., full recovery, partial recovery, active eating disorder).

Hohlstein and colleagues (1998) conceptualized eating expectancies as being primarily negatively or positively reinforcing. To assess these expectancies, they developed the Eating Expectancy Inventory (EEI), which measures differences in what individuals have learned regarding the reinforcement they can expect from eating. Expectancies related to negative reinforcement reflect the expectation that eating will reduce negative emotional experiences; the two relevant subscales of the EEI are the Eating Helps Manage Negative Affect and the Eating Alleviates Boredom subscales. Expectancies related to positive reinforcement reflect the expectation that eating will aid in increasing pleasant stimuli; the two relevant subscales of the EEI are the Eating is Pleasurable and Useful as a Reward and Eating Enhances Cognitive Competence subscales. Lastly, individuals who engage in binge eating often report expecting that eating will lead to feeling out of control (Hohlstein et al., 1998), which does not necessarily reflect either positive or negative reinforcement per se. This expectation is assessed via the Eating Leads to Feeling Out of Control subscale of the EEI.

Some research has indicated that these eating expectancies may differentially relate to different types of eating pathology (Hohlstein et al., 1998; Simmons, Smith, & Hill, 2002). However, due to the complete dearth of work on eating expectancies in relation to eating disorder recovery, the transdiagnostic theory of eating disorders which posits that eating disorder diagnoses are more similar than different (Fairburn, Cooper, & Shafran, 2003), and the instability of eating disorder diagnostic categories with movement from one to another common (e.g., Fairburn & Harrison, 2003), this study examined expectancies in groups that were categorized by stage of recovery, without differentiating groups by type of eating disorder diagnosis. In particular, we focused on examining eating expectancies among those at different stages of eating disorder recovery in a sample with an eating disorder history (anorexia nervosa (AN), BN, and/or eating disorder not otherwise specified (EDNOS)), with a specific interest in the expectancies of those recovered according to physical, behavioral, and psychological indices (i.e., full eating disorder recovery). Those fully recovered were compared to individuals currently diagnosed with an eating disorder, individuals partially recovered (i.e., physically and behaviorally recovered, but not psychologically recovered – e.g., still thinking a great deal about food), and a non-eating disorder control group. Thus, in the current study, we conceptualized eating disorder recovery along progressive and differentiated stages of recovery: from those currently diagnosed with an eating disorder, to those partially recovered, to those fully recovered. We hypothesized that individuals who were fully recovered would report expectancies more similar to those of the non-eating disorder control group than to individuals who were partially recovered or those who met criteria for an active eating disorder. Of note, more information on how full and partial eating disorder recovery were defined is included in the Method.

We believe that if an individual is psychologically recovered from an eating disorder, this will have some effect on her eating expectancies. In particular, if a person is no longer thinking as much about or placing as much importance on eating and the body, it is believed that the expectancies she has for eating will more closely resemble those of an individual without an eating disorder than someone with an active eating disorder. In contrast, for an

individual who is physically and behaviorally but not psychologically recovered, it is expected that her eating expectancies will resemble those of someone with an active eating disorder, given that she is still very much in an "eating disorder mindset." That is, because her thoughts may still revolve around food, weight, and shape and because thinness may still be very important to her, it is purported that what she expects she will get out of eating will be similar to what someone with an eating disorder expects she will get out of eating. Alternatively, it is possible that changes in eating expectancies could have an influence on an individual's level of eating disorder recovery. For example, if an individual begins viewing food more as fuel and less as something that aids in managing negative affect, this may help distance the individual from an eating disorder mindset.

## Method

### Participants and Recruitment

Attempts were made to contact all current and former female eating disorder patients (ages 16 and older) seen at the University of Missouri Pediatric and Adolescent Specialty Clinic ($N = 273$) between 1996 and 2007, the year of data collection. This clinic is a primary care and referral clinic specializing in the care of children and adolescents (ages 10–25 years) that has physicians with expertise in eating disorders. Of the 273 eating disorder patients, 96 (35.2%) were successfully contacted and recruited. Fifty-five (20.1%) of the 273 were contacted but did not participate due to other time commitments or lack of interest. Of the remaining patients, four (1.5%) were deceased and 118 patients (43.2%) could not be contacted due to absent or incorrect mailing addresses or inability to make phone contact. These rates are fairly comparable to those of other studies doing a first follow-up of eating disorder patients over a range of about 10 years (Reas, Williamson, Martin, & Zucker, 2000; Yackobovitch-Gavan et al., 2009), and results indicated that participants were not significantly different from non-participants on clinical variables such as eating disorder diagnoses, age, or body mass index (BMI) at first clinic visit. In sum, of the 151 eating disorder patients we were able to contact, 96 (63.6%) participated. Non-eating disorder controls were recruited from two sources: the clinic from which the eating disorder patients were recruited ($n = 17$) and introductory psychology courses on the university campus ($n = 50$) (i.e., 67 control participants in total). All eligible controls were females ages 16 and older with no current or past eating disorder symptoms, which was assessed via both a phone screen and a diagnostic interview (described below).

Participants ranged in age from 16 to 40 years ($M = 21.78$ years, $SD = 4.28$), with most identifying as Caucasian (91.6%), 1.3% as African American, 1.9% as Asian, and 5.0% as biracial/biethnic. In terms of socio-economic status, participants' highest levels of parental education ranged from 11 to 21 years ($M = 16.60$ years, $SD = 2.73$). The groups were similar in terms of ethnicity and socio-economic status, but differed in age ($F(3, 151) = 15.44$, $p < .001$), with non-eating disorder controls significantly younger than the eating disorder groups (non-eating disorder controls: $M = 19.46$ years, $SD = 1.88$; fully recovered: $M = 24.55$ years, $SD = 4.89$; partially recovered: $M = 23.53$ years, $SD = 5.80$; active eating disorder: $M = 23.18$ years, $SD = 4.39$). Because of the group differences in age, results with age covaried are reported, although including age as a covariate or not resulted in the same pattern of significance with one exception (noted in the Results).

### Study Procedures

After providing written consent, all participants first completed the same set of questionnaires and then, typically about one week later, an interview that included a diagnostic clinical interview. Participants were provided financial remuneration (or, in the

case of the introductory psychology students, course credit) after completing the interview. All aspects of this study were approved by the university's institutional review board.

## Measures

**Eating Expectancies—**Eating expectancies were assessed using the Eating Expectancy Inventory (EEI; Hohlstein et al., 1998). The EEI is a 34-item self-report measure that assesses participants' cognitive expectancies for reinforcement from eating (Hohlstein et al., 1998). Participants indicate how much they agree with each expectation about eating on a 7-point scale ranging from 1 (*completely disagree*) to 7 (*completely agree*). The measure is composed of five subscales: Eating Helps Manage Negative Affect (e.g., "Eating can help me bury my emotions when I don't want to feel them"), Eating Alleviates Boredom (e.g., "Eating is something to do when you feel bored"), Eating Is Pleasurable and Useful as a Reward (e.g., "Eating is fun and enjoyable"), Eating Enhances Cognitive Competence (e.g., "Eating helps me work better"), and Eating Leads to Feeling Out of Control (e.g., "When I eat, I often feel I am not in charge of my life"). Internal consistency for the subscales has been found to range from .78 to .94 in a sample of undergraduate women (Hohlstein et al., 1998). Additionally, the EEI has been found to correlate with measures of eating disorder symptomatology and to distinguish between those with an eating disorder and psychiatric and non-psychiatric controls, providing evidence of construct validity (Hohlstein et al., 1998). Please see Table II for alphas for the five subscales for each of the eating disorder status groups.

**Measures Used to Define Eating Disorder Status—**Measures and conceptualizations related to eating disorder recovery followed guidelines proposed by Bardone-Cone et al. (2010). To determine whether criteria for a current eating disorder were met, we used the Structured Clinical Interview for DSM-IV, Patient Edition (SCID; First, Spitzer, Gibbon, & Williams, 1995) and determined diagnoses of AN – excluding the amenhorrea requirement, BN, and EDNOS. To determine physical recovery, we measured weight and height after the interview to compute BMI; for the minority who did not complete the interview in person, we used self-reported weight and height to compute BMI. To determine behavioral recovery (i.e., no binge eating, purging, or fasting in the past three months), we used portions of the Eating Disorders Longitudinal Interval Follow-up Evaluation Interview (LIFE EAT II; Herzog et al., 1993 – a semi-structured interview) to ask, week by week, about these behaviors over the past three months. To determine psychological recovery, we used the Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 1994). The EDE-Q is a well-validated self-report measure with 36 items that assesses disordered eating thoughts and behaviors over the past four weeks, yielding four subscales: Restraint (attempts to restrict food intake), Eating Concern (feeling guilty and concerned about eating), Weight Concern (dissatisfaction with and overvaluation of weight), and Shape Concern (dissatisfaction with and overvaluation of shape).

## Defining Eating Disorder Recovery

Based on data from the SCID, the LIFE EAT II, the EDE-Q, and BMI, participants were categorized into one of four groups: non-eating disorder controls, fully recovered eating disorder, partially recovered eating disorder, or active eating disorder. Non-eating disorder controls ($n = 67$) had no history of an eating disorder, and active eating disorder cases ($n = 53$) had a current eating disorder diagnosis (AN, BN, or EDNOS). Of the active eating disorder group, 17% currently had AN, 6% had BN, and 77% had EDNOS, most with bulimic-type presentations. As recommended by Couturier and Lock (2006) and as illustrated and validated in Bardone-Cone et al. (2010), we combined physical, behavioral, and psychological indices to assess recovery. The fully recovered group ($n = 20$) comprised women without a current eating disorder who had a BMI of at least 18.5 $kg/m^2$, reported no

binge eating, purging, or fasting in the prior three months, and scored within 1 standard deviation (*SD)* of age-matched community norms on each of the EDE-Q subscales (Mond, Hay, Rodgers, & Owen, 2006). Of the fully recovered group, 55% met criteria for lifetime AN, 35% met criteria for lifetime BN, and 35% met criteria for lifetime EDNOS. Individuals were considered partially recovered ($n = 15$) if they met all the criteria of full recovery except for psychological recovery (i.e., at least one EDE-Q subscale greater than 1 *SD* of age-matched norms). Of the partially recovered group, 73% met criteria for lifetime AN, 27% met criteria for lifetime BN, and 13% met criteria for lifetime EDNOS. Of note, eight of the study participants did not meet criteria for a current eating disorder or either definition of recovery (i.e., partial or full) and were excluded from the group comparison analyses; these eight individuals are not included in the *n*'s listed above. These were primarily individuals who had reported some (though minimal) binge eating or purging, typically once or twice in the past three months.

## Results

The correlations among the EEI subscales for both those with an eating disorder history ($n = 96$) and non-eating disorder controls ($n = 67$) are presented in Table I. Comparing strengths of correlations across groups, the only difference that emerged was for the relationship between the expectancies that eating helps manage negative affect and eating enhances cognitive competence ($Z = 3.17$, $p = .002$); this was significant for the non-eating disorder controls ($r = .59$, $p < .001$), but not for those with an eating disorder history ($r = .16$, $p = .122$).

Because we wished to test for differences across the groups on all of the subscales of the EEI while controlling for age, multivariate analysis of covariance (MANCOVA) was used with the five EEI subscales as a set of dependent variables and age as a covariate. The MANCOVA revealed that after controlling for age, the EEI subscales significantly varied across groups, $F(18, 411) = 8.48$, Wilks' Lambda = .41, $p < .001$, partial $\eta^2 = .26$. To further examine the nature of these group differences, univariate tests controlling for age were conducted (see Table II). Fully recovered individuals and non-eating disorder controls had statistically similar levels of all five eating expectancies. In the case of the Eating Helps Manage Negative Affect subscale, the fully recovered individuals and non-eating disorder controls had scores that were significantly *lower* than those with an active eating disorder. In the case of the Eating is Pleasurable and Useful as a Reward subscale, the fully recovered individuals and non-eating disorder controls had scores that were significantly *higher* than those with an active eating disorder. The scores of the non-eating disorder controls were also significantly higher than those of the partially recovered individuals; however, when age was not included as a covariate, this difference was not significant ($p = .107$). In the case of the Eating Leads to Feeling Out of Control subscale, the scores of the fully recovered individuals and non-eating disorder controls were significantly *lower* than both partially recovered individuals and those with an active eating disorder, who did not differ on this subscale. Group differences did not emerge for the Eating Alleviates Boredom and Eating Enhances Cognitive Competence subscales.

## Discussion

Results indicated that three of the five eating expectancies measured by the EEI differed across stages of recovery from an eating disorder. Individuals who were fully recovered from an eating disorder (i.e., on physical, behavioral, and psychological dimensions) looked like non-eating disorder controls with regard to a type of negative reinforcement expectancy (similarly low on Eating Helps Manage Negative Affect), a type of positive reinforcement expectancy (similarly high on Eating is Pleasurable and Useful as a Reward), and in terms of

low expectancies that eating leads to feeling out of control. These results are encouraging given that research has indicated that addressing cognitive biases, such as maladaptive expectations regarding eating, is an important part of working toward recovery from an eating disorder (e.g., Williamson, Muller, Reas, & Thaw, 1999). In contrast, partially recovered individuals looked very similar to those with an active eating disorder on these expectancies. Thus, endorsing these expectancies at levels similar to those with an active eating disorder is associated with a lack of psychological eating disorder recovery even among those recovered on physical and behavioral dimensions.

Compared to individuals with an active eating disorder, individuals in the fully recovered group were less likely to expect eating to reduce negative affect and more likely to expect eating to be pleasurable. These results are in line with and extend previous research that has found eating disorder symptomatology to be associated with increased levels of negative reinforcement eating expectancies and decreased levels of positive reinforcement eating expectancies (Bruce, Mansour, & Steiger, 2009; Simmons, et al., 2002). Individuals in the fully recovered group endorsed lower levels of the expectancy that eating would lead to out of control feelings compared to those in the partial recovery and active eating disorder groups. Meanwhile, the partially recovered group had similar expectancies as those with a current eating disorder in terms of linking eating to feeling out of control. This replicates previous findings, which found that endorsement of this expectation was tied with eating pathology (Bruce et al., 2009; Hohlstein et al., 1998). This finding further extends prior work by revealing that even among individuals who may look recovered (i.e., not underweight, no disordered eating), an expectancy that eating leads to, presumably aversive, out of control feelings may remain, perhaps represented among some as subjective binge eating (i.e., out-of-control eating episodes that are not objectively large). Of note, the expectancy related to control was the only expectancy that significantly differentiated the fully recovered group from *both* the partially recovered and active eating disorder groups. Thus, this particular expectancy may be especially important to address in treatment given that it may be a marker of full versus partial recovery.

Results of the current study indicated that groups did not significantly differ on eating expectancies related to beliefs that eating would decrease boredom or increase cognitive competence. However, previous research suggests that these expectancies may be at least somewhat tied to eating pathology. For example, Hohlstein et al. (1998) found that individuals with BN endorsed higher levels of the Eating Alleviates Boredom expectancy than those with AN, psychiatric controls, or non-psychiatric controls and that individuals with BN, psychiatric controls, and non-psychiatric controls endorsed higher levels of the Eating Enhances Cognitive Competence expectancy than those with AN. Further, Bruce et al. (2009) found that while individuals with BN and controls exhibited similar levels of the Eating Enhances Cognitive Competency expectancy, individuals with BN endorsed higher levels of the Eating Alleviates Boredom expectancy than controls. The results of the current study, however, suggest that these two eating expectancies may not be as closely tied with eating disorder recovery as the other three expectancies measured by the EEI.

This study contributes to the existing literature on eating expectancies and eating pathology by examining these expectancies in relation to eating disorder recovery and by using a comprehensive definition of recovery, which acknowledges the importance of psychological functioning and allows for a delineation between fully and partially recovered individuals. Additional strengths include the use of a diagnostic interview, the recruitment through a primary care facility, and the criteria used for non-eating disorder controls, which avoided comparisons against a “super healthy” and likely unrepresentative group (Klump et al., 2004).

One limitation of the current study is that we were unable to contact a significant minority of individuals for a variety of reasons, which included last name changes after marriage and cellular phone numbers, which are not recorded in a public registry. While no significant differences were found between participants and non-participants on relevant eating disorder measures from clinic charts (e.g., diagnoses, BMI at start of treatment), these groups could have differed on other unmeasured constructs that may have introduced bias. The cross-sectional design, the relatively small sample size (particularly of the partially recovered group), and the use of non-eating disorder controls that were significantly younger than the rest of our sample were also limitations, although controlling for age generally yielded the same pattern of results as when age was not controlled for. Finally, not distinguishing recovery groups by history of diagnosis (AN, BN, and/or EDNOS) is a limitation given some evidence that the endorsement of different eating expectancies may vary by diagnosis (e.g., Hohlstein et al., 1998). For various reasons (e.g., small group sample sizes, diagnostic migration), the nature of the current sample prevented the meaningful examination of eating expectancies jointly across diagnostic categories and recovery categories. However, given that such migration across eating disorder diagnostic categories is common (Tozzi et al., 2005) and the transdiagnostic perspective that highlights eating disorders' similarities and "core psychopathology" (Fairburn et al., 2003), examining eating expectancies across combined diagnostic groups in relation to recovery may be conceptually appropriate in this case.

This study's expectancy findings prompt future research endeavors. Given significant group differences for broad negative reinforcement expectancies but no differences on negative reinforcement specific to boredom, future research may want to "dismantle" negative affect to identify for which affective experiences expectancies are most tenacious (e.g., eating helps manage sadness, anxiety, loneliness, etc.). Research should also incorporate personality traits into models of eating expectancies and recovery. For example, given findings that women who exhibited both high levels of trait urgency and elevated expectancies that eating reduces negative affect reported the highest levels of binge eating (Fischer, Anderson, & Smith, 2004), future research should consider trait urgency as a moderator between negatively reinforcing eating expectancies and recovery.

Regarding clinical implications, expectancies related to eating decreasing negative affect, not being a pleasurable experience, and leading to feeling out of control may be useful targets in interventions aimed to help individuals recover from eating disorder. For instance, clinicians may wish to use cognitive restructuring with their clients to help make them more aware of and better able to challenge the biases present in their thinking about the consequences of eating. Using this strategy, maladaptive thoughts about eating can be identified, challenged, and replaced with more balanced ways of thinking (e.g., there are some foods I enjoy more than others) (Williamson et al., 1999). Also, by examining the negative and positive reinforcing properties of eating, the clinician can work with the client to identify more appropriate ways to obtain desired goals (e.g., talk with a friend or take a walk to alleviate negative affect rather than turn to food).

In conclusion, the current study examined how eating expectancies differ across stages of recovery from an eating disorder. Our results indicate that for individuals attaining full recovery, including physical, behavioral, and psychological components, levels of expectancies regarding eating are comparable to those of non-eating disorder controls. Given the cross-sectional design of the current research, longitudinal data are required in order to establish a causal relationship between eating expectancies and recovery. Nonetheless, this study provides some indication that certain expectancies about eating, namely expectancies related to eating helping to manage negative affect, being pleasurable

and useful as a reward, and leading to feeling out of control, may be associated with eating disorder recovery.

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**Table 1**

Correlations Among and Means and Standard Deviations of the Subscales of the Eating Expectancy Inventory Among Those with an Eating Disorder History (n = 96) and Non-Eating Disorder Controls (n = 67)

| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| 1. Eating Helps Manage Negative Affect | - | .46*** | .49*** | .59***[a] | .17 | EDh: *M* = 52.23, *SD* = 27.72 C: *M* = 44.07, *SD* = 18.82 |
| 2. Eating Alleviates Boredom | .65*** | - | .25* | .23 | .19 | EDh: *M* = 15.05, *SD* = 6.99 C: *M* = 15.64, *SD* = 5.13 |
| 3. Eating is Pleasurable and Useful as a Reward | .35*** | .41*** | - | .36** | −.10 | EDh: *M* = 24.75, *SD* = 9.36 C: *M* = 29.40, *SD* = 6.34 |
| 4. Eating Enhances Cognitive Competence | .16[a] | .10 | .30** | - | .01 | EDh: *M* = 7.49, *SD* = 3.63 C: *M* = 7.78, *SD* = 3.65 |
| 5. Eating Leads to Feeling Out of Control | .40*** | .27** | −.36*** | −.19 | - | EDh: *M* = 16.96, *SD* = 7.77 C: *M* = 7.24, *SD* = 3.99 |

*Note.* EDh = eating disorder history. C = non-eating disorder controls. Variables are continuous, with higher values reflecting higher levels of the construct. Possible ranges for the subscale scores are as follows: Eating Helps Manage Negative Affect (18–126), Eating Alleviates Boredom (4–28), Eating is Pleasurable and Useful as a Reward (6–42), Eating Enhances Cognitive Competence (2–14), Eating Leads to Feeling Out of Control (4–28). Correlations for those with an eating disorder history are below the diagonal, and correlations for non-eating disorder controls are above the diagonal.

*$p < .05$.

**$p < .01$.

***$p < .001$.

[a]Strength of the

**Table II**

Comparison of Eating Expectancy Inventory (EEI) Subscales Across Eating Disorder Status Groups Controlling for Age

| | Non-Eating Disorder Controls (*n* = 67) | Fully Recovered (*n* = 20) | Partially Recovered (*n* = 15) | Active Eating Disorder (*n* = 53) | Significance | Pairwise Comparisons |
|---|---|---|---|---|---|---|
| Eating Helps Manage Negative Affect | 44.07 (18.82)<br>*.92* | 36.20 (19.22)<br>*.96* | 49.20 (25.46)<br>*.96* | 58.77 (29.05)<br>*.97* | $F(3, 150) = 5.54$; $p = .001$<br>partial $\eta^2 = .10$ | C < AED FRED < AED |
| Eating Alleviates Boredom | 15.64 (5.13)<br>*.72* | 13.45 (6.50)<br>*.82* | 13.87 (7.54)<br>*.93* | 15.45 (7.16)<br>*.87* | $F(3, 150) = .72$; $p = .541$<br>partial $\eta^2 = .01$ | -- |
| Eating is Pleasurable and Useful as a Reward | 29.40 (6.34)<br>*.80* | 29.25 (6.44)<br>*.79* | 24.20 (9.69)<br>*.92* | 22.70 (9.69)<br>*.90* | $F(3, 150) = 7.28$; $p < .001$<br>partial $\eta^2 = .13$ | C > PRED, AED FRED > AED |
| Eating Enhances Cognitive Competence | 7.78 (3.65)<br>*.91* | 8.65 (3.27)<br>*.76* | 7.93 (3.39)<br>*.66* | 6.83 (3.86)<br>*.87* | $F(3, 150) = 1.55$; $p = .204$<br>partial $\eta^2 = .03$ | -- |
| Eating Leads to Feeling Out of Control | 7.24 (3.99)<br>*.86* | 8.20 (3.75)<br>*.69* | 17.17 (7.61)<br>*.95* | 20.13 (6.55)<br>*.91* | $F(3, 150) = 54.95$; $p < .001$<br>partial $\eta^2 = .52$ | C < PRED, AED FRED < PRED, AED |

*Note.* C = non-eating disorder controls; FRED = fully recovered eating disorder; PRED = partially recovered eating disorder; AED = active eating disorder. For all subscales, higher scores reflect higher levels of the construct. Unadjusted means (and standard deviations in parentheses) for the EEI subscales are provided for each eating disorder status group (to allow for comparison to other studies). Cronbach's alphas for each of the EEI subscales for each eating disorder status group are listed below the subscale mean and standard deviation in italics. Pairwise comparisons listed were significant at least at $p < .05$.