A Randomized Controlled Trial on the Efficacy of Mindfulness-Based Cognitive Therapy and a Group Version of Cognitive Behavioral Analysis System of Psychotherapy for Chronically Depressed Patients

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Objective: Mindfulness-based cognitive therapy (MBCT) has recently been proposed as a treatment option for chronic depression. The cognitive behavioral analysis system of psychotherapy (CBASP) is the only approach specifically developed to date for the treatment of chronically depressed patients. The efficacy of MBCT plus treatment-as-usual (TAU), and CBASP (group version) plus TAU, was compared to TAU alone in a prospective, bicenter, randomized controlled trial. Method: One hundred and six patients with a current DSM–IV defined major depressive episode and persistent depressive symptoms for more than 2 years were randomized to TAU only (N = 35), or to TAU with additional 8-week group therapy of either 8 sessions of MBCT (n = 36) or CBASP (n = 35). The primary outcome measure was the Hamilton Depression Rating Scale (24-item HAM-D, Hamilton, 1967) at the end of treatment. Secondary outcome measures were the Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996) and measures of social functioning and quality of life. Results: In the overall sample as well as at 1 treatment site, MBCT was no more effective than TAU in reducing depressive symptoms, although it was significantly superior to TAU at the other treatment site. CBASP was significantly more effective than TAU in reducing depressive symptoms in the overall sample and at both treatment sites. Both treatments had only small to medium effects on social functioning and quality of life. Conclusions: Further studies should inquire whether the superiority of CBASP in this trial might be explained by the more active, problem-solving, and interpersonal focus of CBASP.

What is the public health significance of this article? The results show that the group version of the cognitive behavioral analysis system of psychotherapy (CBASP) is an effective treatment for chronically depressed patients. Results for mindfulness-based cognitive therapy (MBCT) were more equivocal for this patient group.

Keywords: mindfulness-based cognitive therapy, cognitive behavioral analysis system of psychotherapy, randomized controlled trial, chronic depression

Major depressive disorder (MDD) is among the most prevalent psychiatric conditions and places enormous burdens on individuals, their families, and on society (Richards, 2011; Murray et al., 2012). Besides high rates of relapse/recurrence after remission or recovery (Frank et al., 1990; Kupfer et al., 1992; Holtzheimer & Mayberg, 2011), a substantial minority of approximately 20–26.5% of patients develop chronic courses characterized by significant depressive symptoms lasting for at least 2 years (Gilmer et al., 2005; Satyanarayana, Enns, Cox, & Sareen, 2009). Among patients treated in mental health care facilities, 47% suffer from some form of chronic depres-
sion (Torpey & Klein, 2008). The lifetime prevalence of chronic depression in the population ranges between 2.7% and 4.6% (Murphy & Byrne, 2012; Satyanarayana et al., 2009; Young, Klap, Shoai, & Wells, 2008); rates depend on the inclusion/exclusion of individuals with dystymic disorder.

Research has shown substantial differences between chronic and nonchronic forms of MDD (Murphy & Byrne, 2012), which led to the inclusion of a new diagnosis of persistent depressive disorder in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM–5; American Psychiatric Association, 2013). Two of the most important features of chronic MDD are the slower rate of improvement and a poorer treatment response (Klein, Shankman & Rose, 2006). Approximately 50% of chronically depressed patients fail to respond to antidepressant medication or psychotherapy and another 20% do not achieve complete remission (Harrison & Stewart, 1995; Keller et al., 1998; Kocsis et al., 1988; Thase et al., 1996). Accordingly, efforts to improve treatment outcome in this highly challenging population are needed.

One psychotherapeutic approach to have recently been proposed as a treatment option for chronic MDD is mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002). MBCT was originally designed and evaluated for relapse prevention of remitted MDD patients. A meta-analysis by Piet and Hougaard (2011) showed that MBCT plus treatment as usual reduced risk of relapse by 43% for formerly depressed patients with three or more previous episodes in comparison to treatment as usual alone.

MBCT is a group-based program combining intensive training in mindfulness (Kabat-Zinn, 1990) with cognitive–behavioral elements targeting depression. In previous trials, MBCT was usually delivered in eight weekly group sessions with a group size ranging from 12 to 15 patients. The core skill that MBCT aims to teach is the ability to recognize and disengage from mind states characterized by self-perpetuating patterns of ruminative, negative thought that escalate and maintain depressive symptoms. In contrast to getting lost in negative modes of mind and being preoccupied with the past or future scenarios, MBCT fosters a nonjudgmental awareness of the present moment experience, including one’s sensations, thoughts, bodily states, consciousness, and the environment, while encouraging openness, curiosity, and acceptance (Bishop et al., 2004; Kabat-Zinn, 2003). The mindful awareness of the here-and-now encompasses a centered view on cognitions: By intensive training in mindfulness, patients are supported to recognize that (even long-held) thoughts and feelings are events in the mind and not self-evident truths or aspects of the self (Teasdale, Moore, Hayhurst, Pope, Williams, & Segal, 2002). Moreover, mindfulness helps patients to turn towards rather than escape or avoid experiences (e.g., dysphoric mood) without getting lost in ruminative, negative thoughts. In addition, antidepressive cognitive–behavioral therapy elements such as exercises on taking alternative viewpoint on cognitions (e.g., just watching thoughts come and go, without feeling that one has to follow them) or activity scheduling are introduced. However, it should be highlighted that MBCT focuses on changing the relationship to thoughts rather than changing the cognitive content.

Besides its effects in relapse prevention it was hypothesized that MBCT might also assist chronically depressed patients to facilitate centered and self-compassionate views of typical maladaptive core beliefs. By training in mindfulness (e.g., during sitting meditation), chronically depressed patients might learn to recognize when they lose contact with the here-and-now and develop the ability to step out of mind states characterized by ruminative negative thinking. Besides increases in mindfulness skills, research on mechanisms of change has shown that the effects of MBCT are mediated by enhanced self-compassion (Neff, 2003), the ability to relate to oneself with kindness when encountering pain and personal shortcomings (Kuyken et al., 2010).

Results of three smaller or uncontrolled studies have suggested that chronically depressed patients benefit from MBCT (Barbero et al., 2009; Eisendrath et al., 2008; Kenny & Williams, 2007); however larger randomized controlled trials testing the efficacy of MBCT in chronic depression are lacking.

The only psychotherapeutic model to have been specifically developed for the treatment of chronic depression is the cognitive behavioral analysis system of psychotherapy (CBASP, McCullough, 2000). In contrast to the cognitive focus of MBCT, CBASP mainly has an interpersonal orientation. It is a highly structured learning approach integrating behavioral, cognitive, and predominantly interpersonal treatment strategies. Assuming that early interpersonal trauma leads to dysfunctional mechanisms of delayed affective and motivational regulation and to a reduction of perceived functionality, the main objectives in CBASP are to learn to recognize the consequences of one’s own behavior on other persons and to develop social problem solving skills and empathy. Based on the assumptions about relationships patients have formed following experiences in their early history with being maltreated by significant others, patients formulate a proactive transference hypothesis (e.g., “I have nothing to expect from my therapist”). In the CBASP group version used in the present study, patients also formulated transference hypotheses regarding the other group members (e.g., “If I make myself vulnerable, I will be ridiculed”). By means of interpersonal discrimination exercises, these hypotheses are contrasted with the actual behavior of the therapist and the group members to modify dysfunctional expectations. In this way, the patient learns to read other persons by focusing on their overt behavior and the effects he or she has on them.

The therapist gives the patient direct feedback by expressing his or her personal reactions to the patient’s dysfunctional behavior patterns and offers alternatives (disciplined personal involvement). However, in a group format, disciplined personal involvement is used less frequently when it comes to dysfunctional behavior in the group and is often replaced by using the Kiesler Interpersonal Circle model in an educative and structuring way. Kiesler (1982) operationalized the way people interact as reciprocal interpersonal transactions carried out within two domains: (a) power (dominance vs. submission) and (b) affiliation (hostile vs. friendly) using a circumplex design with power and affiliation serving as perpendicular-intersecting diameters in the circle. The patient chooses his or her position in the circle (e.g., friendly dominant) according to the outcome he or she desires for the interpersonal situation (e.g., “I want to tell the group that I am disappointed”) and compares it with the impact of his or her usual behavior position (e.g., hostile-submissive). Most of the group sessions comprise step-by-step situational analyses in which patients learn to formulate a desired outcome in an interpersonal situation and how to achieve this outcome by role playing goal-oriented behavior. The percent distribution of situation analyses and the other techniques is about 70:30 in both individual and group sessions.

The efficacy of CBASP as a principal treatment (as opposed to an augmentation strategy in the context of a pharmacotherapy
algorithm) was shown in a large American study (Keller et al., 2000) and a smaller German study that comprised 22 individual outpatient sessions over 16 weeks (effect size of \( d = 1.4 \); Schramm et al., 2011). These findings were confirmed in a recent network meta-analysis (Kriston, von Wolff, Westphal, Hölzel & Härter, 2014), which concluded the CBASP approach was recommended over interpersonal psychotherapy for chronically depressed patients. Adapted to a group modality, CBASP showed encouraging results in treatment-resistant depression in a single-arm pilot study (Sayegh et al., 2012).

We report a bicenter randomized clinical trial (RCT) that treated chronically depressed patients with either MBCT plus treatment as usual (TAU), CBASP (group version) plus TAU or TAU alone. This study is the first RCT using MBCT in chronically depressed patients with an adequate sample size to detect a medium-sized effect. Moreover, although previous studies compared MBCT with pharmacological (Kuyken et al., 2008; Segal et al., 2010) or cognitive psychological education conditions (Williams et al., 2014), the present study is the first to compare MBCT with a gold standard alternative psychotherapeutic approach relying on different mechanisms of change. Whereas the primary focus of MBCT is to facilitate a mindful and compassionate relationship to inner experiences, the primary focus of CBASP is to improve patients’ interpersonal functioning.

Method

Design

At each trial site, patients were randomly assigned to either TAU alone or—in addition to TAU—either MBCT or CBASP. After patient eligibility was assessed and informed consent was obtained, patients were formally enrolled in the study. For randomization, the trial sites mailed the patient study number to a central allocator who was independent of the staff involved in the recruitment, assessment, and management of study participants. Information was sent for groups of eligible patients at a time. Block randomization (block size = 6) to the three conditions was performed by the independent allocator using a computer-generated list of random numbers. The central allocator then mailed the allocations back to the treatment sites. If insufficient patients for each condition (i.e., 12) could be recruited during a recruitment period, the numbers used for block randomization were lower. Thus, sample size was not a multiple of the block size.

Patients were recruited at two sites in Germany: Site A was located at the Ruhr megalopolis (population 5 million); Site B in the area of Freiburg im Breisgau (population more than 230,000). Site A was particularly experienced in MBCT, Site B in CBASP; thus making it possible to control for allegiance effects (Loborsky et al., 1999).

Written informed consent from participants was obtained after the procedure had been fully explained. The Research Ethics Committee of the German Psychological Association approved the study (JM 072009).

Participants

At Site A all patients were recruited by media announcements; at Site B patients were recruited from community health care facilities or private practices. All individuals interested in participating in the study took part in a telephone screening based on the mood disorder module of the Structured Clinical Interview for DSM–IV (SCID, Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997). Patients who seemed eligible were invited to an extended diagnostic interview. Diagnoses were assessed using the SCID Axis I and Axis II disorders. All diagnostic evaluations were conducted by trained and certified clinical psychologists and were reviewed by senior study investigators (Johannes Michalak and Elisabeth Schramm).

All patients had a current major depressive episode (MDE) as defined by the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM–IV; American Psychiatric Association, 1994) and had experienced depressive symptoms for more than 2 years without remission. We included three subtypes of depressed patients: (a) patients with chronic major depression (i.e., current MDE lasting for more than two years); (b) patients meeting criteria for double depression (current MDE superimposed on an antecedent dysthymic disorder), or (c) patients with current MDE as part of a recurrent major depression with incomplete recovery between episodes during the last two years (i.e., depressive symptoms present during the entire two year period). We used exclusion criteria that corresponded to those used in previous studies on MBCT (e.g., Teasdale, Segal, Ridgeway, Soulsby & Lau, 2000): history of schizophrenia or schizoaffective disorder, current substance abuse, eating disorder, organic mental disorder, borderline personality disorder, and inability to engage in treatment for physical, practical, or other reasons. We excluded patients with eating disorders because they frequently experience depression secondary to eating disorders and the MBCT program was not designed to deal with the primary eating disorder. Patients with borderline personality disorders were excluded because their style of interaction might be too difficult to deal with within the group format of MBCT or CBASP. Current substance abuse is a contraindication for the meditation exercises used in MBCT (Segal et al., 2002).

MBCT and CBASP groups were set up at each site (four of each at Site A, and two of each at Site B). All MBCT groups at Site A were conducted by a clinical psychologist and certified MBCT therapist with 20 years of mindfulness practice (female, age 51; 12 MBCT courses before the start of the study). At Site B, there were two MBCT therapists: one MBCT group was conducted by a psychiatrist certified in MBCT with 20 years of mindfulness practice (male, age 38; seven MBCT courses before the start of the study), and the other group by a clinical psychologist and psychotherapist with 5 years of mindfulness practice (male, age 38; two MBCT courses before the start of the study). All MBCT groups were supervised by Johannes Michalak. A licensed clinical psychologist and certified CBASP therapist conducted the four CBASP groups at Site A (male; age 29; no experience in conducting CBASP groups before the beginning of the study). At Site B, both groups were directed by a licensed clinical psychologist and certified CBASP therapist (female, age 47; four CBASP groups before the beginning of the study). All CBASP groups were continuously supervised by Elisabeth Schramm.

All group sessions were videotaped (Site A) or audiorecorded (Site B) for therapist supervision. Sessions 4 and 7 were used for ratings of treatment adherence and competence.
Treatments

TAU. All patients were instructed that they should be in individual treatment by either a psychiatrist or a licensed psychotherapist (not a member of the study team) during the study period. If patients were already in psychiatric or psychotherapeutic individual treatment at study intake, they continued their treatment with this psychiatrist or psychotherapist. Patients were encouraged to continue any current medication and to attend appointments with their psychiatrist or psychotherapist. There were no restrictions on other forms of supplementary treatment.

MBCT. The treatment protocol followed the MBCT manual developed by Segal, Williams, and Teasdale (2002). The program consisted of an individual preclass interview and eight weekly 2.5-hr group sessions. In contrast to most previous studies on MBCT, group size was restricted to six patients per class in the present trial to equate group size in the two psychotherapy conditions.

The eight sessions included guided formal mindfulness practices (i.e., body scan, sitting meditation, yoga), inquiry into patients’ experience of these practices and review of weekly homework (i.e., daily 40 min of formal mindfulness practice and generalization of session learning). Moreover, informal mindfulness practice (i.e., exercises designed to integrate the application of awareness skills into daily life) and cognitive-behavioral skills (e.g., activity scheduling, skills in dealing with cognition) were taught and discussed. Some minor alterations were made to adapt the program to chronically depressed patients. For example, possible suicidal tendencies were carefully assessed during the preclass interview. Moreover, instead of exploring early warning signs for relapse, early warning signs for a further deterioration of mood were explored and possible functional coping strategies were discussed.

CBASP. The CBASP treatment protocol followed the manual developed by McCullough (2000), and modified for the group setting by Schramm, Brakemeier, and Fangmeier (2012). The CBASP program consisted of two individual treatment sessions (to derive transference hypotheses) and eight weekly 2.5-hr group sessions. The main modifications to the individual format included the derivation of the transference hypothesis (described above) with regard to the group. Based on the patient’s transference hypothesis regarding the group, the actual and observable behavior of the group members were contrasted with this hypothesis in the presence of a transference hotspot (e.g., the patient makes a mistake and expects to be ridiculed but experiences support from the group members instead) by the end of the sessions and the learning experience is explicitly expressed (e.g., “I can make a mistake and still be accepted”). Moreover, as described above, disciplined personal involvement of the therapist is used less frequently in the group version of CBASP. Instead, the impact of the patients’ dysfunctional behavior is identified and described using Kiesler’s interpersonal circle model (described above). However, the therapist maintains a pronounced personal-authentic stance toward the participants throughout treatment. Because of the 2.5-hour duration of each group session, in some sessions two situational analyses were performed, thus the number of situational analyses was comparable to other studies using individual CBASP. To enable situational analyses of all group members, we limited the number of participants to six. These modifications should not impact CBASP’s theoretical mechanisms of change.

Measures

Primary outcome measure. The primary outcome measure was the 24-item Hamilton Depression Rating Scale (HAM-D; Hamilton, 1967; Guy, 1976), a widely used interview-based measure of the severity of depressive symptoms covering a range of affective, behavioral, and biological symptoms. The HAM-D was administered at baseline and posttreatment after the 8-week treatment phase by five trained doctoral-level psychologists. To maintain rater blindness, patients were instructed at the beginning of each interview not to mention their treatment condition or their psychotherapist. To enhance reliability of the assessment, the Structured Interview Guide for the HAM-D (Moberg et al., 2001) was applied. A sample of 36 interviews from the baseline assessment were assessed by an independent rater, yielding an interrater correlation of $r(34) = .97, p < .001$.

Secondary outcome measures. We used the BDI (Beck, Steer, & Brown, 1996; German version by Hautzinger, Keller, & Kühner, 2006) to assess depressive symptoms by self-report. The BDI is a widely used 21-item measure covering affective, cognitive, motivational, behavioral, and biological symptoms of depression with good psychometric properties (Beck, Steer, & Carbin, 1988). Moreover, we assessed social functioning with the Social Adaptation Self-Evaluation Scale (SASS) (Bosc, Dubini, & Polin, 1997; German version by Duschek, Schandry, & Hege, 2003). SASS is a 21-item scale for the evaluation of patient social motivation and behavior in depression and has been shown to be reliable, valid, and sensitive to change. In addition, we measured quality of life with the Short Form Health Survey (SF-36; Ware & Sherbourne, 1992; German version by Morfeld, Kirchberger, & Bullinger, 2011). The SF-36 assesses mental and physical health with 36 items and shows good psychometric properties. We focused on mental health in our analysis, using the vitality, mental health, social functioning, and role emotional (assessing role limitations due to emotional problems) subscales of the SF-36.

Statistical Analysis

The two outcome measures related to depressive symptoms were analyzed together using a structural equation modeling (SEM) approach. This approach was chosen because it allows for the explicit modeling of measurement errors, thus enabling the analysis of intervention effects on latent representations of the outcome measures. The analysis of true (i.e., void of measurement error) scores in intervention studies has the advantage that the possible confounds of changes in errors being attributed to changes in the underlying construct is avoided. Following preliminary analysis, HAM-D and BDI were each split into two halves and parcels were computed.

To analyze both outcome measures simultaneously, a multi-method analysis using the CTC(M-1) (correlated trait-correlated method minus one, Eid, 2000) was conducted. In this approach one assessment method is chosen as a reference and other methods assessing the same construct are contrasted against this reference. The HAM-D, being the primary outcome measure in this study, was chosen as the reference method and the BDI was contrasted against it. The contrasting is carried out by regressing the BDI indicators on the latent state $S_r$, generating residuals of the BDI that represent components that are not shared with the HAM-D. This results in the assessments made via HAM-D being disaggre-
gated into two components (the latent state $S$, and the measurement error $e_{\text{M}}$), whereas the assessments made via the BDI are disaggregated into three components (the latent state $S$, the method factor $M$, and the measurement error $e_{\text{M}}$). Within this modeling approach the latent state $S$ represents the occasion-specific depressive symptoms assessed via the HAM-D (occasion: pre- and posttreatment assessment). The method factor $M$ represents the occasion-specific component of the assessment made via the BDI that is not shared with the assessment of the same occasion made via the HAM-D. Using this approach, consistency coefficients can be computed that represent the amount of variance in the BDI that is shared with HAM-D assessment, indicating the degree of convergent validity between the two assessment methods.

To incorporate the inherent longitudinal nature of the study in the analysis, the true-change approach proposed by Steyer, Eid and Schwenkmezger (1997) was chosen. In this approach intraindividual changes are represented by the latent variable $S_c$, which is defined as the difference between the latent states of two different measurement occasions: $S_c = S - S_r$. Incorporating the change between two occasions as a latent variable into the model allows for the direct analysis of the intervention effects. This is achieved by regressing the latent change variables of the reference measured states (representing HAM-D measurements) as well as those of the latent method variables (representing the discrepancy between HAM-D and BDI measurements) on dummy-coded predictors indicating the received treatment. For this TAU was chosen as the reference.

Beyond the intervention evaluation, combining the CTC(M-1) and the true-change approaches allows for the computation of reliability and consistency coefficients for the assessment of occasion specific states as well as the assessment of change (Eid, 2000), providing a way to inspect the quality of BDI and HAM-D at a given occasion as well as in a longitudinal context.

To account for the study implementation at two different sites and to investigate possible allegiance effects the model was extended to a multiple-site SEM. Equality assumptions were tested using the Wald test. To contrast the possibility of inflated Type I errors due to the group-centered implementation of the interventions (Baldwin, Murray, & Shadish, 2005) cluster-based standard error corrections were performed in accordance with the approach for complex survey data proposed by Asparouhov (2004). To handle missing data due to nonresponse as well as drop-out a saturated multiple-group imputation model including all primary and secondary outcome measures, gender, age, implementation site, and treatment condition was used to generate 50 imputed data sets with the MCMC simulation procedure described by Asparouhov and Muthén (2010).

Power analysis revealed that for analyses using the CTC(M-1) approach with three treatment conditions at two treatment sites a sample size of 114 patients is required to detect intervention effects of at least medium effect size ($d > .5$) with Type I error rates set at .05 (two sided) and Type II error rates set at .2. To obtain this optimal sample size estimation, parallel test halves as well as equal group sizes were assumed. Because of some problems in patient recruitment, the actual sample size was slightly smaller than the optimal sample size estimated in the power analysis.

We also computed proportions of remitters. A remitter was defined as a participant with a HAM-D score of less than 8 at posttreatment.

The secondary outcomes assessing mental health and social adaptation (i.e., SF-36 and SASS) were investigated with a single-indicator true-change model for each outcome separately. The CTC(M-1) approach used for the simultaneous analysis of HAM-D and BDI was not used for these outcomes because a comparison of two assessment methods was not required. In addition, a SEM with all five relevant scales (four mental health subscales of SF-36 as well as SASS) was not feasible with the obtained sample size.

The true-change models were analyzed using Mplus Version 7 (Muthén & Muthén, 1998–2013) and all additional analyses were conducted using R Version 3.0.1 (R Development Core Team, 2013) or SPSS16.0.

Results

Description of Sample

Patient flow is illustrated in Figure 1. One hundred and six patients agreed to participate, met the inclusion criteria, and were randomized to TAU only ($N = 35$), or in addition to TAU to MBCT ($N = 36$) or CBASP ($N = 35$).

Patient characteristics are shown in Table 1. The majority of patients (83%) met DSM-IV criteria for chronic major depression and 88% of the sample fulfilled the criteria for persistent depressive disorder as defined by DSM-5. We found no significant differences between conditions in any of the sociodemographic or clinical variables.

Descriptive statistics of the pretreatment scores of the HAM-D and BDI are shown in Table 2. An analysis of variance for the baseline data revealed that neither the main effects of treatment condition, HAM-D: $F(2, 100) = 0.79$, $p = .46$; BDI: $F(2, 98) = 0.33$, $p = .73$, the main effect of implementation site, HAM-D: $F(1, 100) = 3.79$, $p = .05$; BDI: $F(1, 98) = 1.59$, $p = .21$, nor their interaction, HAM-D: $F(2, 100) = 0.89$, $p = .41$, BDI: $F(2, 98) = 1.66$, $p = .20$, were statistically significant.

We found no significant differences between treatment sites in the number of patients treated with medication (Site A: 48; Site B: 26; $\chi^2 = 0.01$, $df = 1$, $p = .93$) or individual psychotherapy (Site A: 17; Site B: 13; $\chi^2 = 1.31$, $df = 1$, $p = .25$). Moreover, we found no significant differences between sites in any of the demographic characteristics except education, with a higher proportion of well-educated patients at Site B (secondary school only: Site A: 31%; Site B: 53%; $\chi^2 = 4.24$, $df = 1$, $p = .04$). However, we found differences between sites in a number of clinical variables. We observed a statistical trend for higher HAM-D scores at Site A (Site A: $M = 24.15$, $SD = 6.18$; Site B: $M = 21.94$, $SD = 6.62$, $t(104) = 1.95$, $p = .05$); no significant differences between sites were observed for the BDI. More patients at Site A had comorbid Axis I (Site A: 74%; Site B: 44%; $\chi^2 = 8.25$, $df = 1$, $p = .004$) and Axis II diagnoses (Site A: 24%; Site B: 6%; $\chi^2 = 5.67$, $df = 1$, $p = .02$). Moreover, there were significant differences in type of depression between sites (Site A: chronic major depression: 77%; double depression: 4%; recurrent depression: 19%; Site B: chronic major depression: 97%; double depression: 3%; recurrent depression: 0%; $\chi^2 = 8.11$, $df = 2$, $p = .02$).
Treatment Compliance

TAU. Of the 85 patients participating in the posttreatment assessment from whom data on treatment during the 8-week study period are available, 46 (54.1%) had one or more individual appointments with a psychiatrist (average number of appointments = 2.22; SD = 1.86) and 31 (36.5%) had sessions with a licensed psychotherapist (average number of sessions = 3.68; SD = 2.00). There were no significant differences between patients exclusively treated with TAU and patients additionally treated with MBCT or CBASP in the number of individual appointments with a psychiatrist ($\chi^2 = 1.66, df = 2, p = .44$), in the number of psychotherapy sessions ($\chi^2 = 0.38, df = 2, p = .83$), or in the average number of sessions they received—number of appointments with a psychiatrist: $F(2, 82) = 2.17, p = .12$; number of individual sessions with a psychotherapist: $F(2, 82) = 0.18, p = .84$. Moreover, we found no significant differences between conditions in the proportion of patients treated with antidepressant medication.

However, it should be noted that on a descriptive level the number of patients receiving antidepressant medication was lower in patients exclusively treated with TAU ($n = 17, 53.1\%$) than in patients who received TAU plus MBCT ($n = 21, 75\%$) or TAU plus CBASP ($n = 19, 76\%$) (see Table 1). Medications were mostly selective serotonin and norepinephrine reuptake inhibitors ($n = 29, 34.1\%$) and selective serotonin reuptake inhibitors ($n = 17, 20\%$). Five patients (5.9%) received tricyclic antidepressants whereas four (4.7%) took Agomelatin and three (3.5%) received MAO inhibitors (note that a small number of patients took antidepressant medication from two of these substance classes). Nine patients (10.6%) took neuroleptic medication, whereas one (1.2%) was on lithium. No reliable information on medication dose was available. There were no significant differences in AD intake between study sites ($\chi^2 = 0.30, df = 1, p = .58$). A minority of 15 patients (17.6%) did not report any treatment (no sessions with a psychotherapist or psychiatrist and no antidepressant medication) within the 8-week study period.

MBCT and CBASP. Of the 71 patients allocated to one of the group therapies, 20 patients (28.2%) discontinued therapy or attended fewer than four sessions (10 MBCT patients [27.8%] and 10 CBASP patients [28.6%], $\chi^2 = 0.003, df = 1, p = .96$). Separate analyses for both sites revealed no significant difference in the rate of discontinuation of MBCT and CBASP in the two centers (Site A: MBCT = 7, CBASP = 9; $\chi^2 = 0.34, df = 1, p =$...
Patients who attended four or more therapy sessions did not differ on any of the demographic or baseline clinical characteristics from those who discontinued therapy or attended fewer than four sessions. There were no suicides, suicide attempts, or other serious adverse events.

### Treatment Adherence and Competence

Adherence to the MBCT manual was rated with the Mindfulness-Based Cognitive Therapy Adherence Scale (Segal, Teasdale, Williams & Gemar, 2002) by a licensed psychotherapist with experience in conducting MBCT groups. Adherence in both centers was confirmed by a score of 1.88 for therapies conducted at Site A and 1.71 at Site B (scale range: 0–2). Adherence to the CBASP manual was rated with the CBASP Adherence Scales (McCullough, 2003) by Elisabeth Schramm. Adherence in both centers was confirmed by an average overall score of 4.62 for therapies conducted at Site A and 4.90 at Site B (scale range: 1–5).

### Sample Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>MBCT (n = 36)</th>
<th>CBASP (n = 35)</th>
<th>TAU (n = 35)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, M (SD)</td>
<td>48.4 (11.5)</td>
<td>50.2 (10.5)</td>
<td>54.0 (13.24)</td>
<td>.14a</td>
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<td>Female sex, n (%)</td>
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<td>22 (62.9)</td>
<td>23 (65.7)</td>
<td>.81b</td>
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<td>Secondary school (Abitur), n (%)</td>
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<td>13 (37.1)</td>
<td>11 (31.4)</td>
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<td>Subtypes of depression, n (%)</td>
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<td></td>
<td></td>
<td>.80b</td>
</tr>
<tr>
<td>Chronic major depression</td>
<td>28 (80.0)</td>
<td>30 (85.8)</td>
<td>30 (85.8)</td>
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<td>Double depression</td>
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<td>Recurrent depression</td>
<td>6 (17.1)</td>
<td>4 (11.4)</td>
<td>3 (8.6)</td>
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<td>Antidepressant medication, n (%)</td>
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<td>19 (76.0)</td>
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<td>Individual Psychotherapy, n (%)</td>
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<td>10 (40.0)</td>
<td>12 (37.5)</td>
<td>.83b</td>
</tr>
<tr>
<td>Any additional Axis I diagnoses, n (%)</td>
<td>21 (58.3)</td>
<td>21 (60.0)</td>
<td>26 (74.3)</td>
<td>.31b</td>
</tr>
<tr>
<td>Any Axis II comorbidity, n (%)</td>
<td>8 (22.2)</td>
<td>5 (14.3)</td>
<td>6 (17.1)</td>
<td>.68b</td>
</tr>
<tr>
<td>Marital status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single, n (%)</td>
<td>12 (33.3)</td>
<td>8 (22.6)</td>
<td>11 (31.4)</td>
<td></td>
</tr>
<tr>
<td>Married, n (%)</td>
<td>17 (47.2)</td>
<td>19 (54.3)</td>
<td>12 (34.3)</td>
<td></td>
</tr>
<tr>
<td>Divorced, widowed, n (%)</td>
<td>5 (13.9)</td>
<td>7 (20.0)</td>
<td>6 (17.1)</td>
<td></td>
</tr>
</tbody>
</table>

Note. MBCT = mindfulness-based cognitive therapy; CBASP = cognitive behavioral analysis system of psychotherapy; TAU = treatment-as-usual.

* By analysis of variance. ** By $\chi^2$ test. *** Percentage was calculated for patients staying in the study and participating in the post-treatment assessment.

### Means and Standard Deviations (in Parentheses) of Depressive Symptoms at Baseline and Posttreatment

<table>
<thead>
<tr>
<th></th>
<th>MBCT</th>
<th>CBASP</th>
<th>TAU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HAM-D Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>23.03 (6.27)</td>
<td>24.71 (6.69)</td>
<td>23.87 (6.33)</td>
</tr>
<tr>
<td>Posttreatment*</td>
<td>17.86 (10.37)</td>
<td>14.64 (8.85)</td>
<td>21.16 (8.16)</td>
</tr>
<tr>
<td><strong>Site A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>24.63 (5.63)</td>
<td>24.91 (6.55)</td>
<td>23.87 (6.58)</td>
</tr>
<tr>
<td>Posttreatment*</td>
<td>20.18 (10.24)</td>
<td>15.14 (8.19)</td>
<td>20.82 (8.52)</td>
</tr>
<tr>
<td><strong>Site B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>19.83 (6.49)</td>
<td>24.33 (7.22)</td>
<td>21.67 (5.80)</td>
</tr>
<tr>
<td>Posttreatment*</td>
<td>14.27 (9.97)</td>
<td>14.00 (10.01)</td>
<td>21.90 (7.67)</td>
</tr>
<tr>
<td><strong>BDI-Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>31.31 (9.55)</td>
<td>30.26 (7.52)</td>
<td>29.76 (7.42)</td>
</tr>
<tr>
<td>Posttreatment*</td>
<td>22.69 (12.11)</td>
<td>22.28 (12.54)</td>
<td>28.34 (10.27)</td>
</tr>
<tr>
<td><strong>Site A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>33.42 (8.03)</td>
<td>30.00 (7.08)</td>
<td>30.00 (7.73)</td>
</tr>
<tr>
<td>Posttreatment*</td>
<td>23.71 (11.59)</td>
<td>22.93 (12.82)</td>
<td>27.68 (9.34)</td>
</tr>
<tr>
<td><strong>Site B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>27.08 (11.24)</td>
<td>30.75 (8.58)</td>
<td>29.33 (7.14)</td>
</tr>
<tr>
<td>Posttreatment*</td>
<td>20.78 (13.54)</td>
<td>21.45 (12.73)</td>
<td>29.80 (12.49)</td>
</tr>
</tbody>
</table>

Note. HAM-D = Hamilton Rating Scale for Depression; BDI = Beck Depression Inventory.

* No imputation of missing data.
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50 imputations (average column of crease in HAM-D scores than TAU. As indicated by the second CBASP indicates that CBASP led to a significantly greater de-
MBCT did not show a significantly stronger effect than TAU showed significant mean changes between pre- and posttreatment.
measured by the reference method (HAM-D) as well as the change assessing change using these scales.
convergent validity are in line with previous findings (e.g.,
reliable variance of states was shared with the assessment via change. The consistencies of BDI indicate that roughly half of the consistencies (BDI) with the addition that roughly the same holds true when favoring CBASP over MBCT (estimate = 0.17, SE = 0.09, p = .06).

The analyses concerning the method factors revealed no significant effects on the BDI above and beyond those found for the HAM-D. It should be noted, however, that analyses implementing the traditional HLM approach for HAM-D and BDI separately, revealed some differences. As expected, the results for the HAM-D very closely approximated those of the SEM analysis reported here (b_{CBASP} = −0.28, SE = 0.07, p < .001; b_{MBCT} = −0.08, SE = 0.07, p = .22). The HLM investigating the BDI independently of the HAM-D revealed a very similar effect for CBASP (b_{CBASP} = −0.24, SE = 0.09, p = .01). The effect of MBCT however, was also significant when investigating the BDI alone (b_{MBCT} = −0.23, SE = 0.11, p = .04) indicating that MBCT was superior to TAU.

The first state and the change in the reference-measured states were not significantly correlated when controlling for intervention effects, r = .20, p = .20.

### Site Differences for Treatment Effects on Depressive Symptoms

To ensure the interpretability of the parameter’s loadings, intercepts and residual variances were assumed to be equal across sites

### Table 3 Results of the Regression Analyses Predicting the True-Changes of the HAM-D (Reference-Measured States; \( S_c \)) and BDI Specific Components (Method Factors; \( M_c \)) by Intervention Type

<table>
<thead>
<tr>
<th>Intervention Type</th>
<th>Estimate</th>
<th>Standardized estimate (^a)</th>
<th>SE</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicting ( S_c )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Intercept)</td>
<td>−0.13</td>
<td>0.04</td>
<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>MBCT</td>
<td>−0.09</td>
<td>−0.29</td>
<td>0.07</td>
<td>.18</td>
</tr>
<tr>
<td>CBASP</td>
<td>−0.26</td>
<td>−0.82</td>
<td>0.07</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Predicting ( M_c )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Intercept)</td>
<td>0.02</td>
<td>0.03</td>
<td>0.03</td>
<td>.39</td>
</tr>
<tr>
<td>MBCT</td>
<td>−0.11</td>
<td>−0.40</td>
<td>0.08</td>
<td>.18</td>
</tr>
<tr>
<td>CBASP</td>
<td>−0.01</td>
<td>−0.04</td>
<td>0.07</td>
<td>.86</td>
</tr>
</tbody>
</table>

Note. HAM-D = Hamilton Rating Scale for Depression; MBCT = mindfulness-based cognitive therapy; CBASP = cognitive behavioral anal-
system of psychotherapy.

\(^a\) Only dependent variables were standardized.

### Treatment Effects on Depressive Symptoms

Descriptive statistics of posttreatment HAM-D and BDI scores can be found in Table 2. To ensure the adequate interpretability of the model parameters retrieved from the SEM used to analyze HAM-D and BDI, longitudinal measurement invariance was tested using the Wald test to compare nested models. This revealed that the model assuming strict factorial invariance was not inferior to the model assuming only configural invariance (\( W = 2.83, df = 5, p = .73 \)). The final model incorporating strict invariance across measurement occasions showed good overall model fit across the 50 imputations (average \( \chi^2 = 25.82, SD \chi^2 = 3.06, df = 50 \), average root square error of approximation = .001, \( SD \) root mean square error of approximation (RMSEA) = .005, average comparative fit index = 1.000, \( SD \) CFI = .001).

The results from the final model were used to compute the model-implied reliabilities as the proportion of the manifest variance attributable to true-score variance.\(^1\) These indicate good reliabilities for HAM-D in the assessment of states (reliabilities = .79) as well as of changes across two occasions (reliabilities = .72). Results for BDI indicate even better reliabilities with a reliability of .87 in state-assessment and .80 in the assessment of change. The consistencies of BDI indicate that roughly half of the reliable variance of states was shared with the assessment via HAM-D (consistencies = .52). A slightly higher consistency was found for the assessment of change (consistencies = .59). These results concerning reliability of HAM-D and BDI as well as their convergent validity are in line with previous findings (e.g., Uhert et al., 2008) with the addition that roughly the same holds true when assessing change using these scales.

The results of the regression analysis predicting the change measured by the reference method (HAM-D) as well as the change of the method effects of the BDI are shown in Table 3. TAU showed significant mean changes between pre- and posttreatment. MBCT did not show a significantly stronger effect than TAU (effect size = .29). In contrast, a significant intervention effect of CBASP indicates that CBASP led to a significantly greater decrease in HAM-D scores than TAU. As indicated by the second column of Table 3, the average change in CBASP participants was roughly .82 SDs larger than that of the TAU group. It should be noted that these effect sizes are likely to be larger than those of comparable studies because they pertain to latent variables, meaning that variability due to measurement error is not included in their computation.\(^2\) Although the direct comparison of MBCT and CBASP revealed no significant difference between the effects of the two intervention approaches, we observed a statistical trend favoring CBASP over MBCT (estimate = 0.17, SE = 0.09, p = .06).

\(^1\) State assessment reliabilities were computed as \( rel(Y) = \frac{\lambda Y^2 \text{var}(S_c) + \lambda M^2 \text{var}(M_c) + \text{var}(\epsilon)}{\lambda Y^2 \text{var}(S_c) + \lambda M^2 \text{var}(M_c) + \text{var}(\epsilon)} \) and change reliabilities were computed \( rel(Y_c) = \frac{\lambda Y^2 \text{var}(S_c) + \lambda M^2 \text{var}(M_c) + \text{var}(\epsilon)}{\lambda Y^2 \text{var}(S_c) + \lambda M^2 \text{var}(M_c) + \text{var}(\epsilon)} \) for indicators of the BDI. For indicators of the HAM-D (the reference method) the terms pertaining to the method factors \( M \) were omitted.

\(^2\) These effect sizes are comparable to Cohen’s \( d \), in that they also depict differences between groups in relation to a pooled estimate of the standard deviation. The average of the classical Cohen’s \( d \) across all 50 data imputations when investigating only the HAM-D was \( d = 0.25 \) for the comparison between MBCT and TAU and \( d = 0.85 \) for the comparison between CBASP and TAU. For the BDI the manifest effect size estimates were \( d = .51 \) for the comparison between MBCT and TAU and \( d = .54 \) for the comparison between CBASP and TAU.

### Note

Thomas Heidenreich. Competence was good, as indicated by an average overall score of 5.10 for MBCT therapies conducted at Site A and 4.71 at Site B (scale range; 1–6). No specific instrument for assessing CBASP competence is currently available. As a proxy to assess CBASP competence we separately analyzed the Quality of the Interpersonal Relationship subscale of the CBASP Adherence Scales (McCullough, 2003). This subscale comprises items assessing the therapeutic competence of CBASP therapists (e.g., to form a collaborative rapport, to listen effectively, and to appropriately control the session). Competence was good, as indicated by an average overall score of 4.77 for CBASP therapies conducted at Site A and 4.94 at Site B (scale range: 1–5).

Depressive Symptoms

Specific Components (Method Factors; \( M_c \)) by Intervention Type

Standardized estimate\(^a\), \( \text{SE} \), \( p \) value

Note. HAM-D = Hamilton Rating Scale for Depression; MBCT = mindfulness-based cognitive therapy; CBASP = cognitive behavioral analysis system of psychotherapy.

\(^a\) Only dependent variables were standardized.
in addition to the strict factorial invariance across measurement occasions. The assumptions were tested using the Wald test ($W = 5.16, df = 3, p = .16$), which showed no significant reduction in model fit.

The Wald test for the overall equality of the intervention effects did not reveal significant site differences in the overall regression models. However there was a statistical trend toward site effects ($W = 12.55, df = 6, p = .051$). Therefore, we conducted a more detailed comparison of the sites (see Table 4), which revealed significant intervention effects in the TAU group at Site A, but not at Site B. Moreover, the analyses revealed that MBCT did not show significant intervention effects above and beyond those of TAU at Site A, but did at Site B. CBASP showed significant effects at both sites.

Remission Rates

In the MBCT group, 16.7% ($n = 6$) of the patients remitted (Site A: 8.3%, $n = 2$; Site B: 33.3%, $n = 4$), in the CBASP group 25.7% ($n = 9$) (Site A: 21.7%, $n = 5$; Site B: 33.3%, $n = 4$), and in the TAU group 5.7% ($n = 2$) (Site A: 4.3% [n = 1]; Site B: 8.3%, n = 1). Although the remission rates in the MBCT and TAU condition did not differ significantly ($\chi^2 = 2.13, df = 1, p = .15$), the remission rate in the CBASP condition was significantly higher than in TAU ($\chi^2 = 5.86, df = 1, p = .02$). Remission rates of MBCT and CBASP did not differ significantly ($\chi^2 = 0.87, df = 1, p = .35$).

Treatment Effects on Social Functioning and Quality of Life

Table 5 shows the intervention effects on social functioning (SASS) and quality of life (Mental Health subscales of SF-36) as well as the model implied effect sizes (difference in standard deviations of change) for each contrast to TAU. Effect sizes for these secondary outcomes were small to medium for both MBCT and CBASP. In the overall sample MBCT differed significantly from TAU in changes on the Role-Emotional subscale of SF-36 and SASS. We observed no significant effects of CBASP on any of these secondary outcomes.

Discussion

The results of the present study suggest that with an effect size of 0.82 an eight-session group version of CBASP as a supplement to standard treatment is effective for patients suffering from chronic major depression. In the overall sample as well as at both treatment sites, CBASP was significantly more effective than TAU alone in reducing clinician-rated depressive symptoms. Results for MBCT were more mixed. In the overall sample, MBCT was no more effective than TAU in reducing depressive symptoms assessed by HAM-D. Although the overall site effect was not sig-
significant, the more fine-grained analyses revealed that this result was largely attributable to very small improvements in HAM-D scores and large TAU effects for MBCT patients treated at Site A, whereas MBCT was more effective than TAU at Site B. Remarkably, this result cannot be attributed to allegiance effects since Site A was more specialized in MBCT. Though the difference between the effects of MBCT and CBASP was not statistically significant (possibly due to insufficient power to detect differences) there is a preliminary indication of a larger effect of CBASP.

Self-reported depressive symptoms (BDI) and clinicians’ ratings (HAM-D) showed good consistency in state assessments as well as in their assessments of changes. When analyzing our data with a SEM approach, we found no indication that the effects differed within any of the three intervention approaches by method of assessment (as seen by the absence of significant regression weights on the method effects $M_h$). This indicates consistent intervention effects, the detectability of which does not depend on the assessment method but is evident across self-reports (BDI) and clinicians’ ratings (HAM-D).

However, the supplementary analysis with the more traditional HLM approach revealed that when treatment effects were assessed by self-report with the BDI, MBCT was superior to TAU. All other HLM analyses revealed similar effects to those of the SEM approach. Although these indicate some differences between the effects for BDI and HAM-D, overall CBASP showed more consistent effects.

The effect size for the reduction in depressive symptoms was particularly large at Site B, the center with more experience in CBASP, and comparable to effect sizes reported in previous research on CBASP. In the study by Keller and colleagues (2000), the remission rates for individual CBASP (33%) after 12 weeks were similar to our results (33% in the CBASP group at Site B, 26% overall across both sites) after 8 weeks. However, it should be noted that the majority of patients in our study were on stable medication. The combined nefazodone and CBASP condition in the Keller et al. study achieved a higher remission rate of 48%. The HLM approach revealed that when treatment effects were assessed with the more traditional SEM approach, we found no indication that the effects differed with respect to medication or supplementary individual psychotherapy in the TAU condition between the two centers, it could be speculated that patients at Site B might have had a longer history of ineffective TAU. This might have motivated health care providers to refer patients to our study with alternative treatment approaches and might have had the effect that the patients were highly resistant to TAU. The differences in subtype of depression observed between the two sites, namely the higher proportion of patients with chronic major depression at Site B and more patients with recurrent depression with incomplete remission (i.e., a more fluctuating type of depression) at Site A, support this assumption. Notably, differences in efficacy between treatment sites have been reported repeatedly in psychotherapy RCTs in depression, for example, in the NIMH Treatment of Depression Collaborative Research Program (Elkin et al., 1989) and in a recent dismantling study on MBCT (Williams et al., 2014).

The difference in TAU between treatment sites affected comparisons with CBASP and MBCT and resulted in larger estimates of between-groups effect sizes for the treatment groups at Site B. In particular, the effect size of MBCT was dependent on treatment site. These differences between centers could not be attributed to differences in adherence or competence. We found good adherence and competence ratings for both MBCT and CBASP at both treatment sites. Moreover, therapists at both centers had intensive training in MBCT and CBASP. In particular, the MBCT therapist at Site A had considerable experience in conducting MBCT groups. During the trial the quality of each treatment was monitored by the senior investigators. Moreover, interrater correlations for HAM-D were excellent, making it unlikely that systematic differences in rating procedures were responsible for the differences in HAM-D effects between centers.

The more consistent effect of CBASP on depressive symptoms in our study might indicate that besides common factors like alliance or group cohesion some specific factors are important in the treatment of chronically depressed patients. It could be speculated that the more active, problem-solving, and interpersonal focus of CBASP might have some benefit for this highly avoidant group of patients (Brockmeyer, Kulesa, Hautzinger, Bents, & Backenstrass, 2015). It might assist them to form a representation of the effects of their behavior in an interpersonal context and might help them to develop new and more satisfying ways to establish and maintain important relationships. The active and problem-focused style of CBASP might be beneficial because it provides patients with immediate feedback on the impact their behavior has on others. Moreover, focusing their attention on present-moment interaction might prevent them from drifting into ruminative states of mind. In contrast, because the mindfulness
exercises during the sessions and the regular mindfulness practice at home as core components of MBCT require a relatively high degree of attentional and motivational self-regulation, some patients with chronic depression might be overchallenged by the requirements of MBCT. This might have resulted in a more limited efficacy of MBCT in our study. If these differences in the efficacy of MBCT and CBASP can be replicated in future studies, this might call into question the assumption of the so-called dodo-bird verdict (Luborsky, Singer, & Luborsky, 1975) that all psychotherapies, regardless of their specific components, produce equivalent outcomes.

Effects of both psychotherapeutic approaches on social functioning and quality of life were moderate. In contrast to the effect of CBASP on depressive symptoms we observed no significant effect of CBASP on social functioning or any subscale of SF-36. Research on the sequencing of change during psychotherapy has shown that an enhancement of life functioning usually occurs in later phases of treatment after a phase of reduction in symptomatology (see phase model of psychotherapy by Howard, Luenger, Maling, & Martinovich, 1993). Correspondingly, it might be that a higher dose of treatment would be needed before an enhancement of life functioning could be observed in this difficult to treat group of chronically depressed patients.

Dropout rates were relatively high with approximately 28% of patients discontinuing treatment in both group treatment conditions. These numbers are considerably higher than those reported in previous studies of MBCT in chronically depressed patients (e.g., Barnhofer et al., 2009 12.5%; Eisenbrath et al., 2008, 7%; Kenny & Williams, 2007, 1%) but are comparable to those reported in previous trials of CBASP (e.g., Keller et al., 2000: 24%; Wiersma et al., 2014, 25%). A meta-analysis of dropout rates in psychotherapy reported an average rate of discontinuation of 19.7% for therapies conducted in group settings (Swift & Greenberg, 2012), lower than the rate in our study. It might be speculated that chronically depressed patients might be especially prone to premature termination because of low levels of energy and motivational deficits, and a high tendency toward interpersonal avoidance. However, the discrepancy between the dropout rates in our study and those reported in previous MBCT studies remains puzzling.

The present study has several limitations. First, the TAU condition was relatively unspecified. The majority of patients received antidepressant medication and some received treatment with additional individual psychotherapy. However, we did not control for the quality of supplementary treatments. Correspondingly, TAU here represents the kind of treatment that chronically depressed patients in Germany usually receive (which is overall of high quality), but it is unlikely that it represents the optimal treatment for chronically depressed patients according to current clinical guidelines. Second, although the number of patients receiving antidepressant medication did not differ significantly between treatment conditions, descriptively a smaller proportion of patients exclusively treated with TAU received antidepressant medication. Although, by definition, chronically depressed patients show a relatively stable level of symptoms it cannot be ruled out that this difference affected our results. Third, we did not perform a non-inferiority analysis (Piaggio et al., 2006) to assess whether MBCT is less effective than CBASP, the treatment approach specifically developed for the treatment of chronically depressed patients. Although in the present study the effects of CBASP were more consistent than those of MBCT, our trial was underpowered to reliably detect differences between the two treatment conditions. Fourth, the results in the TAU condition suggest that recruitment of patients might have affected the findings. Hence, future research should use optimized recruitment strategies (e.g., searching in computerized practice databases in primary care settings to identify patients; see Kuyken et al., 2008) to improve generalizability of the results. Fifth, it cannot be ruled out that the greater effects of CBASP were attributable to a higher dose of treatment. Patients in the CBASP condition received two individual preclass sessions due to the necessity of assessing the significant other history before the groups started, compared to one preclass interview in the MBCT condition. Moreover, the individual preclass interview in the MBCT condition had a focus on informing patients about the program, whereas in individual sessions in the CBASP condition the transference hypothesis was derived. Thus, in addition to the difference in dose, the individual CBASP sessions might have had a stronger therapeutic impact.

In conclusion, the results of the present study demonstrate the efficacy of CBASP in a group format for the treatment of chronically depressed patients. MBCT was effective in one of the study centers but not in the other. It is unlikely that potential allegiance or differences in adherence between conditions were responsible for these effects. Although these findings need replication, the results of this study might inform future research on the possible role of more active, problem-solving, and interpersonal focus of CBASP for the successful treatment of chronically depressed patients.

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Correction to Michalak et al. (2015)

In the article “A Randomized Controlled Trial on the Efficacy of Mindfulness-Based Cognitive Therapy and a Group Version of Cognitive Behavioral Analysis System of Psychotherapy for Chronically Depressed Patients” by Johannes Michalak, Martin Schultze, Thomas Heidenreich, and Elisabeth Schramm (Journal of Consulting and Clinical Psychology, 2015, Vol. 83, No. 5, pp. 951–963. http://dx.doi.org/10.1037/ccp0000042), there was an error in the Method section in the Statistical Analysis subsection. The last sentence in the seventh paragraph should read “A remitter was defined as a participant with a HAM-D score of 8 or less at posttreatment.”

http://dx.doi.org/10.1037/ccp0000104