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Predicting Persistence of Eating Disorder Compensatory Weight Control Behaviors

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Abstract

Objective—The study aimed to identify variables that predicted persistence versus desistence of eating disorder-related compensatory behaviors in a high-risk factor sample of women who reported repeated compensatory behaviors at baseline. Data came from a randomized trial evaluating two brief obesity prevention interventions for college students with weight concerns.

Method—261 young women (Mean age = 19.1, 79% European American) with weight concerns were randomly assigned to one of two brief obesity prevention interventions or educational video control. Participants were assessed at baseline, post-intervention, 6- and 12-month follow-up by interview, survey, and physical measurements on 6 eating disorder features and 13 psychosocial variables hypothesized to predict onset or maintenance of eating pathology.

Results—Approximately half (48%) reported engaging in recurrent compensatory behaviors in the year preceding study involvement. Among this subset, 61% reported persistent compensatory behaviors over 12-month follow-up. Neither study condition, adjunctive treatment, nor eating disorder features predicted persistence. Persistent compensatory behavior was significantly associated with greater sociocultural pressure to be thin, impulsivity, and substance use, and lower perceived sexual attractiveness.

Discussion—Perceived pressure to be thin is an established risk factor for the initiation of disorder eating behaviors but also may serve as a maintenance factor for unhealthy compensatory behaviors. Impulsivity, either as a trait factor or resulting from substance misuse may contribute to poor judgment and ongoing compensatory behaviors. Additional research on factors that predict persistence of eating disordered behaviors is needed.

Keywords

compensatory behaviors; purging disorder; eating disorders; persistence; maintenance; predictors

Purging disorder is a newly recognized eating disorder contained in the DSM-5¹ category of “other specified feeding or eating disorder.” Purging disorder involves engaging in recurrent purging behaviors to influence weight or shape, which includes self-induced vomiting, misuse of laxatives/diuretics/other medications, fasting, or excessive exercise, in the absence

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of binge eating. This eating disorder is associated with high rates of distress, functional impairment, and comorbidity² and has a lifetime prevalence of approximately 1.1% to 5.3%.³ The condition does not appear to differ from other eating disorders in terms of chronicity.^{4, 5}

The purpose of the present study is to examine maintenance factors that predict the persistence versus desistence of compensatory purging behaviors in a high-risk sample. We examined a sample of college women with weight concerns who reported two or more occurrences of compensatory behavior in the year prior to study entry; persistence was defined as one or more additional occurrences of a compensatory behavior post-baseline. Maintenance factors predict the persistence of a symptom or disorder, whereas risk factors predict emergence of symptoms/disorders. Although understanding risk factors is essential for designing prevention programs, identifying the predictors of persistence improves our understanding of potential processes that maintain these behaviors, which should guide the development of more effective treatments for purging disorder and potentially other eating disorders that involve compensatory behaviors, such as bulimia nervosa and some forms of anorexia nervosa. Few studies have investigated maintenance factors for compensatory behaviors. To our knowledge, three prospective studies have examined factors that predict persistent eating disorder symptoms in non-treatment-seeking individuals with bulimic pathology. Examining maintenance factors in a non-treatment-seeking sample is important, given that approximately 75% of individuals with an eating disorder do not seek treatment.⁶

Stice and Agras⁷ surveyed 218 female high school adolescents on bulimic symptoms and risk factors over a 9-month period to identify variables that predicted persistent binge eating and compensatory behaviors. Of the 6 examined variables, elevated thin-ideal internalization predicted persistent binge eating and elevated body dissatisfaction and dieting predicted persistent compensatory behaviors.

In a prospective 5-year study of 102 women with bulimia nervosa, Fairburn et al.⁸ sought to identify predictors of persistence of binge eating and compensatory behaviors, testing hypotheses derived from cognitive-behavioral theory for bulimia nervosa. Although five (of 10) variables predicted persistent binge eating (disturbed eating duration, greater overvaluation of shape and weight, childhood obesity, social maladjustment, persistent compensatory behavior), only persistent binge eating at baseline predicted persistence of compensatory behavior.

Bohon, Stice, and Burton⁹ followed 96 women with threshold/subthreshold bulimia nervosa over 1 year, examining rates of remission and relapse. Initial elevations in thin-ideal internalization, expectations for reward from eating, and binge frequency predicted persistent binge eating; initial elevations in dietary restraint and compensatory behavior frequency predicted persistent compensatory behaviors.

Data for the present study come from a randomized controlled trial evaluating two brief interventions designed to prevent obesity and eating disorders among college students with weight concerns. Individuals were excluded if they had a current eating disorder but a substantial portion reported recurrent compensatory behaviors at baseline. Given the

preponderance of women versus men with an eating disorder,¹⁰ we focus on female participants only. Analyses focused on identifying baseline variables that differentiate those with baseline recurrent compensatory behaviors who reported additional occurrences of compensatory behaviors during 1-year follow-up versus those who did not.

We first examined whether study intervention or receipt of non-study treatment predicted persistent compensatory behaviors because we wanted to make sure that we adjusted for any effect of the study prevention programs or other health care utilization when assessing the predictive effects of the other maintenance factors. Second, we examined whether binge eating and related eating disorder features predicted compensatory behavior persistence, based on past research and the premise that binge eating or other eating disorder symptoms increase the drive to use unhealthy weight control behaviors. Third, we examined psychosocial variables hypothesized to predict onset and maintenance of eating pathology¹¹ as predictors of persistent compensatory behaviors, based on the assumption that factors predicting initiation of disordered eating may increase the likelihood of persistent unhealthy compensatory behaviors. We examined the following: sociocultural pressure to conform to the thin-ideal, emotional eating, dieting, body dissatisfaction, physical activity, impulsivity, substance use, negative affect, and functional impairment. In particular, pressure to conform to the thin ideal was expected to increase the likelihood of persistent unhealthy compensatory weight control behaviors among women participating in an obesity prevention study. Elevated subjective hunger due to food restriction, negative affect, and the belief that eating improves mood might increase the likelihood of binge eating, which in turn increases the impulse to engage in compensatory behaviors. Substance misuse could contribute to increased state impulsivity and poor judgment, contributing to engagement in compensatory behaviors.

Method

Participants and Procedure

Participants were 261 young women (M age = 19.1, SD = 1.2) with a mean Body Mass Index (BMI; weight in kg/[height in meters]²) of 23.2 (SD = 2.7) (103 men also participated in the trial but were not included in these analyses due to a low number with baseline compensatory behaviors, n = 35). The study sample was 15% Asian/Pacific Islander, 3% American/Alaskan native, 3% African American, 0.5% native Hawaiian/Pacific Islander, and 79% European American; 11% reported Latina ethnicity. Parental education was 9% high school graduate or less, 15% some college, 37% college graduate, and 39% advanced graduate/professional degree. From August, 2012 to March, 2014, participants were recruited from three public universities in two states using mailings and flyers inviting students ages 17-23 with weight concerns to participate in a study designed to promote healthy lifestyle choices and prevent unhealthy weight gain. Informed consent was obtained before data collection. The inclusion criterion was that participants had weight concerns, which was defined as (1) agreeing or strongly agreeing with one or both of the statements: “I would like to be thinner/have less body fat” and “I am worried about gaining weight/body fat,” and (2) saying yes to one of the statements: “Have you experienced any weight gain within the past year?” and “Do you believe that there is room for improvement in your diet

and exercise habits?” Exclusion criteria included a current diagnosis of DSM-IV¹² anorexia nervosa, bulimia nervosa, or binge eating disorder; an interviewer-assessed BMI either < 18 or > 30; or current participation in another eating disorder or obesity prevention study.

Participants provided data at baseline, post-intervention, and at 6- and 12-month follow-up. Assessors (all female, masked to condition) demonstrated high inter-rater eating disorder diagnosis agreement (kappa [k] > .80) with supervisor ratings. Participants received \$30 for completing each assessment. The local Institutional Review Boards approved this project.

Eligible participants were randomly assigned to the *Healthy Weight* intervention, the *Project Health* intervention, or an educational video control condition via coin toss. Both interventions consisted of 6 weekly 1-hour group sessions with 6-10 participants and two group leaders (advanced clinical graduate students or college mental health staff who attended a 4-hour training and received email supervision based on tape review).

The main goal of *Healthy Weight* is to make small, sustainable changes to diet and exercise on a weekly basis to achieve a balance between caloric intake and output. All sessions begin with a brief review, presentation of educational handouts, review of behavior change goals, and the development of healthy behavior change plans for the next session. Home exercises consist of following individualized diet and exercise goals, and keeping a food/exercise log to determine areas for future healthy changes.

Project Health participants also make small, sustainable changes to diet and exercise on a weekly basis but in addition complete activities designed to induce cognitive dissonance regarding unhealthy dietary and physical activity practices, drawing from an efficacious dissonance-based eating disorder prevention program.¹³ Exercises were added in which participants discuss (a) costs of obesity, an unhealthy diet, and sedentary behaviors; (b) benefits of leanness, a healthy diet, and physical activity; and (c) institutions that contribute to obesity.

Participants assigned to the educational video condition received a website link to watch a free 51-minute video about the costs of the obesity epidemic (“*The Weight of the World*”), which focuses on the obesity epidemic from various viewpoints.

Measures

Eating disorder features and diagnosis—The Eating Disorder Diagnostic Interview (EDDI¹⁴), a semi-structured interview adapted from the Eating Disorder Examination,¹⁵ assessed DSM-IV eating disorder symptoms. Items assessing frequency of symptoms (i.e., number of episodes of each behavior) on a monthly basis covering the previous 12-month period at baseline and since last interview at the two subsequent assessments. Compensatory behaviors were assessed by 5 questions assessing (1) made self vomit as a means of controlling shape or weight; (2) took laxatives or diuretics as a means of controlling shape or weight; (3) used diet pills as a means of controlling shape or weight; (4) fasted (i.e., skipped at least 2 meals in a row) as a means of controlling shape or weight; and (5) engaged in excessive exercise that was intended to burn calories to compensate for “overconsumption” of eating or drinking (only counted if excessive, compensatory, and completed in addition to

regular exercise). The compensatory behavior symptom composite showed inter-rater agreement (ICC $r = .83$) for 95 randomly selected participants, and 1-week test-retest reliability (ICC $r = .80$) for 91 randomly selected participants.

As part of the interview, participants' height and weight were measured to calculate BMI. After removal of shoes and coats, height was measured to the nearest millimeter using stadiometers and weight was assessed to the nearest 0.1 kg using digital scales. EDDI data were used to (a) identify the subset with recurrent compensatory behaviors at baseline, (b) assess whether additional compensatory behaviors were reported after baseline, and (c) measure baseline disordered eating features.

Sociocultural Pressure—The 20-item Perceived Sociocultural Pressure Scale assessed how much pressure participants feel from their family and friends to be thin. The scale has high internal consistency ($\alpha = .88$) and 2-week test-retest reliability ($r = .93^{16}$); $\alpha = .89$ at baseline.

Emotional Eating—The 13-item Emotional Eating subscale from the Dutch Eating Behavior Questionnaire (DEBQ¹⁷) assessed whether participants eat in response to negative emotions. DEBQ subscales have shown internal consistency ($M\alpha = .90$) and predictive validity for binge eating onset;^{17, 18} $\alpha = .93$ at baseline.

Dieting—An adaptation of the DEBQ¹⁷ Restrained Eating subscale (9-items) assessed an individual's intentions to restrict food intake and actual behavioral restraint over six months. It has shown internal consistency ($\alpha = .95$), 2-week test-retest reliability ($r = .82$), convergent validity with self-reported caloric intake (but not objectively measured caloric intake) and predictive validity for bulimic symptom onset;^{13, 17} $\alpha = .90$ at baseline.

Body Dissatisfaction—The 35-item Body Esteem Scale (BES¹⁹) assesses participants' positive and negative opinions about various aspects of their body. Three subscale scores are computed for women (sexual attractiveness, weight concern, physical condition), which have shown high 3-month test-retest reliability.²⁰ At baseline $\alpha = .82$ for the sexual attractiveness scale, $\alpha = .86$ for the weight concerns scale, and $\alpha = .87$ for the physical condition scale.

Physical activity—A 20-item Adaptation of Paffenbarger Physical Activity Questionnaire (PPAQ²¹) subjectively measured participants' amount of high, moderate, and low intensity physical activity within two weeks. Participants note activity type, as well as its frequency and duration. The PPAQ has shown 1-month test-retest reliability ($r = .72$) and significant associations with more detailed physical activity records ($r = .28 - .86$).²²

Impulsivity—The 30-item Barratt Impulsivity Scale (BIS-11²³) assessed trait impulsivity. This scale has shown internal consistency ($\alpha = .79 - .83$) and 2-week test-retest reliability ($r = .88^{23}$); $\alpha = .84$ at baseline.

Substance use—Ten 6-point items from Stice, Barrera, and Chassin²⁴ measured substance abuse. Participants report the frequency of intake during the past 6 months of various alcohol beverages, frequency of heavy drinking, frequency of times drunk, and

frequency of use of various drug categories. Items were averaged to form an overall substance use measure, which was normalized with an inverse transformation. This scale has shown internal consistency ($r = .87$), 1-year test–retest reliability, and predictive validity for substance abuse symptoms ($r = .72^{24}$); $\alpha = .79$ at baseline.

Negative Affect—The 20-item Negative Affect subscale of the Positive and Negative Affect Schedule (PANAS²⁵) measured general negative affectivity and depressive symptoms. The Negative Affect subscale of the PANAS has shown convergent, discriminant, and predictive validity; internal consistency; and test-retest reliability;²⁵ $\alpha = .93$ at baseline.

Functional Impairment—17 items adapted from the Social Adjustment Scale–Self Report for Youth (SAS-SR²⁷) assessed impairment in school, peer, spare time, and family (5-point response). The 17-item version has shown internal consistency ($\alpha = .77$) and 1-week test–retest reliability ($r = .83^{13}$); $\alpha = .71$ at baseline.

Statistical Methods

Rates of recurrent compensatory behavior at baseline are reported and defined as two or more episodes of compensatory behavior during the 12-months prior to baseline. Rates of compensatory behavior persistence are defined as one or more additional episodes of compensatory behaviors after the baseline assessment over the 12-month post-intervention follow-up period. Univariate logistic regression models reporting odds ratios (OR) and 95% confidence intervals (CI) were used to test whether condition, non-study treatment, eating disorder features, and psychosocial variables predicted persistent compensatory behaviors among women who reported recurrent compensatory behavior at baseline. All models (other than the test of condition) controlled for condition effects and condition interactions with non-study treatment, eating disorder features and psychosocial variables were examined. To facilitate interpretation, psychosocial variables were converted to z-scores. We had power to detect an increase in odds as low as 39% for a one SD increase in continuous measures, and to detect odds ratios for categorical predictors as low as 2.9, a medium-to-large effect.

Results

Preliminary Analyses

Rates of missing data for compensatory behaviors were 0% at baseline, 3% at post-intervention, 3% at 6-month follow-up, and 3% at 12-month follow-up. Rates of missing data for psychosocial predictors of compensatory behavior assessed at baseline were 0% to <1%. We examined inter-correlations between the fifteen examined psychosocial variables at baseline; correlations ranged from $r = -.31$ to $.52$, with a mean of $.12$, indicating a generally low degree of interdependence (a correlation of $r = .14$ would be significant at $p < .05$). Missing data due to dropout or non-response was not related to condition ($\chi^2[2,261] = 3.16$, $p = .206$) or baseline recurrent compensatory behavior ($\chi^2[1,261] = 0.05$, $p = .816$). Analysis was restricted to the 258 (99%) women with 6- or 12-month follow-up data to ensure at least six months of data were available to determine the persistence of compensatory behaviors.

Prevalence of Baseline Recurrent Compensatory Behaviors

Of the 258 women, 123 (48%) reported recurrent compensatory behaviors at baseline of whom 8 reported vomiting (75% of whom reported multiple episodes of vomiting), 26 misuse of laxatives, diuretics, or diet pills (65% reported multiple episodes of medication abuse), 54 fasting (61% reported multiple episodes of fasting), and 85 excessive exercise (92% reported multiple episodes of excessive exercise); 42 of the 123 participants reported use of more than one form of compensatory behavior. Among women who reported baseline recurrent compensatory behaviors, 38 also reported binge eating (76% reported multiples of binge eating) in the 12 months prior to baseline.

Prevalence of Persistent Compensatory Behaviors

Of the 123 women with recurrent compensatory behaviors at baseline, 75 (61%) reported additional compensatory behavior during the 12-month follow-up, with 11 women reporting one episode of compensatory behavior, 10 reporting 2 episodes, 13 reporting 3 episodes, and 41 reporting 4 or more episodes of compensatory behaviors after baseline. Among the 75 who reported persistent compensatory behaviors, 7 reported self-induced vomiting, 16 misuse of laxatives, diuretics, or other medications, 29 fasting, and 59 excessive exercise; 27 of the 75 participants reported engaging in more than one form of compensatory behavior after baseline.

Association of Study Intervention or Adjunctive Treatment with Compensatory Behavior Persistence

Study condition did not significantly predict persistent compensatory behaviors. Of the 75 individuals who had persistent compensatory behaviors, 21 (28%) received *Healthy Weight*, 25 (33%) *Project Health*, and 29 (39%) the educational video. The *Healthy Weight* intervention versus control condition contrast was not a significant predictor of persistent compensatory behaviors ($OR = 0.67$, 95% CI [0.28 – 1.67], $p = .400$) nor was the *Project Health* intervention versus control contrast ($OR = 0.76$, 95% CI [0.32 – 1.83], $p = .540$). Similarly, adjunctive physical or mental health treatment was not a significant predictor of persistent compensatory behavior ($OR = 0.97$, 95% CI [0.88 – 1.07], $p = .527$) nor did study condition moderate this effect.

Association of Other Eating Disorder Features and Psychosocial Predictors of Compensatory Behavior Persistence

Table 1 provides summary statistics and results from the univariate logistic regression models predicting persistent compensatory behaviors. None of the eating disorder features predicted persistent compensatory behaviors, whereas four psychosocial measures were significant at $p < .05$; applying a Bonferroni correction ($p < .003$ [.05/19]), none of the associations would be considered significant. To interpret the direction and magnitude of these effects, participants were divided using a median split on each of the significant predictors; Table 2 illustrates the percentage in the lower and upper halves who had persistent compensatory behaviors. As can be seen, likelihood of persistent compensatory behaviors increased with higher baseline scores in sociocultural pressure to be thin, the body dissatisfaction subscale of perceived sexual attractiveness, impulsivity, and substance use.

The increases in percentages ranges from approximately 10-15% suggesting these were not large increases in risk. Study condition did not moderate the effects of other eating disorder features or psychosocial predictors of compensatory behavior persistence.

Discussion

Approximately half of this sample of college women with weight concerns reported engaging in recurrent eating disorder-related compensatory behaviors in the year preceding study involvement. Among this subset of women, 61% reported additional engagement in compensatory behaviors in the 12 months following their study intervention; the majority of women reporting persistent compensatory behaviors reported 4 or more episodes of compensatory behavior and one-third reported engaging in 2 or more forms of compensatory behaviors. Involvement in the various obesity prevention interventions (which was randomly determined) did not significantly predict persistent compensator behaviors in this subset of participants nor did non-study health care utilization; a similar nonsignificant effect for treatment utilization on compensatory behavior persistence was reported in Fairburn et al.⁸

No eating disorder features at baseline predicted continued engagement in compensatory behaviors. In previous research, two measures of eating disorder pathology had predicted maintenance of compensatory behaviors: first, persistent recurrent binge eating was the only predictor of persistent compensatory behaviors in the Fairburn et al.⁸ 5-year naturalistic follow-up of women with bulimia nervosa, and second, a greater number of compensatory behaviors at baseline predicted a longer time to compensatory behavior remission in Bohon et al.⁹ Both of those past studies, however, focused on women who had been diagnosed with bulimia nervosa at baseline whereas the present sample was specifically required to not meet diagnostic criteria for an eating disorder at baseline.

Of the 15 examined psychosocial variables, four predicted the persistence of compensatory behaviors in the unadjusted analyses: higher perceived sociocultural pressure to conform to the thin ideal, a subscale of body dissatisfaction assessing self-perceived sexual attractiveness, higher impulsivity, and higher substance use. It should be noted that this rate reflects 21% of the examined variables (versus 5% expected by chance) but that none would be considered significant if an experiment-wide correction had been applied.

The variable of perceived pressure to conform to the thin ideal was examined previously in Stice and Agras⁷ but did not predict either continued bingeing or compensatory behaviors in their sample of community-residing high school female adolescents, although the variable significantly predicted future onset of both behaviors. Higher perceived pressure to be thin has been proposed to be a risk factor for the initiation of disorder eating behaviors because it promotes internalization of the thin-ideal, body dissatisfaction, and dieting,⁷ and this variable was found to be the most potent predictor of future body dissatisfaction onset in adolescent girls.²⁷ In the present study, high perceived sociocultural pressure to be thin had the strongest effect in predicting persistent compensatory behaviors, suggesting it may also serve as an important maintenance factor for engaging in future unhealthy purging behaviors.

The Stice and Agras study⁷ found that body dissatisfaction predicted persistent compensatory behaviors, which we partially replicated using a different measure. Our measure of body dissatisfaction had three components for each gender, and one subscale for women – lower ratings of perceived sexual attractiveness – was significant, with lower self-ratings of sexual attractiveness tending to be associated with persistent compensatory behaviors.

The two other variables that emerged as predictors of persistent compensatory behaviors – impulsivity and substance use – have not to our knowledge been studied previously in this context. Our assumption is that impulsivity, either as a trait factor or a state factor resulting from substance misuse, contributes to poor judgment and continued engagement in compensatory behaviors. Impulsivity has been examined in relation to the development of both substance misuse and binge eating²⁸ and appears to be associated with binge-purge behaviors specifically in the eating disorder spectrum.²⁹ Among female adolescent patients with bulimia nervosa, higher levels of substance misuse were found to be associated with greater impulsivity.³⁰ In previous risk factor research, alcohol use has predicted onset of threshold/subthreshold bulimia nervosa over 4-year follow-up³¹ and predicted the onset of any eating disorder over 3-year follow-up among young women who endorsed weight-concerns, although substance use disorders did not.³² To our knowledge, the present study is the first to suggest that measures of impulsivity predict the *maintenance* of compensatory behaviors among individuals.

Dieting did not predict persistence of compensatory behaviors. Dieting, using the same questionnaire, predicted persistent compensatory behaviors in Stice & Agras⁷ and dieting, assessed using longer (21-item) self-report questionnaire predicted a greater time to remission of compensatory behaviors in Bohon et al.⁹ It is possible that the difference with Stice and Agras is that the earlier study focused on community sample whereas participants in the present study were required to have weight concerns, which may have restricted the variance in dietary restriction behaviors.

Several important study limitations need to be acknowledged. First, the relatively low sample size resulted in a low sensitivity to detect effects. Given that findings from the various maintenance factor studies have not been well replicated, it would be optimal to use larger samples in future studies. Second, the follow-up period was only 1-year and additional participants may have engaged in future compensatory behaviors. Third, although we thought it was beneficial to examine a non-patient sample because the rates of treatment seeking with eating disorder are low, the sample differs from previous research in this area and the rates of compensatory behaviors in the present study are much lower than seen in individuals with full threshold or even subthreshold diagnoses. For example, in Stice, Marti, and Rohde,³³ individuals with purging disorder and bulimia nervosa had a mean monthly number of compensatory behavior episodes of 22.8 ($SD = 12.8$) and 10.2 ($SD = 7.4$), respectively. On a related note, our definition of “recurrent compensatory behaviors” at baseline did not require that the person engage in multiple episodes of the *same behavior*, rather than she engaged in more than two episodes of any type of compensatory behavior. It is also possible that a participant was classified as showing persistence when she engaged in different compensatory behaviors before the baseline assessment versus during follow-up.

Fourth, all participants were college students and results may not generalize to the broader population. Fifth, 19 statistical tests were conducted to address the primary aim of this study, without correction for experiment-wide error. As noted, applying a Bonferroni correction, none of the associations would be considered significant.

Given the potential importance of maintenance factors research in the design and optimization of eating disorder treatments, continued research to identify and replicate variables that predict the persistence of specific pathology behaviors, such as compensatory purging behaviors, across a range of samples that vary in risk status is warranted.

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Table 1
Univariate Logistic Regression Model Results Predicting Persistent Compensatory Behaviors During 1-Year Follow-up.

Baseline Variable	Descriptive Statistics; <i>M</i> (<i>SD</i>) and % [<i>CI</i> ₉₅]		Test Statistics	
	Non-Persistent (<i>n</i> =48)	Persistent (<i>n</i> =75)	<i>OR</i>	<i>p</i> -value
Bingeing	33% [20-47]	29% [19-40]	0.84	[0.39-1.84] .666
Fear of gaining weight or becoming fat	35% [22-49]	49% [38-61]	1.78	[0.84-3.76] .130
Self-evaluation influenced by body shape/weight	88% [78-97]	89% [82-96]	1.24	[0.40-3.86] .710
Disturbance way body shape/weight experienced	46% [31-60]	51% [39-62]	1.18	[0.57-2.45] .654
Body Mass Index	23.8 (2.94)	23.3 (2.9)	0.94	[0.83-1.07] .356
Number of compensatory behaviors	28.5 (30.4)	46.3 (63.7)	1.01	[0.99-1.02] .067
Sociocultural pressure	-0.3 (0.9)	0.20 (1.0)	1.72	[1.15-2.57] .018
Emotional eating	0.05 (1.0)	-0.03 (1.0)	0.91	[0.63-1.32] .616
Dieting	-0.2 (1.0)	0.1 (1.0)	1.26	[0.87-1.82] .226
Body dissatisfaction – sexual attractiveness	0.2 (1.1)	-0.1 (0.9)	0.68	[0.46-0.99] .049
Body dissatisfaction – weight concerns	-0.1 (0.9)	0.04 (1.0)	1.10	[0.75-1.60] .637
Body dissatisfaction – physical condition	0.05 (0.9)	-0.03 (1.0)	0.92	[0.64-1.33] .657
Physical activity – high intensity	-0.04 (1.1)	0.03 (1.0)	1.07	[0.73-1.56] .737
Physical activity – moderate intensity	0.01 (0.5)	-0.01 (1.2)	1.01	[0.70-1.46] .957
Physical activity – low intensity	-0.2 (0.5)	0.1 (1.2)	1.62	[0.92-2.86] .093
Impulsivity	-0.2 (0.9)	0.1 (1.1)	1.50	[1.01-2.23] .048
Substance use	-0.2 (0.8)	0.1 (1.1)	1.52	[1.02-2.26] .039
Negative affect	-0.2 (0.9)	0.1 (1.0)	1.36	[0.91-2.02] .130
Functional impairment	-0.1 (0.8)	0.05 (1.1)	1.14	[0.79-1.65] .492

Note. *OR* = odds ratio; *CI*₉₅ = 95% confidence interval. Models control for study condition. Statistically significant odds ratios are bolded.

Table 2

Percent of Persistent Compensatory Behavior Participants at Two Levels of the Significant Predictor Variables.

	Percent who reported persistent compensatory behaviors	
Baseline Predictor Variable	Lower half of distribution	Upper half of distribution
Sociocultural pressure	41.9	57.5
Body dissatisfaction–sexual attractiveness	44.0	52.9
Impulsivity	44.0	56.0
Substance use	44.0	54.2