A Randomized, Controlled Trial of Group Cognitive-Behavioral Therapy for Compulsive Buying Disorder: Posttreatment and 6-Month Follow-Up Results

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Objective: The purpose of this study was to conduct a randomized trial comparing the efficacy of a group cognitive-behavioral therapy (CBT) intervention designed for the treatment of compulsive buying disorder to a waiting list control (WLC) group.

Method: Thirty-one patients with compulsive buying problems according to the criteria developed by McElroy et al. were assigned to receive active treatment (12 weekly sessions and 6-month follow-up) and 29 to the WLC group. The treatment was specifically aimed at interrupting and controlling the problematic buying behavior, establishing healthy purchasing patterns, restructuring maladaptive thoughts and negative feelings associated with shopping and buying, and developing healthy coping skills. Primary outcome measures were the Compulsive Buying Scale (CBS), the Yale-Brown Obsessive Compulsive Scale-Shopping Version (YBOCS-SV), and the German Compulsive Buying Scale (G-CBS). Secondary outcome measures were the Symptom Checklist-90-Revised *(SCL-90-R)*, the Barratt Impulsiveness Scale (BIS-11), and the Saving Inventory-Revised (SI-R). The study was completed between November 2003 and May 2007 at the University Hospital of Erlangen, Bavaria, Germany.

Results: Multivariate analysis revealed significant differences between the CBT and the WLC groups on the primary outcome variables (outcome-by-time-by-group effect, Pillai's trace, F = 6.960, df = 1, p = .002). The improvement was maintained during the 6-month follow-up. The treatment did not affect other psychopathology, e.g., compulsive hoarding, impulsivity, or SCL-90-R scores. We found that lower numbers of visited group therapy sessions and higher pretreatment hoarding traits as measured with the SI-R total score were significant predictors for nonresponse.

Conclusion: The results suggest that a disorder-specific cognitive-behavioral intervention can significantly impact compulsive buying behavior.

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Compulsive buying is defined as excessive and mostly senseless spending or excessive shopping impulses that cause marked distress, interfere with social or occupational functioning, and often result in financial problems.[1] Originally, Kraepelin[2] and Bleuler[3] included compulsive buying, termed *oniomania*, as a clinical entity in their textbooks. Research on the topic has increased over the last 20 years and has been reviewed in several publications.[4–6] Koran et al.[7] reported a lifetime prevalence rate of compulsive buying in the United States of 5.8%. Neuner et al.[8] estimated the prevalence of compulsive buying in Germany to be 6% to 8%. Individuals with compulsive buying disorder frequently present with high rates of psychiatric comorbidity, especially mood disorders, anxiety disorders, obsessive-compulsive disorder, substance use disorders, and eating disorders.[1,9–13] Schlosser et al.[14] reported that compulsive buyers often meet criteria for a comorbid personality disorder. Previous research has indicated that there exists an association between compulsive hoarding and compulsive buying, since many but not all compulsive buyers also suffer from compulsive hoarding.[15–18]

There exists no standard treatment for compulsive buying disorder. Two small controlled studies[19,20] with

antidepressants found no superiority of fluvoxamine over placebo. Black et al.[9] reported placebo response rates of over 60% in their fluvoxamine study. A few case reports[21,22] have suggested that opiate antagonists can improve compulsive buying. Only a few case studies[23–25] with psychotherapy have been published. Mitchell et al.[26] reported the results of the only controlled trial comparing the efficacy of a group cognitive-behavioral therapy (CBT) intervention to a waiting list control (WLC) condition in a small number of U.S. subjects. They found significant improvement in compulsive buying, which was maintained during a 6-month follow-up period, at the end of treatment.

The aim of the present controlled study was to further test the efficacy of this disorder-specific group CBT intervention in a German sample of adult outpatients with compulsive buying disorder. Furthermore, predictive factors for treatment response were investigated. Findings may be important for both clinicians and researchers.

METHOD

Recruitment and Participants

Participants were recruited through newspaper advertisements, local TV, and radio interviews inviting interested individuals to participate in a group therapy program for compulsive buying disorder at the University Hospital of Erlangen (Bavaria, Germany). Inclusion criteria were current compulsive buying problems according to the criteria of McElroy et al.[1] and age 18 years and older. Exclusion criteria were active suicidal ideation and current mania. Participants could be taking antidepressants if they had been on a stable dose for at least 3 months and if doses were kept stable. The enrollment in any kind of psychotherapy aiming at reduction of the compulsive buying behavior was an exclusion criterion. Other current psychotherapy was allowed if patients had begun the treatment at least 6 months previously. The patient flow is presented in Figure 1. One hundred ten respondents (96 women, 14 men) were screened by phone according to the proposed diagnostic criteria for compulsive buying. Eighty-five women and 12 men met the diagnostic criteria and were potentially eligible. They were invited to attend an information session about the treatment and the diagnostic procedures. Twenty-three individuals decided against participation due to the long travel distance between their place of residence and the Erlangen Hospital (50 miles or more). One woman was excluded because of pregnancy, and another woman because of a planned surgery. Six subjects decided against the treatment without giving reasons. Fifty-five women and 11 men gave written informed consent. They completed a series of questionnaires and were further screened by trained interviewers. Descriptive character-

Figure 1. Patient Flow
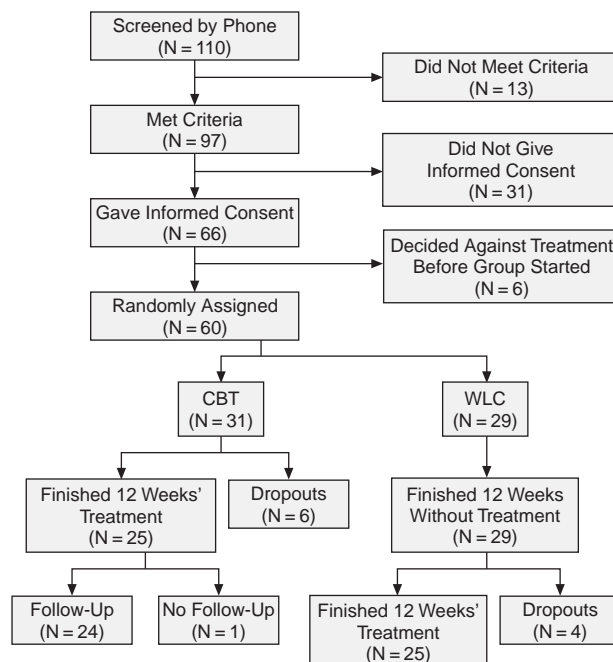
Abbreviations: CBT = cognitive-behavioral therapy, WLC = waiting list control.

istics of these 66 compulsive buyers have been reported previously.[18] Six subjects decided against participation before treatment started. Sixty compulsive buyers were enrolled into the psychotherapy study. Because of logistical difficulties, it was not feasible to conduct groups simultaneously in this monocentric study. Patients were assigned to groups, which were subsequently randomly assigned to one of 2 conditions, upon enrollment. Thirty-one participants were assigned to one of 5 CBT groups and 29 individuals to one of 5 WLC groups.

The study was completed between November 2003 and May 2007 and approved by the Institutional Ethics Committee of the University Hospital of Erlangen.

Treatment

The therapy used in this study was based on a cognitive-behavioral group therapy manual that specifically aims at interrupting and controlling the problematic buying behavior, establishing healthy purchasing patterns, identifying and restructuring maladaptive thoughts and feelings associated with shopping and buying, developing healthy coping skills and communication patterns, and implementing relapse-prevention techniques. (The treatment manual has been described in detail previously by Burgard and Mitchell.[27] It was translated and adapted by A.M.) Additionally, more general sessions about self-esteem, stress management, and problem solving were included. Group participants were expected to complete

homework assignments and read manual script materials regularly as assigned. The psychotherapy treatment focused both on current factors that maintain the excessive buying behavior and on strategies for controlling buying problems. Treatment lasted 12 weeks with one 90-minute group session per week. All groups were led by A.M. Groups were conducted with 5 to 8 participants.

Assessments

All participants were assessed at baseline. Participants assigned to CBT were assessed at the end of treatment and at the end of a 6-month follow-up period. Individuals assigned to the WLC group were reassessed 12 weeks after the baseline assessment. All assessments were conducted by research staff members who remained blind to the treatment assignment throughout the study. Participants completed all self-report questionnaires during the assessment visits.

The German versions of the Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I)[28] and the Structured Clinical Interview for DSM-IV Axis II disorders (SCID-II)[28] were used to determine psychiatric comorbidity. All interviewers had been trained in the administration and scoring of this instrument by A.M., who was herself trained in 2 special SCID training courses at the University of Heidelberg (Baden-Württemberg, Germany).

Primary outcome measures were the Compulsive Buying Scale (CBS), the Yale-Brown Obsessive Compulsive Scale-Shopping Version (YBOCS-SV), and the German Compulsive Buying Scale (G-CBS).

The CBS is a well-validated, 7-item screening instrument for compulsive buying behavior.[29] Lower scores on this scale indicate higher levels of compulsive buying, with a cutoff score of –1.34, which indicates a compulsive buyer.

The YBOCS-SV is a modified version of the Yale-Brown Obsessive Compulsive Scale (YBOCS).[30–33] The YBOCS-SV measures the severity and variations of compulsive buying. The proposed cutoff of the validated German version of the YBOCS is 16.

The G-CBS is an adapted version of the Canadian Compulsive Buying Measurement Scale.[34,35] This validated screening instrument measures the propensity for compulsive buying. Consumers are classified as being compulsive when they reach a score of 45 or more.

Secondary outcome measures were the Symptom Checklist-90-Revised (SCL-90-R), the Barratt Impulsiveness Scale (BIS-11), and the Saving Inventory-Revised (SI-R). The SCL-90-R is a widely used psychological status symptom inventory. The German version of the SCL-90-R[36] was used. The BIS-11 is a self-administered questionnaire that measures impulsivity.[37,38] The SI-R is a measure of compulsive hoarding with the 3 subscales *difficulty discarding, clutter,* and *acquisition.*[39]

The CBS and the SI-R were translated into German by the German authors of this paper (A.M. and M.Z.) and then back-translated into English professionally by Public Service "Translaw," Oxford, United Kingdom. Following this, the original and back-translated English versions were checked by the American author of this paper (J.E.M.). The German versions of the CBS and the SI-R are currently validated in a representative sample of the German population.

Statistics

All analyses were based on the intention-to-treat principle and performed with SPSS software version 15.0 (SPSS Inc., Chicago, Ill.). Baseline comparisons were conducted using independent t tests for continuous variables and 2-tailed Fisher exact tests for categorical variables. To explore the improvement during treatment, paired t tests for the CBT and the WLC groups were done separately. The time-by-group interactions were analyzed by repeated-measures analysis of covariance (ANCOVA) with age as a covariate. In view of the use of 3 primary outcome variables and their significant correlation (CBS, YBOCS-SV, G-CBS), we conducted additional multivariate analyses (repeated-measures multiple analysis of covariance [MANCOVA]). Because of multiple comparisons, we used a Bonferroni-corrected p value for the 3 primary outcome variables and for the secondary outcome variables. For the follow-up evaluation in the multivariate analysis, the Helmert contrast was used. Treatment effect sizes were calculated using Cohen's d, defined as the difference between the posttreatment means of the CBT and the WLC groups divided by the pooled standard deviation.[40]

Non-parametric tests (Mann-Whitney U test) were used to compare CBT participants who showed a remission after the treatment with those without remission in continuous baseline variables. Differences in Axis I and II psychiatric comorbidity were compared using the 2-tailed Fisher exact test for categorical data. To examine which variables predicted remission among CBT participants, we conducted a stepwise logistic regression analysis, entering all variables that showed a significant difference between remitted and nonremitted CBT participants in the univariate tests.

RESULTS

Descriptive Characteristics

The mean age of the total sample was 41.3 years (SD = 10.3 years, range = 20–61 years), and the mean duration of compulsive buying ranged from 1 to 43 years (mean = 14.1 years, SD = 11.0 years). There were no significant differences in sex, frequency of current psychotherapy, and psychotropic medication use between the groups. The CBT group consisted of 27 women and 4

Table 1. Baseline Comparisons of Age, Duration of Compulsive Buying, and Questionnaire Scores Between the CBT and WLC Groups

Variable	CBT (N = 31)		WLC (N = 29)		t Test
	Mean	SD	Mean	SD	
Age, y	45.3	8.5	37.2	10.5	t = 3.297, df = 58, p = .002
Duration of compulsive buying, y	15.9	10.6	12.0	11.3	NS
CBS score	−4.1	2.1	−4.2	1.9	NS
YBOCS-SV score	20.7	6.8	22.8	4.7	NS
G-CBS score	53.4	6.8	52.6	6.9	NS
SCL-90-R Global Severity Index score	1.4	0.7	1.5	0.8	NS
BIS-11 score	86.1	14.4	84.1	11.5	NS
SI-R total score	53.0	21.8	50.0	19.8	NS
SI-R difficulty discarding score	16.9	7.8	15.6	7.8	NS
SI-R clutter score	15.1	12.7	13.9	10.2	NS
SI-R acquisition score	20.2	4.2	20.6	4.2	NS

Abbreviations: BIS-11 = Barratt Impulsiveness Scale, CBS = Compulsive Buying Scale, CBT = cognitive-behavioral therapy, G-CBS = German Compulsive Buying Scale, NS = not significant, SCL-90-R = Symptom Checklist-90-Revised, SI-R = Saving Inventory-Revised, WLC = waiting list control, YBOCS-SV = Yale-Brown Obsessive Compulsive Scale-Shopping Version.

men, the WLC group of 24 women and 5 men. Nine participants in the CBT group and 10 participants in the WLC group were in concurrent psychotherapy. Fourteen patients in the CBT group and 15 patients in the WLC group were taking antidepressants. Table 1 shows the baseline comparisons between the participants randomly assigned to the CBT and the WLC conditions. The only significant difference was found for age, and this variable was entered as a covariate in all further analyses. The participants in the CBT group were significantly older than the WLC participants (45.3 years, SD = 8.5 years and 37.2 years, SD = 10.5 years, respectively).

Psychiatric comorbidity with Axis I disorders was assessed in 58 individuals. There were no significant differences in psychiatric comorbidity of Axis I and Axis II disorders between groups. Ninety-four percent of participants in the CBT group and 93% in the WLC group met diagnostic criteria for at least one lifetime Axis I disorder. Eighty-seven percent of the CBT group members and 82% of the WLC participants presented with at least one current Axis I disorder. Both CBT and WLC groups presented with high rates of any current affective disorder (58% and 59%, respectively) and any current anxiety disorder (81% and 70%, respectively). Psychiatric comorbidity with Axis II disorders was assessed in 48 participants. Depressive (CBT group 30% and WLC group 36%), avoidant (26% and 40%, respectively), and obsessive-compulsive (26% and 32%, respectively) personality disorders were the most frequent personality disorders in both groups.

Figure 1 presents the patient flow during the study. Six patients dropped out of the CBT group during treatment and were not available for the second assessment. The only difference in baseline assessment between completers and noncompleters in the CBT group was the absence of any personality disorder among noncompleters (Fisher exact test, p = .011). In all the other variables assessed at baseline, no differences were detected. Because of the dropout rate of 19% in the CBT group, a last-observation-carried-forward method was used. A follow-up assessment after 6 months was available for 24 of the 25 completers of the CBT group. In the WLC group, all 29 participants were available for the second assessment after the waiting period of 12 weeks. The dropout rate during the consecutive treatment was 14% in the WLC group (Figure 1).

Results of the Primary Outcome Measures

Figure 2 presents the completer analysis of the primary outcome measures at baseline, posttreatment, and 6-month follow-up. The intention-to-treat (ITT) results of the primary outcome measures in the CBT and the WLC groups, using paired sample t tests and repeated-measures ANCOVA, are presented in Table 2. The results showed a significant improvement in CBS, YBOCS-SV, and G-CBS scores in the CBT group. Repeated-measures ANCOVA, with age as the covariate, showed a significant time-by-group interaction for CBS, YBOCS-SV, and G-CBS scores. Multivariate analysis (repeated-measures MANCOVA) with age as the covariate revealed significant differences between the CBT and the WLC groups on the primary outcome variables (outcome-by-time-by-group effect, Pillai's trace, F = 6.960, df = 1, p = .002, Bonferroni-corrected p < .017). The improvements were maintained during the follow-up. As expected, multivariate analysis using the Helmert contrast showed a significant difference in primary outcome variables between pretreatment and posttreatment/follow-up (F = 44.456, df = 1, p < .001). The comparison of the posttreatment and the 6-month follow-up assessment did not reveal significant differences (F = 1.190, df = 1, p = .287), i.e., the short-term effects were maintained.

Moderate-to-large effect sizes (Cohen's d) were found for the primary outcome variables: for the CBS (d = .56),

Figure 2. Pretreatment, Posttreatment, and 6-Month Follow-Up Results of Compulsive Buying Measures in Completers of the CBT Group (N = 24) and Participants of the WLC Group (N = 29)

Compulsive Buying Scale[a]

YBOCS-SV

German Compulsive Buying Scale
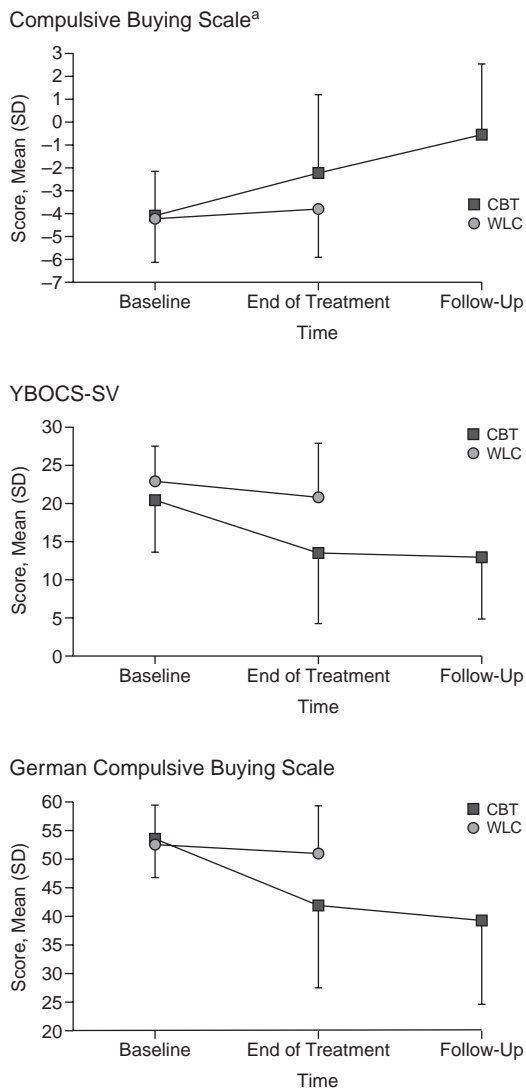
[a]Higher scores on the Compulsive Buying Scale indicate less compulsive buying.
Abbreviations: CBT = cognitive-behavioral therapy, WLC = waiting list control, YBOCS-SV = Yale-Brown Obsessive Compulsive Scale-Shopping Version.

for the YBOCS-SV (d = .88), and for the G-CBS (d = .78). Remission rates were calculated (ITT analysis) using suggested cutoffs of the 3 primary outcome measures. Remission rates based on a CBS score of above –1.34 were 42% in the CBT group and 17% in the WLC group (2-tailed Fisher exact test, p < .05). Based on a YBOCS-SV score of below 16, a higher remission rate was found in the CBT group than in the WLC group (58% vs. 17%, respectively; p < .001). Remission rates on the G-CBS did not reach a statistically significant difference between

groups (45% vs. 24%, respectively; p = .109). Coexistent remission in all 3 primary outcome variables was found in 39% of the CBT group and 14% of the WLC group (2-tailed Fisher exact test, p < .05).

Results of the Secondary Outcome Measures

The results of the secondary outcome measures SCL-90-R, BIS-11, and SI-R in the CBT and the WLC groups, using paired sample t test and repeated-measures ANCOVA, are presented in Table 3. In the CBT group, we found a significant improvement on some of the SCL-90-R subscales. Using repeated-measures ANCOVA, between-group differences on SCL-90-R subscales and on BIS-11 scores did not reach statistical significance (Bonferroni-corrected p < .003).

In the CBT group, we found significant improvements in the SI-R subscales *acquisition* and *difficulty discarding*, whereas repeated-measures ANCOVA did not show a significant difference compared to the WLC group.

Predictors of Outcome

Remission was defined as coexistent improvement in all 3 primary outcome variables with values below the proposed cutoffs on the YBOCS-SV and the G-CBS and above the proposed cutoff on the CBS. To explore predictive factors for remission in our treatment sample, we conducted a logistic regression analysis with remission as the dependent variable and baseline variables that exhibited a significant difference between the remitted and the nonremitted subgroup in the non-parametric analyses as independent variables. Compulsive buying measures, SCL-90-R score, psychiatric comorbidity, age, sex, duration of compulsive buying, medication, and concurrent psychotherapy did not differ between participants with posttreatment remission and participants without remission. The BIS-11 score (Mann-Whitney U test, p = .047), the total score on the SI-R (p = .023), and the number of visited CBT sessions (p = .043) differed significantly and were entered into a stepwise binary logistic regression analysis. Table 4 summarizes the results of the stepwise logistic regression analysis. Only lower numbers of visited group therapy sessions and higher pretreatment hoarding traits measured by the SI-R total score were significant predictors for nonremission. The BIS-11 score failed to reach significance.

DISCUSSION

This was the first psychotherapy study for compulsive buying disorder conducted in a German sample. The results support the preliminary findings of the only previous CBT study for compulsive buying disorder, which was performed in a smaller number of U.S. patients.[26] The main hypothesis, that a disorder-specific group CBT intervention would improve the compulsive buying behav-

Table 2. Primary Outcomes: Pretreatment and Posttreatment Comparison of Participants Randomly Assigned to the CBT and WLC Groups, Intention-to-Treat Analysis

| Variable | CBT (N = 31) | | | WLC (N = 29) | | | Repeated-Measures ANCOVA With Age as Covariate, Time-by-Group Interaction[b] |
	Pretreatment, Mean (SD)	Posttreatment, Mean (SD)	Paired Sample t Test[b]	Pretreatment, Mean (SD)	Posttreatment, Mean (SD)	Paired Sample t Test[b]	
CBS score[a]	−4.1 (2.0)	−2.2 (3.4)	t = −3.966	−4.2 (1.9)	−3.8 (2.1)	NS	F = 6.554, df = 1, p = .013
YBOCS-SV score	20.4 (6.8)	13.4 (9.3)	t = 6.351	22.8 (4.7)	20.7 (7.2)	NS	F = 6.596, df = 1, p = .013
G-CBS score	53.4 (6.8)	42.0 (14.6)	t = 4.79	52.6 (6.9)	51.1 (8.0)	NS	F = 13.332, df = 1, p = .001

[a]Higher scores on the CBS indicate less compulsive buying.
[b]Bonferroni-corrected p < .017.
Abbreviations: ANCOVA = analysis of covariance, CBS = Compulsive Buying Scale, CBT = cognitive-behavioral therapy, G-CBS = German Compulsive Buying Scale, NS = not significant, WLC = waiting list control, YBOCS-SV = Yale-Brown Obsessive Compulsive Scale-Shopping Version.

Table 3. Secondary Outcomes: Pretreatment and Posttreatment Comparison of Participants Randomly Assigned to the CBT and WLC Groups, Intention-to-Treat Analysis

| Variable | CBT (N = 31) | | | WLC (N = 29) | | | Repeated-Measures ANCOVA With Age as Covariate[a] |
	Pretreatment, Mean (SD)	Posttreatment, Mean (SD)	Paired Sample t Test[a]	Pretreatment, Mean (SD)	Posttreatment, Mean (SD)	Paired Sample t Test[a]	
SCL-90-R Global severity index score	1.3 (0.7)	1.1 (0.8)	t = 3.544, p = .001	1.5 (0.8)	1.5 (0.8)	NS	NS
SCL-90-R Somatization score	1.3 (0.8)	1.0 (0.8)	NS	1.3 (1.0)	1.4 (1.0)	NS	NS
SCL-90-R Obsessive/ compulsive score	1.4 (0.8)	1.2 (0.9)	NS	1.5 (0.9)	1.7 (0.9)	NS	NS
SCL-90-R Interpersonal sensitivity score	1.7 (1.1)	1.4 (1.1)	t = 3.453, p = .002	1.8 (1.0)	1.9 (1.0)	NS	NS
SCL-90-R Depression score	1.7 (0.9)	1.4 (1.0)	NS	2.0 (1.1)	2.1 (1.1)	NS	NS
SCL-90-R Anxiety score	1.2 (0.8)	0.9 (0.8)	NS	1.4 (0.9)	1.5 (1.1)	NS	NS
SCL-90-R Hostility score	1.2 (0.9)	1.0 (1.0)	NS	1.2 (0.8)	1.1 (0.9)	NS	NS
SCL-90-R Phobic anxiety score	0.9 (0.9)	0.6 (0.8)	NS	0.9 (0.9)	0.9 (1.0)	NS	NS
SCL-90-R Paranoid ideation score	1.5 (0.9)	1.1 (1.0)	t = 3.591, p = .001	1.6 (1.0)	1.6 (1.0)	NS	NS
SCL-90-R Psychoticism score	1.0 (0.8)	0.8 (0.8)	t = 3.782, p = .001	1.1 (0.9)	1.1 (0.9)	NS	NS
BIS-11 Score	85.4 (14.1)	80.8 (15.5)	NS	84.1 (11.5)	82.3 (11.0)	NS	NS
SI-R Total score	53.5 (21.9)	41.6 (24.6)	t = 5.037, p < .001	50.0 (19.8)	43.9 (21.7)	NS	NS
SI-R Difficulty discarding score	17.0 (7.9)	13.4 (8.1)	t = 3.918, p < .001	15.6 (7.8)	13.6 (8.2)	NS	NS
SI-R Clutter score	15.6 (12.6)	12.6 (12.2)	NS	13.9 (10.2)	11.8 (10.7)	NS	NS
SI-R Acquisition score	20.1 (4.3)	14.7 (7.2)	t = 5.034, p < .001	20.6 (4.2)	18.6 (5.7)	NS	NS

[a]Bonferroni-corrected p < .003.
Abbreviations: ANCOVA = analysis of covariance, BIS-11 = Barratt Impulsiveness Scale, CBT = cognitive-behavioral therapy, NS = not significant, SCL-90-R = Symptom Checklist-90-Revised, SI-R = Saving Inventory-Revised, WLC = waiting list control.

Table 4. Results of Logistic Regression Analysis With Remission (N = 12)/No Remission (N = 19) in the CBT Group as Dependent Variable

	Regression Coefficient	Standard Error	Wald	df	p	Odds Ratio	95.0% Confidence Interval
Visited group therapy sessions, no.	0.715	0.356	4.043	1	.044	2.045	1.018 to 4.107
Pretreatment SI-R total score	−0.077	0.032	5.853	1	.016	0.926	0.870 to 0.985

Abbreviations: CBT = cognitive-behavioral therapy, SI-R = Saving Inventory-Revised.

ior, was confirmed. The analysis of the primary outcome variables found that CBT, compared with the WLC condition, resulted in a reduction of compulsive buying behavior; the improvement was maintained during 6-month follow-up. Effect sizes for the 3 compulsive buying measures were moderate to large. The disorder-specific treatment did not affect other psychopathology, e.g., depression and anxiety scores of the SCL-90-R or impulsivity.

Considering that nonresponse to treatment is often associated with substantial impairment, it is important to explore variables associated with poor treatment outcome. We found that poorer attendance of the group therapy sessions and higher pretreatment hoarding traits, as measured with the SI-R total score, were significant predictors for nonremission. Other variables such as psychiatric comorbidity, age, duration of compulsive buying,

medication, or concurrent psychotherapy did not differ between participants with posttreatment remission and participants without remission. The association between frequent participation in the outpatient group therapy and remission seems plausible. The impact of hoarding symptoms on outcome in our study is in line with the results obtained in previous treatment studies with obsessive-compulsive disorder patients showing that those with hoarding symptoms were significantly less likely to respond to CBT than those without hoarding symptoms.[41–44] These results may point to the need for specific additional interventions, e.g., including more treatment sessions to reduce hoarding behavior, such as clutter and difficulty discarding. In summary, our results could be interpreted to support the idea that a subtyping approach might be useful in determining treatment needs.

Although the principal disorder was compulsive buying, a broad range of psychopathology was found in the present sample. Both CBT and WLC groups presented with high rates of any current Axis I disorder and personality disorder. The high number of comorbid psychiatric disorders in our patients is consistent with the findings of others.[9,11–13] Rothwell[45] observed that randomized controlled trials often lack external validity and described comorbidity as an issue that potentially can affect them. In our experience, the typical compulsive buyer suffers from other psychiatric disorders, most frequently affective or anxiety disorders. We decided to include all these patients to improve the generalizability and representativeness of the study.

The study presents some important limitations: The German versions of the CBS and the SI-R are not yet validated. Nothing is known about the structure, reliability, and sensitivity to change of the German versions. To our knowledge, there is no valid assessment instrument for compulsive hoarding in German. Thus, we decided to validate the German versions of the SI-R and the CBS in an ongoing study. The use of multiple outcome measures seems slightly problematic. We tried to compensate for this problem by using Bonferroni correction and multivariate analyses. The present work is a controlled pre-post comparison study, without assessing the events within sessions that were associated with change. Since participants were allowed to maintain their previous antidepressants if doses were kept stable or to receive concurrent individual psychotherapy, a confounding by medication or psychotherapy is possible. However, there were no differences in the frequencies of use of medication or psychotherapy between the CBT and the WLC groups. Finally, the sample size was small.

Group treatment is cost-effective psychotherapy. Considering a stepped care approach first using a group therapy program and then using individual therapy for non-responders could be a useful paradigm. Psychotherapy research on compulsive buying disorder is still marginal.

Future studies should examine specific therapy effects, including an additional arm of a comparison treatment.

Drug name: fluvoxamine (Luvox and others).

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