

A Cognitive-Behavioural Program (One Day a Week) for Patients With Obesity and Binge Eating Disorder: Short-Term Follow-up Data

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Abstract

This paper describes an innovative cognitive behavioural program for the treatment of patients with binge eating disorder in the University Psychiatric Center K.U. Leuven Campus Kortenberg in Belgium. The program runs one day a week during 6 months and consists of 24 sessions. The most important therapeutic goals are: (1) normalization of eating habits and stopping the binge eating episodes; (2) promoting physical activity and a positive body experience; (3) learning specific skills such as assertivity, installing a functional self-evaluation system; learning to identify, tolerate and express negative emotions, promoting self-esteem and prevention of relapse. Overall, the goal is to promote both physical and psychological well-being and quality of life. Some preliminary research data on the effectiveness of this program are described. Despite a rather limited weight loss, the number of binges per week decreased significantly, which was the main therapeutic goal of the treatment. Furthermore, the results show some promising improvements on different psychological parameters in BED patients.

Keywords: binge eating, obesity, cognitive behavioural therapy, follow-up, effectiveness

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INTRODUCTION

Stunkard (1959) first described the syndrome of Binge Eating Disorder (BED) in 1959. However, the syndrome has not yet achieved official diagnostic recognition. In the fourth edition of the DSM (APA, 1994), BED has been introduced within a new diagnostic category “eating disorders not otherwise specified”. It concerns eating disorders, which do not meet the criteria for Anorexia Nervosa or Bulimia Nervosa. Further research is needed to validate the criteria of BED and EDNOS.

The main criterion for BED entails recurrent episodes of binge eating: eating in a discrete period of time an amount of food that is definitively larger than most people would eat in a similar period of time and under similar circumstances. There is a strong sense of lack of control over eating during the episode. Furthermore, binge eating episodes are associated with three (or more) of the following: 1) eating much more rapidly than normal, 2) eating until uncomfortable full, 3) eating large amounts of foods when not feeling physically hungry, 4) eating alone because of being embarrassed by how much one is eating and 5) feeling disgusted with oneself, depressed, or very guilty after overeating. To meet the DSM-IV criteria (APA, 1994), the binge eating occurs, on average, at least 2 days a week for 6 months and is associated with regular use of inappropriate compensatory behaviours. An overview of the DSM-IV criteria is given in Table 1 (APA, 2000).

Table 1. DSM-IV-TR diagnostic criteria for binge eating disorder

A. Recurrent episodes of binge eating.

Both of the following characterize an episode of binge eating:

1. Eating, in a discrete period of time (e.g. within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time under similar circumstances.
2. The sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating).

B. Binge-eating episodes are associated with three (or more) of the following:

1. Eating much more rapidly than normal.
2. Eating until feeling uncomfortably full.
3. Eating large amounts of food when not feeling physically hungry.
4. Eating alone because of being embarrassed by how much one is eating.
5. Feeling disgusted with oneself, depressed, or very guilty after overeating.

C. Marked distress regarding binge eating is present.

D. The binge eating occurs, on average, at least 2 days a week for 6 months.

E. The binge eating is not associated with the regular use of inappropriate compensatory behaviour (e.g. purging, fasting, excessive exercise, etc.) and does not occur exclusively during the course of anorexia nervosa or bulimia nervosa.

Although obesity is not a criterium for BED, there is a strong association between them (Bulik & Reichborn-Kjennerud, 2003; De Zwaan, 2001). A study of Yager (2008) reports that 65% of the BED-patients are obese. Research data (see Vanderlinden, Dalle Grave, Fernandez, Vandereycken & Pieters, 2004) concerning the prevalence of obesity in the BED-population report very different data.

Some differences between obese binge eaters and obese non-binge eaters have been reported. Obese binge eaters often show more severe obesity and greater eating disorder psychopathology (more weight and shape concerns, greater ineffectiveness and body dissatisfaction, more emotional eating, etc.; Wilfley, Wilson, & Agras, 2003). Moreover, the data show that obese binge eaters report self-evaluations that are more negative and lower self-esteem compared to obese non-binge eaters.

Consequently, obese binge eaters show more comorbid psychiatric disorders and symptoms such as depression and anxiety and more symptoms of the DSM-IV Axis II disorders (personality disorders, mainly cluster B and C) (Mitchell & Perderon Mussel, 1995; Wilfley et al., 2003; Javaras, Pope, Lalonde, Roberts, Nillni, Laird, et al., 2008).

So far, there are few epidemiological data concerning the prevalence of BED. Among obese adults seeking treatment for their obesity, prevalence rates vary between 1.3% and 30.1% (Dingemans, Bruna, & van Furth, 2002). In the general population, prevalence is estimated between 1 and 3.3%. BED is both present in men (40%) and women (60%) (Spitzer, Devlin, & Walsh, 1992; Spitzer, Yanovski, Wadden, & Wing, 1993; Hay, 1998).

Because of the similarities between BED and Bulimia Nervosa (BN), outcome studies for BED focused mainly on therapies with proven effectiveness for BN, such as Cognitive Behavioural Therapy (CBT) and antidepressant drugs. In general, CBT is accepted as the most effective treatment for BN and BED. However, further research and long-term follow-up is needed (Brownley, Berkman, Sedway, Lohr, & Bulik, 2007; Dingemans et al., 2002). A few pharmacological studies evaluated the effectiveness of a treatment with antidepressant drugs for BED (e.g. Fluoxetine, Sertraline, Fluvoxamine, Desipramine en Citalopram). The results show no weight loss and a decrease in the number of binges for a short period of time (Dingemans et al., 2002; Carter, Hudson, Lalonde, Pindyck, Elroy, & Pope, 2003). A combination of CBT and antidepressant drugs does not seem more effective than CBT alone (De Zwaan, 2001; Wonderlich, De Zwaan, Mitchell, Peterson, & Crow, 2003).

In the next part, we describe a new, innovative cognitive behavioural program for the treatment of patients with a binge eating disorder in the University Psychiatric Center K.U. Leuven Campus Kortenberg in Belgium. Preliminary research data regarding the effectiveness of the program are presented.

Treatment protocol for BED in the University Psychiatric Centre KULeuven, Campus Kortenberg, Belgium

A new cognitive-behavioural therapeutic program for the treatment of patients with obesity and binge eating disorder started in our centre in 2005. The program runs one day a week during a 24-week period. It targets men and women with binge eating disorder, often in combination with obesity. The program consists of well-structured group therapy sessions: maximum nine participants are following a step-by-step protocolised treatment (Vanderlinden, Pieters, Probst, & Norré, 2007; Vanderlinden, 2008).

The therapeutic program is focusing on a variety of therapeutic goals such as : 1) psycho-education about the risks of obesity and binge eating, 2) increasing motivation for change, 3) learning new and healthy eating behaviours while promoting an active life style and positive body experience, 4) awareness of the different triggers of binge eating and learning alternatives to deal with these difficult situations (and hence stop the bingeing), 5) installing a functional self-evaluation system, 6) improving self-esteem and assertiveness, 7) learning to identify, tolerate and express emotions and 8) preventing relapse. Loss of weight is not a primary goal. The main focus is on improving the general well-being and quality of life of the patients. The interdisciplinary team consists of a psychiatrist, a psychologist, a nutritionist, a psychiatric nurse and a psychomotor therapist.

The first sessions of the treatment focus on psycho-education on BED and the risks of obesity, the principles of the treatment are explained and motivation for change is explored. Each patient is asked to keep an eating diary very carefully. This diary enables the therapist and the patient to explore the eating pattern and to gradually introduce a normal eating pattern and more healthy eating behaviours. Dieting is not allowed. Meanwhile the eating diary is also aimed at exploring the binge eating triggers and situations at risk for binge eating. The next step is to learn alternatives to cope with difficult moments (behavioural, cognitive and emotional strategies are proposed) and a gradually exposure to difficult situations is planned.

Psychomotor therapy is an essential part of our treatment. In psychomotor therapy different activities (walking, swimming, fitness...) adapted to the individual situation and possibilities of every patient are practiced, and physical activity in daily life is gradually increased. Patients are introduced in using the 'pedometer' and to register their activities on a daily basis. Besides focusing on the normalisation of eating habits and promoting physical activities, several treatment modules are proposed aiming at learning specific skills such as 1) installing a functional self-evaluation system and stopping negative thinking, 2) promoting and enhancing the self-esteem, 3) learning to identify, deal with and express negative emotions (including relaxation skills), 4) learning social skills such as assertivity and 5) prevention of relapse. These modules run 4 to 5 sessions of 1h30 minutes and follow a clear step-by-step approach.

At session 12 and at the end of the treatment, an evaluation of the therapeutic process takes place, where different aspects (normalizing eating habits, self-monitoring in eating diary, stopping with dieting, gradually stopping binge eating and introducing alternative strategies in confrontation with the binge eating triggers, active life style,...) are discussed and evaluated. Based on this evaluation, new and more appropriate therapeutic goals can be chosen and defined.

In the next part, we describe some preliminary results of this program and report on the data of different parameters and psychological measures.

METHOD

Participants

The ethical committee approved the study. In total, 23 BED patients were included in the study (19 women, 5 men). All subjects administered different psychological tests both at admission and at discharge. Three patients were excluded from the study because they did not return the questionnaires at discharge. Written informed consent was obtained from all patients. Dropping-out of the program was very low: 95% of all patients continued their treatment until the last session. Demographic characteristics of all subjects are presented in Table 2.

Table 2. The general characteristics of the Binge eating disorder group at admission

Variable	Mean	SD
Age (years)	38.1	12.0
Number of binges per week	5.9	2.6
Weight (kg)	109.0	31.0
Height (cm)	168.0	9.5
BMI (kg/m ²)	38.0	9.4

Instruments

Several psychological tests were administered at the beginning of the treatment and 6 months later at the end of the therapeutic program. In order to assess general psychological well being, the *Symptom Check List* (SCL-90; Arindell & Ettema, 1986) was used. Along with a global measure for psychoneuroticism, it measures complaints of anxiety, depression, somatization, insufficiency, sensitivity, hostility, and sleeplessness.

The *Body Attitude Test* (BAT; Probst, Vandereycken, Van Coppenolle, & Vanderlinden, 1995; Probst, 1997a; Probst, Van Coppenolle, & Vandereycken, 1997b) is intended to measure the subjective body experience and the attitude

towards one's body. The BAT is a 20 item self-report questionnaire developed for female eating disorder patients.

Repeated analyses yield a stable factor structure: negative appreciation of body size, lack of familiarity with one's own body. The questionnaire shows good reliability (internal consistency and test-retest) and validity (convergent and discriminant).

The *Eating Disorder Inventory* (EDI; Garner, Olmsted, & Polivy, 1983) is a widely used 64-item questionnaire aimed at assessing the psychological characteristics, eating related attitudes and traits of AN and BN. The scale is reliable and has been validated extensively. In this study only the total score and subscales bulimia, drive for thinness and body dissatisfaction were used.

The *Beck Depression Inventory* (BDI, Beck, Steer, & Brown, 1996) consists of 21-questions and is a multiple-choice self-report inventory. The BDI is one of the most widely used instruments for measuring the severity of depression.

The *Dissociation Questionnaire* (DIS-Q, Vanderlinden, Van Dyck, Vandereycken, Vertommen, & Verkes, 1993) has besides a total score four subscales namely (1) identity confusion or fragmentation (referring to experiences of derealization and depersonalisation); (2) loss of control (referring to experiences of losing control over behaviour, thoughts and emotions; this subscale also contains a few items about control over eating behaviour); (3) amnesia (referring to experiences of memory lacunas); and (4) absorption (referring to experiences of enhanced concentration, which are supposed to play an important role in hypnosis). The DIS-Q has a good internal consistency, test-retest reliability, and validity. We were especially interested in the subscale loss of control.

Statistical analysis

Nonparametric analyses were used throughout, because of the categorical data. The groups' levels were compared using Wilcoxon z tests.

RESULTS

The results of this study are presented in Table 3. At admission, most patients suffered from severe obesity: their weight was on average 109 kg, mean BMI was 38. Binge eating episodes were very common; subjects reported almost six episodes a week.

Table 3. Descriptive values and results of Wilcoxon matched paired test between pre and post treatment in BED patients (N = 20)

	Pre Treatment		Post Treatment		z
	M	SD	M	SD	
Number of binges p/week	5.9	2.6	1.5	1.5	4.10***
BMI	38.0	9.5	36.7	8.0	1.90*
SCL Total	240.0	65.0	187.0	69.0	3.80***
SCL Anxiety	26.5	10.5	20.6	9.0	3.90***
SCL Depression	47.0	13.5	36.0	13.8	3.30***
SCL Sleep problems	8.5	3.6	7.7	3.8	1.00
BDQ	26.0	10.0	16.0	10.2	3.20***
BAT Total	28.0	4.8	56.0	18.0	2.70**
EDI Total	79.6	27.0	48.0	29.6	3.10***
EDI Bulimia	9.0	4.1	2.7	2.7	3.70***
EDI Body Dissatisfaction	20.0	6.0	13.6	7.7	2.70**
DISQ Loss of control	2.9	0.7	2.2	0.7	3.00***

*p < .05 **p < .01 ***p < .001

BMI = Body Mass Index; BDQ = Beck Depression Questionnaire; SCL = Symptom Check List; BAT = Body Attitude Test; EDI = Eating Disorder Inventory; DISQ = Dissociation Questionnaire

Besides the obesity problems, the patient sample reported a wide variety of eating and psychological problems suggesting an important comorbidity. An average total score of 80, percentile 65 compared to a population of female eating disorder patients on the Eating Disorder Inventory (EDI) indicates a high and severe overall eating disorder pathology. Different symptoms of binge eating disorder are highly represented (EDI bulimia scale = 9, percentile 99 compared to a population of female students, percentile 59 compared to a population of female eating disorder patients; DIS-Q loss of control = 2.9, percentile 98 compared to the general population). Subjects experience their body size as very negative and they report an important lack of familiarity with their own body compared to a general population of students (BAT total score = 28, percentile 68). The negative body experience is also reflected in the high score on the EDI subscale body dissatisfaction (score = 20, percentile 89 compared to a population of female students, percentile 54 compared to a population of female eating disorder patients). Furthermore, the results show a strong psychiatric comorbidity, reflected in complaints of severe depression (SCL-90 depression percentile 100 compared to a normal population, percentile 57 compared to a psychiatric population; average Beck Depression Score 26, cut-off for severe depression = 20), anxiety and

sleeping problems (SCL-90 anxiety = 26.5: percentile 98 compared to a normal population, percentile 46 compared to a psychiatric population; sleeping problems = 8.5: percentile 88 compared to a normal population, percentile 55 compared to a psychiatric population).

Moreover, the mean total score on the SCL of 240 (percentile 100 compared to a normal population, percentile 64 compared to a psychiatric population) gives an indication of the poor general psychological well being of our patients at the start of the treatment.

Short-term follow-up data at the end of 6 months treatment show important and significant improvements on all measures. The number of binges per week decreased significantly ($p < .001$) from 5.9 binges a week until less than 2 episodes a week. Most patients reported that binge eating episodes were completely absent. Patients lost on average 4 kg of weight ($p < .01$) and the BMI decreased from 38 to 36.7 ($p < .05$). Weight loss was however not a primary therapeutic goal of the treatment. Our main focus was to achieve a reduction of the binge eating episodes and to improve the general well-being and quality of life of the patients. As mentioned earlier, dieting was not allowed. Moreover, different studies report that CBT does not lead to significant changes in body weight (Bulik, Brownley & Shapiro, 2007; Wilson, Grilo & Vitousek, 2007).

Furthermore, the results show some promising improvements on the psychological parameters in BED patients. First, a significant improvement on different symptoms of binge eating disorder could be observed. The score on the bulimia subscale of the EDI decreased from 9 to 2.7 (percentile 94 compared to a population of female students, percentile 28 compared to a population of female eating disorder patients). Patients reported a higher sense of inner control over their eating behaviour (Loss of control DIS-Q: 2.2, percentile 77 compared to normals; $p < .001$) together with a more positive body experience (BAT total score 56, percentile 94 compared to a general population of students, $p < .01$). Second, the patient's mood improved significantly into the normal range (Beck Depression Inventory score 16, $p < .01$; Depression subscale SCL-90 36: percentile 92 compared to a normal population, percentile 29 compared to a psychiatric population, $p < .001$), while patients were less anxious (Anxiety subscale SCL-90 20.6: percentile 85 compared to a normal population, percentile 25 compared to a psychiatric population, $p < .01$). Patients also reported less sleeping problems at the end of the treatment (SCL-90 sleeping problems = 7.7: percentile 81 compared to a normal population, percentile 47 compared to a psychiatric population).

At last, the decrease in the total score on the SCL-90 (from 240 to 187: percentile 94 compared to a normal population, percentile 34 compared to a psychiatric population) reflects the improvement on the general psychological well being of our patients at the end of the treatment, which was our main goal.

DISCUSSION

This article describes the short-term follow-up data at the end of 6 months treatment in a cognitive-behavioural program for binge eating disorder. The average weight loss is rather limited but the number of binges per week decreased significantly, which was a more important therapeutic goal of the treatment. A possible explanation for the limited weight loss is the fact that most of the patients in the study group suffered from obesity for several years and had a long history of restrictive dieting. These diets mostly result in weight loss on the short-term, but sooner or later the food restrictions trigger binge eating episodes and consequently the weight increases again (the so called yo-yo effect). These enormous fluctuations in body weight could result in a physical 'protest' of the human body that makes it more and more difficult to lose weight. At the start of our treatment, we try to explain this to the patients and stress the fact that another restrictive diet is not the solution for their eating disorder. Our goal is to achieve a 'normal' eating pattern and a change in life style that can be continued on the long term. Moreover, the treatment of obesity is not the only focus of the therapy. As mentioned earlier, the main goal is to decrease the number and intensity of binge eating episodes also by increasing 'alertness' in our patients. The high scores at the start of the treatment on scales measuring the eating disorder pathology (e.g. bulimia subscale of the EDI, subscale loss of control of the DIS-Q) confirm the need to avoid a classical diet and to rather focus on awareness of and alertness for the different triggers of binge eating while learning alternatives to deal with these difficult situations. In our experience, patients often start to lose weight, once the eating pattern stays well structured and the bingeing stops for a long period of time in combination with an increase in alertness for the binge eating triggers.

As mentioned earlier, the subjects in this study suffered from severe obesity at the start of treatment and binge eating episodes occurred almost daily. Furthermore, patients reported a wide variety of psychological problems. This confirms the important comorbidity of binge eating disorder with other psychiatric disorders, in accordance to the literature (Wilfley et al., 2003; Mitchell et al., 1995; Javanas et al., 2008). In our opinion, this could be a factor that interferes with therapeutic improvements. Some symptoms of depression for example (regression, disturbed day-night rhythm...) often make it difficult to achieve a regular eating pattern or a more active life style. Despite the severe psychiatric comorbidity in our population, the results of our treatment show some promising improvements on different psychological parameters: symptoms of BED were less present, together with improvements on patients' mood, anxiety level, sleeping problems, and their general psychological well-being. Which factors may have been effective to provoke these positive changes? We assume that possibly our interdisciplinary approach in combination with a structured 'step-by-step CBT approach within a 'group framework' made these changes possible. Most of the patients were very positive about working on individual therapeutic goals within a group setting: in

our opinion, it increased both motivation and prevented them from dropping-out of the treatment.

However, this study is confronted with some limitations like a rather small sample of subjects and the lack of long-term follow-up data e.g. one year after treatment. Furthermore, we did not include a control group of patients who received no treatment in the present study. For future research, we need to enlarge our study-group, collect long-term follow-up data, and include a control group to be able to compare our results.

REFERENCES

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders*. 4th ed., text revision (DSM-IV-TR). Washington: American Psychiatric Association.
- Arindell, W.A., & Ettema, J.H.M. (1986). *SCL-90: Handleiding bij een multidimensionele psychopathologie-indicator*. Lisse: Swets & Zeitlinger.
- Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Brownley, K.A., Berkman, N.D., Sedway, J.A., Lohr, K.N., & Bulik, C.M. (2007). Binge eating disorder treatment: a systematic review of randomized controlled trials. *International Journal of Eating Disorders*, 40, 337-348.
- Bulik, C.M., Brownley, K.A., & Shapiro, J.R. (2007). Diagnosis and management of binge eating disorder. *World Psychiatry*, 6, 142-148.
- Bulik, C.M., & Reichborn-Kjennerud, T. (2003). Medical morbidity in binge eating disorder. *International Journal of Eating Disorders*, 34, 39-46.
- Carter, W.P., Hudson, J.I., Lalonde, J.K., Pindyck, L., Mc Elroy, S.L., & Pope, H.G. Jr. (2003). Pharmacologic treatment of binge eating disorder. *International Journal of Eating Disorders*, 34, S74-S88.
- De Zwaan, M. (2001). Binge eating disorder and obesity. *International Journal of Obesity*, 25, 51-55.
- Dingemans, A.E., Bruna, M.J., & van Furth, E.F. (2002). Binge eating disorder: a review. *International Journal of Obesity*, 26, 299-307.
- Fairburn, C.G., & Beglin, S.J. (1994). The assessment of eating disorders: interview or self-report questionnaire? *International Journal of Eating Disorders*, 16, 363-370.
- Garner, D.M., Olmsted, M.P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders*, 2, 15-34.
- Hay, P. (1998). The epidemiology of eating disorder behaviors: an Australian community-based survey. *International Journal of Eating Disorders*, 23, 371-382.

- Javaras, K.N., Pope, H.G., Lalonde, J.K., Roberts, J.L., Nillni, Y.I., Laird, N.M., Bulik, C.M., Crow, S.J., McElroy, S.L., Walsh, B.T., Tsuang, M.T., Rosenthal, N.R., & Hudson, J.I. (2008). Co-occurrence of binge eating disorder with psychiatric and medical disorders. *Journal of Clinical Psychiatry*, *69*, 266-273.
- Mitchell, J.E., & Perderon Mussel, M. (1995). Comorbidity and binge eating disorder. *Addictive Behaviours*, *20*, 725-732.
- Probst, M. (1997a). *Body experience in eating disorders* (doctoral dissertation). Leuven.
- Probst, M., Van Coppenolle, H., & Vandereycken W. (1997b). Further experience with the Body Attitude Test. *Eating & Weight Disorders*, *2*, 100-104.
- Probst, M., Vandereycken, W., Van Coppenolle, H., & Vanderlinden, J. (1995). The Body Attitude Test for patients with an eating disorder: Psychometric characteristics of a new questionnaire. *Eating Disorders: The Journal of Treatment and Prevention*, *3*, 133-144.
- Spitzer, R.L., Devlin, M., Walsh, B.T., Hasin, D., Wing, R., Marcus, M., Stunkard, A., Wadden, T., Yanovski, S., Agras, S., Mitchell, J., & Nonas, C. (1992). Binge eating disorder: a multisite field trial of the diagnostic criteria. *International Journal of Eating Disorders*, *11*, 191-203.
- Spitzer, R.L., Yanovski, S.Z., Wadden, T., & Wing, R. (1993). Binge eating disorder: its further validation in a multisite study. *International Journal of Eating Disorders*, *13*, 137-153.
- Stunkard, A.J. (1959). Eating patterns and obesity. *Psychiatric Q*, *33*, 284-292.
- Vanderlinden, J. (2008). *Boulimie en eetbuien overwinnen in 10 stappen (Overcoming Bulimia Nervosa in ten steps)*. Tiel: Lannoo.
- Vanderlinden, J., Dalle Grave, R., Fernandez, F., Vandereycken, W., & Pieters, G. (2004). Which factors do provoke binge eating in eating disorders? *Eating and Weight Disorders*, *9*, 300-306.
- Vanderlinden, J., Pieters, G., Probst, M., & Norré, J. (2007). *Behandelprotocol Boulimia Nervosa. Therapeutenboek (Treatment protocol for Bulimia Nervosa: Guide for the therapist)*. Amsterdam: Boom.
- Vanderlinden, J., Van Dyck, R., Vandereycken, W., Vertommen, H., & Verkes, R.J. (1993). The Dissociation Questionnaire (DIS-Q): development and characteristics of a new self-report questionnaire. *Clinical Psychology and psychotherapy*, *1*, 21-27.
- Wilfley, D.E., Wilson, G.T., & Agras, W.S. (2003). The clinical significance of binge eating disorder. *International Journal of Eating Disorders*, *34*, 96-106.
- Wilson, G.T., Grilo, G.M., & Vitousek, K.M. (2007). Psychological treatment of eating disorders. *American Psychologist*, *62*, 199-216.
- Wonderlich, S.H., de Zwaan, M., Mitchell, J.E., Peterson, C., & Crow, S. (2003). Psychological and dietary treatments of binge eating disorder: conceptual implications. *International Journal of Eating Disorders*, *34*, 58-73.
- Yager, J. (2008). Binge eating disorder: the search for better treatments. *American Journal of Psychiatry*, *165*, 4-6.

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