Group Cognitive—Behavioral Therapy and Group Interpersonal Psychotherapy for the Nonpurging Bulimic Individual
A Controlled Comparison

Denise E. Wilfley
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
W. Stewart Agras
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
Christy F. Telch
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
Elise M. Rossiter
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
John A. Schneider
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
Abby Golomb Cole
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
LuAnn Sifford
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine
Susan D. Raeburn
Laboratory for the Study of Behavioral Medicine Stanford University School of Medicine

ABSTRACT

This study evaluated the effectiveness of group cognitive—behavioral treatment (CBT) and group interpersonal psychotherapy (IPT) for binge eating. Fifty-six women with nonpurging bulimia were randomly assigned to 1 of 3 groups: CBT, IPT, or a wait-list control (WL). Treatment was administered in small groups that met for 16 weekly sessions. At posttreatment, both group CBT and group IPT treatment conditions showed significant improvement in reducing binge eating, whereas the WL condition did not. Binge eating remained significantly below baseline levels for both treatment conditions at 6-month and 1-year follow-ups. These data support the central role of both eating behavior and interpersonal factors in the understanding and treatment of bulimia.

This research was supported by National Institute of Mental Health Grant 38637 to W. Stewart Agras. We thank Susan Bryson and Helena C. Kraemer for their advice and assistance in the statistical analyses. We gratefully acknowledge Christopher G. Fairburn for his helpful comments on a draft of this article, and we are indebted to R. Robinson Welch for his assistance in data collection. Correspondence may be addressed to Denise E. Wilfley, Department of Psychology, Yale University, New Haven, Connecticut, 06520.
Received: November 8, 1991
Revised: April 3, 1992
Accepted: April 3, 1992

Binge eating among the obese, a once neglected disorder, has recently been recognized as an important
clinical problem. Among obese individuals seeking treatment, approximately 23% to 55% report binge eating (Gormally, Black, Daston, & Rardin, 1982; Hudson et al., 1988; Loro & Orleans, 1981; Marcus, Wing, & Lamparski, 1985; Spitzer et al., 1991; Spitzer et al., 1992). Moreover, the prevalence increases with increasing levels of adiposity (Kolotkin, Revis, Kirkley, & Janick, 1987; Spitzer et al., 1992; Telch, Agras, & Rossiter, 1988). As a result, this subset of the obese are among those at highest risk for the medical complications of obesity (Rossiter, Agras, Telch, & Bruce, 1992).

Some studies suggest that obese binge eaters (people with nonpurging bulimia) experience levels of psychopathology comparable to those of anorexic and normal-weight people with bulimia (Hudson et al., 1988; Prather & Williamson, 1988; Shisslak, Pazda, & Crago, 1990; Wilfley, 1989) and more psychopathology than their non-binge-eating obese counterparts (Kolotkin et al., 1987; Marcus et al., 1990; Marcus, Wing, & Hopkins, 1988; Wilfley, Kunce, & Welch, 1992). In addition, several studies and clinical reports have noted that overweight women with bulimic symptoms do less well in behavioral treatment programs, losing less weight, showing poor maintenance, and dropping out of treatment more frequently than the nonbinge-eating obese (Gormally, Rardin, & Black, 1980; Keefe, Wyshogrod, Weinberger, & Agras, 1984; Marcus et al., 1988; Wilson, 1976).

Recently, two controlled studies revealed that patients with nonpurging bulimia (most of whom were obese binge eaters) were treated effectively with antidepressant medication (McCann & Agras, 1990) and cognitive—behavioral therapy (CBT; Telch, Agras, Rossiter, Wilfley, & Kenardy, 1992). Both of these treatments have been found useful with bulimia nervosa (purging bulimia; for a full review, see Fairburn, Agras, & Wilson, 1992). These findings suggest that a similar mechanism may drive the binge eating syndrome in patients with purging and nonpurging bulimia and that similar treatments may be used with both.

CBT has been found superior to other approaches in treating bulimia nervosa with the one exception of interpersonal psychotherapy (IPT; Fairburn et al., 1991; Fairburn et al., 1992). Fairburn et al. (1991; Fairburn, Jones, Peveler, Hope, & O'Connor, in press) found IPT (Klerman, Weissman, Rounsaville, & Chevron, 1984) to be at least as effective as CBT, demonstrating that treatment does not have to be focused on eating habits or attitudes about shape or weight for change to occur.

The present investigation was designed to address two questions. The first was whether group IPT would prove as effective as group CBT for the treatment of binge eating in the nonpurging bulimic. Patients with nonpurging bulimia were randomly assigned to group CBT, group IPT, or a wait-list (WL) control group. This tested the applicability of the Fairburn et al. (1991) results in a different population.

The second question was more theoretical and was designed to distinguish between two models of symptom maintenance, as both have different implications regarding the nature and treatment of bulimia. CBT assumes that eliminating extreme dietary restriction, increasing the intake of a wider variety of foods, and decreasing cognitive distortions are sufficient for treatment effectiveness (Fairburn, 1985) because excessive dietary restriction and distorted attitudes are related to eating behavior, shape, and weight. IPT assumes that mastery of current social roles and adaptation to interpersonal situations are sufficient for treatment effectiveness because of the interrelationship among negative mood, low self-esteem, interpersonal functioning, and eating behavior (Fairburn et al., 1991). To examine this theoretical issue, we selected secondary measures for their presumed sensitivity to the different treatments.

**Method**

**Subjects**
Participants were 56 female subjects who met the modified criteria for bulimia nervosa of the *Diagnostic and Statistical Manual of Mental Disorders–Revised* (3rd ed.; *DSM—III—R*; *American Psychiatric Association*, 1987). The modified criteria required that a subject meet all the diagnostic criteria for bulimia nervosa except purging. Therefore, all subjects reported during an initial screening interview (a) recurrent episodes of binge eating in which the subject perceived herself to consume a large amount of food in a short period, (b) a feeling of lack of control or inability to stop eating during the eating binges, (c) an average of two or more binge episodes per week for the past 6 months, and (d) persistent concern with body shape and weight. Given the considerable variability in the amount of food consumed during binges both within and between subjects (*Rossiter & Agras, 1990*), we relied on subjective judgments of the amount of food required to qualify as a binge; however, it was mandatory that all episodes involve perceived loss of control. Subjects were excluded for the following reasons: (a) age below 18 years or above 65; (b) current or past history of self-induced vomiting, laxative use, or other purging behaviors; (c) current use of antidepressant medication or appetite suppressants; (d) concurrent treatment for weight loss; and (e) concurrent *DSM—III—R* diagnosis of unipolar or bipolar affective disorder, psychosis, drug abuse, or alcoholism. All subjects were recruited by newspaper advertisements offering free treatment for compulsive binge eating problems. Approximately 100 potential participants met with one of four staff psychologists for an initial screening interview. During this interview, the purpose of the study was explained, and informed consent was obtained. The major reasons for exclusion were (a) a current major depressive episode; (b) current use of laxatives, diuretics, or both as a method of purging; and (c) binge eating less than twice per week.

The subjects' ages ranged from 27 to 64 years (*M* = 44.3, *SD* = 8.3), and subjects reported an onset of binge eating ranging from age 3 to 44 years (*M* = 20.4; *SD* = 12.4). Subjects reported binge eating for an average of 23.7 years (*SD* = 13.4), with a range of 2 to 53 years. Subjects' pretreatment weight averaged 87.3 kg (*SD* = 14.2), with a range of 60 to 117.5 kg. Weight was converted to body-mass index (BMI), defined as the weight in kilograms divided by the square of the height in meters. The mean sample BMI was 32.8 (*SD* = 5.2), with a range of 22.3 to 43.8, indicating that the majority of the participants were overweight. All subjects reported a history of attempts at weight reduction and dissatisfaction with their current weight (25% were dissatisfied, and 75% were very dissatisfied). The sample's ethnic—racial composition was predominantly White (86%), with 5% Hispanic, 5% African-American, 2% Pacific Islander, and 2% Indian. Fifty-nine percent (58.9%) of the participants were married, 28.6% were divorced, 10.7% had never married, and 1.8% were separated. Thirty-eight percent of the women were college graduates, 50% had some college education, and 12% had a high school degree or less. Seventy-three percent of the participants were employed.

**Experimental Design**

Subjects were randomly assigned to group CBT, group IPT, or the WL condition. Once randomization was complete, subjects were scheduled for a second individual session. During this session, subjects were notified of their group assignment and given specific instructions regarding attendance and assessments. Each subject assigned to either CBT or IPT received an in-depth explanation of the rationale for the group treatment to be received. The subjects were reminded that continued participation in the study precluded simultaneous treatment outside of the study for weight loss, binge eating, or interpersonal issues. Eighteen of the subjects were assigned to group CBT, 18 to group IPT, and 20 to the WL condition. Subjects assigned to the WL condition were assessed at baseline and at 16 weeks but had no other contact with study personnel during the treatment of the other groups. They ended their participation after the 16-week assessment, at which time they were offered a free course of treatment. The remaining participants were assessed at 6 months and 1 year posttreatment.

**Experimental Conditions Treatments.**


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Participants in each of the treatment conditions were asked to attend a weekly 90-min group therapy session for 16 weeks. Nine members and two therapists were assigned per group. For each treatment modality, there were two treatment groups and two therapist teams. The therapists followed detailed manuals that specified the style and content of the treatments. Weekly consultation sessions were held to ensure therapist compliance with the treatment protocols. Each of the group treatment sessions were audiotaped. As a measure of adherence to the protocols, a blind rater listened to random, audiotaped segments of sessions and then judged whether CBT or IPT had been delivered. The rater was highly accurate (100%) in identifying the treatment delivered, which indicated that therapists reliably followed treatment guidelines.

**Group CBT.**

With the use of a detailed treatment manual (Telch et al., 1990), group CBT was conducted. Treatment was focused on eliminating binge eating, not weight reduction. Binge eating was portrayed as a response to repeated restrictive dieting and to dysfunctional thoughts associated with the diet—binge cycle. The first priority was to eliminate binge eating by establishing regular, heart-healthy eating patterns. Weight control was a secondary concern until bingeing had been eliminated.

Treatment was aimed at reversing excessive dietary restriction by gradual introduction to three or more meals per day; exposure to a wider range of foods, including avoided food; and amelioration of rigid food rules and body image problems. Self-monitoring forms were used to elucidate dysfunctional eating patterns and to identify triggers to binge eating (eating, thinking, and mood patterns). Alternative eating patterns and coping strategies were emphasized, and unrealistic rules and fears associated with restricted eating patterns were confronted. Late in the program, we used relapse prevention procedures consisting of problem solving and identifying more effective methods of coping with high-risk situations, urges to binge, and lapses. No attention was paid to dysfunctional relationship patterns, nor did the treatment contain any of the procedures used in IPT.

**Group IPT.**

Klerman et al. (1984) developed IPT for the treatment of depression. Fairburn et al. (1991) modified IPT for patients with bulimia nervosa. We used the Fairburn et al. (1991) approach, making adjustments for a group format. In all other respects, this form of IPT was similar to IPT for depression. The treatment had equivalent stages, strategies and techniques, and therapeutic style.

Treatment focused on current interpersonal relationships. The stated rationale was that binge eating occurred as a response to interpersonal disturbances (e.g., social isolation, fears of rejection) and consequent negative moods. Treatment goals evolved from the four main interpersonal problem areas specified by Klerman et al. (1984): grief, interpersonal disputes, role transitions, and interpersonal deficits. Overall treatment goals were to encourage mastery of current social roles and adaptation to interpersonal situations.

IPT proceeded in three stages as specified by Klerman et al. (1984): (a) Initial sessions (1—4) were spent formulating an interpersonal focus to binge eating, emphasizing the affect associated with these interpersonal difficulties, and identifying interpersonal goals; (b) middle sessions (5—12), the "work" stage, addressed interpersonal problems; and (c) final sessions (13—16) were spent evaluating goals, exploring the meaning and significance of termination, and outlining remaining work. No attention was paid to the patients' eating habits or attitudes to shape or weight, nor did the treatment contain any of the cognitive—behavioral procedures or self-monitoring used in CBT. The characteristics of the two treatments are compared in Table 1.
The focus of treatment was on the identified problem areas, as they affected the subject. There was considerable overlap in the problem areas identified by the binge eaters. One hundred percent of the subjects (18) identified a primary problem area, with 55% (10) of them also identifying secondary areas. The most common primary problems were interpersonal deficits, which were present in 55% (10 of 18) of the subjects. In these cases, there was a long history of social isolation, low self-esteem, and an inability to form or maintain intimate relationships. Role disputes were found in 28% (5 of 18) and was the next most common problem. All of these disputes were marital, with a majority of the spouses having problems with substance abuse. In two of these cases, the wives were being pushed to enter treatment to lose weight.

The two other IPT problem areas were encountered less often. In three cases (17%), grief was the major unresolved issue. In these cases, the subjects identified bingeing as a response they used to cope with the loss of significant others. Difficulties with role transitions were encountered only as a secondary problem by 2 patients (1 had recently retired, and the other was now her mother's caretaker). Both of these individuals linked their bingeing with these significant role transitions.

The group provided an interpersonal milieu for members to work on their identified interpersonal problem areas. Subjects were told that this "interpersonal laboratory" provided a unique opportunity to (a) work on the relationship difficulties they experience in their social life; (b) recognize and accept their feelings, opinions, and needs; and (c) transfer newly learned interpersonal skills to their social life. After each meeting, the therapists wrote summaries, which were then mailed to each participant (a method adapted from Yalom, 1985). The summary focused on the transactions that occurred during the session and their implications for each participant's interpersonal goals.

**WL condition.**

Subjects in this condition were assessed at baseline and 16 weeks later. No contact occurred during this waiting period.

**Therapists.**

There were six therapists, all experienced in the treatment of bulimic patients; five were PhD-level psychologists, and one was a psychiatrist. There were two therapists per group and two groups per treatment modality. Two therapists were specialists in CBT, and two were specialists in IPT. The fifth specialist was involved in all four of the treatment groups because she was equally trained in the delivery of both types of therapy. We chose to use specialists rather than to counterbalance the design to maximize therapists' adherence to the treatment models as detailed in the manuals. 1

**Assessments**

Each subject attended two assessment sessions: baseline and 16-week posttest (immediately following treatment for subjects assigned to CBT or IPT and after a 16-week waiting period for WL subjects). Subjects in the CBT and IPT conditions were also assessed at 6 months and at 1 year after treatment. They were asked to remain in the study by completing assessments whether or not they dropped out of treatment.

Frequency of binge eating was measured at each assessment interview with the 7-day calendar recall method. Subjects are asked to recall binge episodes for each day of the past week, and if applicable, the number of episodes that day. Subjects anchored days with specific activities or events on those days. This method has been shown to be reliable and may be preferred to more reactive self-report measures,
such as daily self-monitoring (Wilson, 1987). Because a recall of days during which binge eating occurs is more accurate than recall of a specific number of binge eating episodes (Rossiter et al., 1992), the number of days was the primary outcome measure.

In addition, participants completed the following questionnaires, which were computer administered and scored: (a) the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), a 21-item inventory measuring severity of depression; (b) the Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988), a measure of interpersonal problems and the level of distress arising from interpersonal sources; (c) the Rosenberg Self—Esteem Scale (Rosenberg, 1965), a 10-item questionnaire measuring level of self-esteem; and (d) the Stunkard and Messick (1985) Three-Factor Eating Questionnaire (TFEQ), a measure of cognitive restraint, perceived hunger, and tendency toward disinhibition of eating.

These secondary measures were selected because of their hypothesized sensitivity to CBT and IPT. For CBT, the TFEQ was selected because the CBT model posits that by eliminating dietary restraint, hunger will be reduced, followed by a decreased likelihood for disinhibition. For IPT, the measures of self-esteem, mood, and interpersonal distress were selected because the IPT model posits that improvements in these areas will lead to reductions in binge eating behavior.

**Planned Statistical Analyses**

To limit potential statistical bias caused by the tendency of nonimproving subjects to drop out of treatment, we asked subjects to complete assessments whether or not they were treatment dropouts. If individuals declined to complete posttest or follow-up assessments, they were considered "study dropouts," whereas individuals who quit before the completion of treatment were identified as "treatment dropouts."

Intent-to-treat analyses were completed on all variables. These included the scores of individuals who completed the specified assessment, and if there was not a score available (as in the case of study dropouts) for that time, study dropouts were assigned scores equal to those at pretest (i.e., replacement values were used). Additionally, subsequent and contrasting analyses were performed in which only "treatment completers" were analyzed to see how substantially this affected the results.

**Posttreatment.**

The primary outcome variable was number of days of binge eating during the past week. The secondary measures were disinhibition, hunger, restraint, depression, interpersonal problems/distress, and self-esteem. Each of these variables were subjected to a $3 \times 2$ (Group $\times$ Time) repeated measures analysis of variance (ANOVA) at baseline and posttreatment. When a significant $Time \times Group$ interaction was found, Scheffé tests were used to determine where the significant differences between groups lay at $p < .05$ or beyond. All tests were two-tailed. When categorical measures were being compared (e.g., percent abstinent), a chi-square test was used.

**Follow-up.**

The outcome variable was number of days of binge eating over the past week. This variable was subjected to a $2 \times 3$ (Group $\times$ Time) repeated measures ANOVA at posttreatment, 6 months posttreatment, and 1 year posttreatment. As a post hoc measure of whether changes were maintained from baseline to 1 year posttreatment, a paired $t$ test was conducted on days binged for each treatment group (CBT and IPT) at baseline and 1 year posttreatment.
Results

Pretreatment

Statistical tests performed on baseline values of age, binge frequency, age at onset of binge eating, duration of binge eating, BMI, secondary measures, and sociodemographic variables revealed no significant differences between the groups at baseline.

Study dropouts at posttreatment assessment.

Three individuals (2 from the CBT group and 1 from the WL group) did not complete the posttreatment assessment and therefore were assigned scores equal to those at pretest (i.e., replacement values were used), and all analyses were performed including posttest data from both the study completers and the study dropouts (baseline replacement values). The procedure used was a method of protecting the results from bias introduced by the tendency of nonimproving individuals to drop out of study assessments.

Treatment dropouts.

Eight patients (22%) dropped out of treatment for the following reasons: 6 from group CBT, (3 said the group was not meeting their needs, 2 became ill, and 1 moved away) and 2 from group IPT (1 dropped out because of a scheduling conflict, and 1 felt the group was not meeting her needs). The attrition rates were 33% for CBT and 11% for IPT; the difference was not significant. Subjects who dropped out did not differ from those who completed treatment in binge eating frequency, weight, or self-reported measures of interpersonal distress and problems, eating behaviors and attitudes, self-esteem, or depression.

Treatment compliance.

An unpaired t test revealed that IPT group members attended significantly more treatment sessions than did CBT group members, \( t(26) = -2.98, p < .006 \). On the average, IPT members attended 14 sessions (88%), whereas CBT members attended 11.5 sessions (72%). Attendance did not have a significant relationship with either baseline or posttest measures of days of binge eating during the past week. There was also no significant relationship between attendance and either baseline or posttest secondary measures.

Treatment credibility.

Before randomization, subjects were asked to identify their treatment of choice (CBT or IPT). Eighteen (50%) of the subjects selected CBT, and the other 18 (50%) selected IPT; 50% of subjects in each treatment condition received their treatment of choice.

After the second group session, subjects were asked to complete a brief three-item rating questionnaire regarding therapy credibility. On a scale of 0 to 10, subjects' mean ratings of the treatment rationale (whether the treatment made sense) were 6.7 (SD = 2.2) for CBT and 6.8 (SD = 3.0) for IPT; ratings of confidence in treatment success were 6.5 (SD = 2.4) for CBT and 5.9 (SD = 2.2) for IPT; and ratings of confidence in recommending this treatment to a friend were 6.7 (SD = 2.9) for CBT and 6.4 (SD = 3.2) for IPT. In general, this indicates that at least initially there were no significant differences by group on ratings of treatment credibility.

Primary Outcome Measures at Posttreatment Assessment
Table 2 shows data for the outcome measures at baseline and 16-week posttreatment assessment periods. Figure 1 (mean number of days binged) shows the effect of the treatments at the 16-week posttreatment assessment. For this analysis, study dropouts were assigned posttest days-binged scores equal to those at pretest (i.e., replacement values were used), and the analysis included posttest data from both the study completers and study dropouts. At the 16-week posttreatment assessment, the CBT group had reduced bingeing by 48% (28% abstinent), the IPT group had reduced bingeing by 71% (44% abstinent), and the WL group had reduced it by 10% (0% abstinent). There was a significant time effect for days binged per week, \( F(1, 53) = 47.7, p < .0001 \), and a significant Time × Group interaction was found, \( F(2, 53) = 9.6, p < .0003 \), with both the CBT and IPT groups significantly superior to WL but not significantly different from one another (see Table 2 and Figure 1).

To test whether the study findings were biased by the more conservative intent-to-treat analysis (endpoint analysis), we performed a second ANOVA on days binged in which only treatment completers were included to see how substantially this affected the results. The results were essentially unchanged, and there was a significant effect for time for days binged per week, \( F(1, 44) = 44.3, p < .0001 \); a significant effect for group, \( F(2, 44) = 5.0, p < .01 \); and a significant Time × Group interaction was found, \( F(2, 44) = 9.5, p < .0004 \), with both group CBT and group IPT significantly better than the WL group but not significantly different from one another. The percentage reduction of days binged was also comparable; the CBT group had reduced bingeing by 64%, the IPT group had reduced binging by 68%, and the WL group had reduced binging by 11%.

**Secondary Outcome Measures at Posttreatment Assessment**

Because the secondary measures were relatively uncorrelated with one another (only one measure shared more than 16% variance and most less than 10%), a separate .05 risk was used for each analysis. Intent-to-treat analyses revealed a significant effect of time for disinhibition, hunger, restraint, depression, and interpersonal distress and problems. There was no significant effect of time for self-esteem. There was a significant group effect for disinhibition but no significant group effect for the other secondary measures.

There was a significant Time × Group interaction for disinhibition, \( F(2, 53) = 4.2, p = .02 \), and for restraint, \( F(2, 53) = 3.7, p = .03 \). For disinhibition, post hoc analysis revealed that CBT was superior to WL (\( p < .02 \)), and IPT was superior to the WL (\( p < .01 \)), but CBT and IPT were not significantly different from one another. For restraint, there was a significant difference only between IPT and WL (\( p < .02 \)), with participants in IPT significantly increasing dietary restraint compared with those in the WL but not in the CBT condition.

None of the other Time × Group interactions for secondary measures reached significance. These were the Rosenberg Self-Esteem Scale, \( F(2, 53) = 2.5, p = .09 \); IIP, \( F(2, 53) = 2.6, p < .09 \); hunger, \( F(2, 53) = 1.8, p = .18 \); and BDI, \( F(2, 53) = 2.1, p = .14 \).

The intent-to-treat analyses described earlier were repeated with treatment completers. The results were similar for time, group, and interaction effects, with one exception. The Time × Group interaction for restraint no longer reached significance, \( F(2, 44) = 3.2, p = .052 \). However, the pattern of means was similar, with IPT (\( M = 10.9 \)) higher than both CBT (\( M = 9.5 \)) and WL (\( M = 8.7 \)).

**Secondary Analyses of Pretreatment Severity**

To investigate the influence of pretreatment severity on outcome, we carried out separate analyses on the number of days binged per week. These analyses must be considered exploratory, because the design did
not include stratification on this variable, nor were severity criteria scores set a priori. Using the intent-to-treat data, we split the groups on the median, which formed two groups (more severe and less severe). Patients' bingeing was considered more severe if they binged 5—7 days/week. Forty-five percent of the sample met this criterion for severity: 28% of the CBT, 56% of the IPT, and 50% of the WL. Fifty-five percent met the criterion for less severe binging (2—4 days/week): 72% of the CBT, 44% of the IPT, and 50% of the WL.

Both pretreatment severity variables were subjected to a 3 × 2 (Group × Time) repeated measures ANOVA. When a significant Time × Group interaction was found, Scheffé tests were used to determine where the significant differences between groups lay at \( p < .05 \) or beyond.

There was a significant time effect for less severe days binged per week, \( F(1, 28) = 14.0, p = .0008 \); a significant effect for group, \( F(2, 28) = 5.3, p < .01 \); and a significant Time × Group interaction was found, \( F(2, 28) = 9.6, p = .0007 \). Post hoc analysis revealed that IPT was superior to WL \( (p = .0004) \) but not significantly different from CBT, nor was CBT significantly different from the WL. There was a significant time effect for more severe days binged per week, \( F(1, 22) = 43.4, p = .0001 \), but no significant effect for group and no significant Time × Group interaction were found, \( F(2, 22) = 3.0, p = .07 \). At posttreatment, the group means for days binged for the more severe group were as follows: CBT = 3.2, IPT = 2.2, and WL = 4.4.

Both treatments were equal for the more severe binge eater, but IPT tended to be better for the less severe binge eater. Although interesting, there are several problems with the analyses. The data have a limited range (2—7), and there are no established criteria to differentiate between more and less severe bingeing. Also, the nature of the data did not allow for division of the sample into equal groups.

**Follow-Up Assessments**

The outcome variable was number of days of binge eating over the past week. The first set of analyses were completed with treatment completers, with data missing from 5 subjects (2 CBT and 3 IPT), for a total of 23 subjects (10 CBT and 13 IPT) with complete scores for the 6-month and 1-year follow-up. As shown in Figure 2, maintenance for each of the treatment groups on number of days binged per week was satisfactory at the 6-month and 1-year posttreatment follow-ups. When comparing the 1-year follow-up to baseline assessments, the number of days binged was reduced by 55% for the CBT group, compared with 50% for the IPT group. However, these results depict a significant increase in number of days binged after the 16-week posttreatment assessment, \( F(2, 21) = 6.2, p < .005 \). Consistent with the posttreatment assessment, the two treatment groups were not significantly different from one another on bingeing at the 6-month or 1-year follow-up; Time × Group interaction, \( F(2, 21) = .012, p = .99 \).

Although there was a significant increase from the 16-week to the 1-year posttreatment follow-up, paired \( t \) tests revealed that participants in the treatment conditions continued to binge significantly less frequently than at baseline; for CBT, \( t(9) = 2.5, p < .04 \); for IPT, \( t(12) = 2.7, p < .02 \), with an average of 2.1 fewer days per week of bingeing reported for CBT and an average of 2.4 fewer days per week of bingeing reported for IPT.

We completed the second set of analyses with the intent-to-treat subjects with data missing from 4 subjects (2 CBT and 2 IPT) at 6-month follow-up and data missing from 6 subjects (3 CBT and 3 IPT) at 1-year follow-up. The study dropouts were assigned scores equal to those at pretest (i.e., replacement values were used), and all analyses included follow-up data from both the study completers and study dropouts (baseline replacement values).\(^2\) The results were unchanged and indicated a significant increase in number of days binged after the 16-week posttreatment assessment, \( F(2, 34) = 3.3, p < .05 \). Consistent with the posttreatment assessment, the two treatment groups were not significantly different.
from one another on bingeing at the 6-month or 1-year follow-up; Time × Group interaction, \( F(2, 34) = 1.70, p = .19 \). Although there was a significant increase from the 16-week posttreatment to 1-year follow-up, paired \( t \) tests revealed that participants in the treatment conditions continued to binge significantly less frequently than at baseline: CBT, \( t(17) = 3.5, p < .003 \); IPT, \( t(17) = 3.8, p < .001 \), with an average of 2.4 fewer days per week of bingeing reported for CBT and an average of 2.0 fewer days per week of bingeing reported for IPT.

Data were not available for 4 subjects (11%; 2 CBT and 2 IPT) at the 6-month follow-up assessment and for 6 subjects (17%; 3 CBT and 3 IPT) at the 1-year follow-up assessment.

**Weight at Posttreatment and Follow-Up Assessments**

There was a significant time effect for weight, \( F(1, 53) = 12.8, p < .0007 \), with participants averaging a small (2-kg) gain in weight at posttreatment, with no significant Time × Group interaction. To assess changes over the follow-up period, we subjected weight to a 2 × 4 (Group × Time) repeated measures ANOVA at baseline, posttreatment, 6 months posttreatment, and 1 year posttreatment. There was a significant time effect for weight, \( F(3, 27) = 3.3, p < .03 \), with participants in IPT averaging a small decrease in weight from baseline to 1-year follow-up (CBT remained unchanged; IPT lost 3 kg) with no significant Time × Group interaction.

**Discussion**

In this study, two conceptually and procedurally distinct psychological treatments for nonpurging bulimia were compared with a WL condition. Patients in both treatment conditions showed an equally significant reduction in bingeing frequency, compared with the WL condition. Checks on treatment delivery suggested that outcomes were attributable to the treatments themselves. These data are similar to the *Fairburn et al. (1991)* findings with purging bulimia and suggest that the positive effects of these treatments may be extended to overweight bulimics who do not purge. These results converge with our previous study of group CBT for nonpurging bulimics (*Telch et al., 1990*) and also support the efficacy of group IPT.

Our research further demonstrates that a treatment not focused on eating behavior is successful in treating bulimia. This finding is of theoretical interest because previous research has primarily supported the use of CBT (*Fairburn et al., 1992*). In an attempt to understand specific processes leading to change, we conducted secondary analyses on variables selected for their presumed sensitivity to CBT and IPT. Only two Time × Group interactions emerged: IPT and CBT had a significant impact on disinhibition in comparison with the WL condition and were not significantly different from one another. In addition, IPT had a significant impact on restraint in comparison with the WL condition. CBT was intermediate to IPT and WL on restraint and was not significantly different from either.

Neither CBT nor IPT produced consistent effects on measures related to their theoretical origin. For instance, cognitive restraint (from the TFEQ) did not decrease as expected in CBT. However, recent research has revealed that cognitive restraint is associated negatively with binge eating (*Lowe & Caputo, 1991*) and positively with weight maintenance and successful food restriction (*Laessle, Tuschl, Kotthaus, & Pirke, 1989*). It therefore appears that cognitive restraint is a different construct than that measured by the Restraint Scale (*Heatherton, Herman, Polivy, King, & McGree, 1988; Heatherton & Polivy, 1992*). *Lowe & Caputo (1991)* suggested that just as rigid, irrational cognitions may increase the risk of unsuccessful dieting followed by binge eating (as measured by the Restraint Scale), the more temperate, rational attitudes assessed by the Cognitive Restraint Scale may decrease such risk. In this light, the increase in cognitive restraint for IPT and CBT (to a lesser degree) make conceptual sense as
both treatments lowered disinhibition, which has been shown to predict binge eating (Lowe & Caputo, 1991).

Disinhibition has been shown to be a better predictor of behavior than dietary restraint. It relates to weight change during depression, binge severity, and overeating during a laboratory study of food intake (Stunkard & Messick, 1985). The disinhibition scale measures emotional eating (Ganley, 1988), which is relevant because negative affect is often a precursor to bingeing behavior (Arnow, Kenardy, & Agras, 1992; Davis, Freeman, & Garner, 1988). It also measures a tendency to disinhibit when exposed to disturbing social and environmental events. IPT focuses on interpersonal and social difficulties and their effects on mood. Participants practice identifying their reactions to interpersonal interactions and experiment with more productive strategies for dealing with social and interpersonal problems. This may enhance their ability to deal with upsetting emotional and social situations in their outside social life.

Previous studies show that factors other than excessive dietary restraint serve to disinhibit eating in dieters. These include, anxiety, depression, dysphoria, and low self-esteem, which are often triggered by interpersonal interactions (Elmore & Castro, 1990; Heatherton & Baumeister, 1991; Herman & Polivy, 1975; Polivy, Heatherton, & Herman, 1988; Ruderman, 1985). Thus, a wide range of events, including dieting and affective responses to interpersonal problems, can lead to disinhibition and uncontrolled eating. Binge eating appears to be driven by at least two factors: highly restrictive dieting, which is addressed by CBT, and mood changes from interpersonal difficulties, which are identified in vivo in IPT.

This dual perspective is supported by two lines of research. First, highly restrictive dieting leads to dietary disinhibition (Ruderman, 1986). Purging bulimics exert dietary restraint when they are not binge eating, alternating periods of binge eating with dieting (Walsh, Kissilef, & Hadigan, 1990). Nonpurging obese people with bulimia have recently been shown to have similar binge eating and restraint patterns; they consumed 2,400 kcal on binge days and 1,500 on nonbinge days (Rossiter et al., 1992). CBT has been shown to alter this diet—binge cycle as well as distorted attitudes to eating, shape, and weight with purging bulimics (Fairburn et al., 1991). In one study, nonpurged caloric intake increased from 822 kcal before treatment to 1,439 kcal posttreatment (Rossiter, Agras, Losch, & Telch, 1988). Future research is needed to assess posttreatment changes in binge eating and restraint patterns in nonpurging overweight bulimics.

The second line of research reveals that women with bulimia experience profound and persistent disturbances in social relatedness (Norman & Herzog, 1986). These difficulties include peer (Pike, 1989), marital (Van Buren & Williamson, 1988), and family relationships (e.g., Dolan, Lieberman, Evans, & Lacey, 1990; Humphrey, 1988, 1989; Pike & Rodin, 1991; Strober & Humphrey, 1987; Wilfley, 1989). Relationships are typified by a lack of emotional expression, avoidance of conflict, fears of rejection, and a lack of perceived support. Social disturbances include social anxiety (discomfort in the presence of others; Gross & Rosen, 1988; Striegel-Moore, Silberstein, & Rodin, in press) and public self-consciousness (preoccupation with self-presentation and how others perceive and evaluate them; Heatherton & Baumeister, 1991; Striegel-Moore et al., in press). Heatherton and Baumeister (1991) concluded that binge eating develops as an escape response to this acute sensitivity to the actual or perceived demands of others. During a laboratory study, researchers documented that women with disordered eating experienced an increased desire to binge after exposure to stressors, especially stressors of an interpersonal and social nature (Cattanach, Malley, & Rodin, 1988). Hence, bulimic behavior may be a coping mechanism that is inextricably linked with problems in interpersonal and social relationships. IPT may work by directly addressing feelings of inadequacy in social situations, thus enhancing the bulimic individual's sense of competence and reducing affective responses that might trigger binge eating through disinhibition.
A comment is warranted on the methodological difficulties involved in comparing the two treatments. Two treatment manuals were developed to eliminate overlapping features. This careful separation may compromise either CBT or IPT, because dysfunctional interpersonal relating was not addressed in CBT and food, eating, shape, and weight were avoided in IPT. The findings may have been more robust for both treatments without these limitations. In addition, the small sample size may have limited our ability to detect mode-specific differences between the two treatments. For example, the trend for increases in self-esteem and mood with IPT may have been significant with more subjects and would have provided a more accurate picture of differential change between the two treatment conditions. Because self-esteem has been shown to be a significant predictor of treatment outcome (Fairburn, Kirk, O'Connor, Anastasiades, & Cooper, 1987), it will be important to identify treatments that enhance self-esteem.

Whether CBT and IPT achieve their results in bulimia through different mechanisms or similar shared mechanisms is currently unknown. It may be that CBT and IPT have the same outcome but operate through different mechanisms (Hollon, DeRubeis, & Evans, 1987). Improvements in one area may be generalized to other areas. For example, Fairburn's study (in press) revealed differential patterns of change over time. IPT subjects initially improved on bingeing and psychosocial adjustment as rapidly as CBT; however, not until the 4-month follow-up did IPT evidence changes in other aspects of the disorder (lessened concern with shape, weight, and dieting). We chose to examine specificity at posttreatment; it may well be that specificity occurred earlier in treatment. In future studies, researchers should look for specificity over the course of treatment as well as at follow-up assessments.

Both CBT and IPT appear useful for the nonpurging bulimic, raising the possibility that particular types of patients respond differentially to the two treatments. A recent investigation (Rossiter, Agras, Telch, & Schneider, in press) revealed that high Cluster B scores of bulimic women (consisting of antisocial, borderline, histrionic, and narcissistic features) predicted poor outcome at 16 weeks in CBT, pharmacologic, and combined treatment conditions. Perhaps bulimic women who struggle with more affective instability and impulsiveness may have a better response to a treatment such as IPT. This focus of treatment may lead to reductions in binge eating by helping such patients control the intense affective instability and interpersonal conflicts that plague them. Another option to be explored for treatment of binge eating may be a combination of the two treatments as this would attend to both disinhibitors: dietary restraint and negative mood associated with interpersonal difficulties.

Nonpurging bulimia poses a complex treatment problem because of its association with obesity. Although initial reports suggest that CBT and IPT are effective with nonpurging bulimia, neither affected weight loss in a clinically significant manner. Combinations of treatments or longer treatments might facilitate weight loss in this population. However, huge weight losses may not be important because researchers have recently discovered that surprisingly small weight losses can lead to significant improvements in medical conditions (e.g., Blackburn & Kanders, 1987; for a review, see Brownell & Wadden, 1991; Brownell & Wadden, 1992). Once binge eating has decreased, women with nonpurging bulimia may benefit from treatment aimed at achieving reasonable versus ideal weight loss (Brownell & Wadden, 1991). On the other hand, decreasing binge eating may decrease weight fluctuations, which in itself may improve health status (Lissner et al., 1991). Furthermore, treatment interventions focused on ameliorating binge eating may improve psychological functioning by decreasing the feelings of guilt, secrecy, and loss of control associated with binge eating behavior.

In summary, both group CBT and group IPT had an equally marked effect on decreasing the frequency of binge eating. Binge eating remained significantly below baseline levels for both treatment conditions at a 6-month and 1-year follow-up. These data support the central role of both eating behavior and social functioning in the understanding and treatment of bulimia.
References


A copy of the treatment manual is available from Denise E. Wilfley. Please enclose a check for $10 to cover the costs of production and handling. Send requests to Denise E. Wilfley, Department of Psychology, Yale University, P.O. Box 11A Yale Station, New Haven, Connecticut 06520.

An endpoint analysis was also completed on the basis of the last score available (baseline, posttreatment, or 6-month follow-up). There was essentially no difference between this analysis and the intent-to-treat analysis where missing data were replaced with baseline values.

An intent-to-treat analysis (with baseline replacement values), endpoint analysis (based on the last score available), and treatment-completers analysis all rendered similar findings for weight.

Table 1.

Table 2.

Figure 1. Self-reported number of days binged per week at baseline and posttreatment (16 weeks) for group cognitive—behavioral therapy (CBT, n = 18), group interpersonal psychotherapy (IPT, n = 18), and wait—list (WL, n = 20).
Figure 2. Self-reported number of days binged per week for treatment completers at baseline, posttreatment (16 weeks), 6-month follow-up, and 1-year follow-up for group cognitive—behavioral therapy (CBT, n = 10) and group interpersonal psychotherapy (IPT, n = 13).