# Meditation With Yoga, Group Therapy With Hypnosis, and Psychoeducation for Long-Term Depressed Mood: A Randomized Pilot Trial

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This randomized pilot study investigated the effects of meditation with yoga (and psychoeducation) versus group therapy with hypnosis (and psychoeducation) versus psychoeducation alone on diagnostic status and symptom levels among 46 individuals with long-term depressive disorders. Results indicate that significantly more meditation group participants experienced a remission than did controls at 9-month follow-up. Eight hypnosis group participants also experienced a remission, but the difference from controls was not statistically significant. Three control participants, but no meditation or hypnosis participants, developed a new depressive episode during the study,

This study was supported by funds from the Mental Insight Foundation and the Stanford Center on Stress and Health. The authors thank the people who helped with the conceptualization and implementation of this study, including Bill Kimpton, Mark Abramson, Jose Maldonado, and Michael Yapko; the volunteer psychodiagnostic interviewers: Scott Abrams, Chris Ambler, Lagen Biles, Jennifer Devan, Ernest Ellender, Jocelyn Fine, Zohar Ithzar, Emilian Mihaila, Gina Nguyen, Lisa Paderna, Yana Peleg, Carolyn Sartor, David Severin, David Spangler, and Bonnie Sullivan; and those who helped with data entry: Shannon Boustead, Jason Cuff, Jessika Diaz Lara, Carolina Gutierrez, Shelly Henderson, Anna Khaylis, Andrea Kwan, Daphne Nayar, and Ashwini Palekar. We also thank Jennifer Devan and David J. McIntyre, who served as meditation interventionists.

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JOURNAL OF CLINICAL PSYCHOLOGY, Vol. 64(7), 806–820 (2008)

Published online in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/jclp.20496

though this difference did not reach statistical significance in any case. Although all groups reported some reduction in symptom levels, they did not differ significantly in that outcome. Overall, these results suggest that these two interventions show promise for treating low- to moderate-level depression.  J Clin Psychol 64(7): 806–820, 2008.

Keywords: depression; meditation; hypnosis; RCT; alternative treatment; dysthymia

Long-term, low-to-moderate depressed states can present in a variety of clinically significant forms, including dysthymia, chronic major depression, major depression in partial remission, and double depression [a major depressive episode (MDE) or chronic major depression superimposed on a dysthymic disorder; American Psychiatric Association (APA), 1994]. Dysthymia is one of the most common of these conditions in adults, manifesting as a chronic, relatively low-grade depressed state lasting at least 2 years without significant remission (APA, 1994), with a lifetime prevalence of 3 to 6% (Kessler et al., 1994; Weissman, Leaf, Bruce, & Florio, 1988), though in outpatient mental health settings the prevalence may be 22 to 36% (Klein, Dickstein, Taylor, & Harding, 1989; Markowitz, Moran, Kocsis, & Frances, 1992). Relatively few patients with dysthymia seek treatment for this mental condition, and their depression therefore goes unaddressed (Shelton et al., 1997; Wells & Lennon, 1989). Recent studies also have found dysthymia to be generally similar to other forms of chronic depression in demographic, clinical, psychosocial, family history, and treatment-response characteristics (Donaldson, Klein, Riso, & Schwartz, 1997; McCullough et al., 2003), suggesting that chronic depressed states ''should be viewed as a single, broad condition that can assume a variety of clinical course configurations'' (McCullough et al., 2003, p. 614).

The need to find effective treatments for those suffering from long-term, low- to moderate-level depression has been known for at least a century (Brieger & Marneros, 1997), and there have been advances recently in the types of pharmacotherapy and psychotherapy available for this condition (Frank & Thase, 1999; Kocsis, 2000; Markowitz, 1994). However, only a handful of randomized clinical trials have been conducted to date, with the general findings that antidepressants, interpersonal counseling, and cognitive therapy each may be helpful in some, but not all, cases (Beach & O'Leary, 1992; Keller et al., 1998; Kocsis et al., 1997; Mossey, Knott, Higgins, & Talerico, 1996).

Additionally, a recent meta-analysis of 14 randomized control studies examining the use of self-help strategies to treat emotional disorders found a robust effect size for bibliotherapy, equivalent in the short-term to the effect sizes found in studies using cognitive therapy to treat depression (den Boer, Wiersma, & Van den Bosch, 2004). Indeed, one study has shown that adherence to the self-help strategy of completing therapy homework, including bibliotherapy, had a large enough effect on mild to moderate depression to lead to an almost complete elimination of symptoms (Burns & Spangler, 2000). There are limitations to these therapies, however, because they emphasize treating current symptoms and styles of thinking and interacting rather than learning new ways of regulating mood.

A number of studies have reported that meditation programs can significantly reduce anxiety and depression, and improve general functioning in a variety of patients (Boorstein, 1983; DeBerry, Davis, & Reinhard, 1989; Ferguson & Gowan, 1976; Kabat-Zinn et al., 1992; Miller, Fletcher, & Kabat-Zinn, 1995; Shapiro, Schwartz, & Bonner, 1998; Tloczynski & Tantriella, 1998). Meditation includes a variety of attention-control practices that enable practitioners to focus attention and maintain awareness of the present moment (Waelde, 2004).

Certain spiritual traditions, such as Zen Buddhism and Kabbalah, offer systems of meditation designed to achieve spiritual ends while more recent secular practices, such as Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn et al., 1992) and Mindfulness-Based Cognitive Therapy (MBCT; Teasdale, Segal, Williams, Ridgeway, Soulsby, & Lau, 2000), have evolved by extracting certain techniques from varying meditative traditions to alleviate psychological symptoms (e.g., depression) in a clinical setting. Some of these secular meditation practices have been shown to significantly reduce depressive symptoms (Finucane & Mercer, 2006; Waelde, Thompson, & Gallagher-Thompson, 2004) and/or relapse or recurrence (Teasdale et al., 2000; Teasdale, Moore, Hayhurst, Pope, Williams, & Segal, 2002). Yoga also can be clinically therapeutic for depression, either in combination with meditation (Waelde et al., 2004) or alone (Pilkington, Kirkwood, Rampes, & Richardson, 2005).

Hypnosis also has been widely and successfully used to treat a variety of conditions, including stress, anxiety, and psychological aspects of pain (Butler et al., 2007; D. Spiegel, 1994; H. Spiegel & Spiegel, 2004; Yapko, 2003). Hypnosis is a form of highly focused attention with a relative constriction of peripheral awareness (H. Spiegel & Spiegel, 2004) and has been used successfully as an adjunct to therapy for depression. In 1964, Abrams suggested that hypnosis could be used to improve rapport in the therapeutic relationship, assist in the retrieval of important memories, and create artificial situations that would permit the client to express ego-dystonic emotions in a safe manner (see also Griggs, 1989; Havens, 1986). Yapko (1992, 2001) elaborated methods of using hypnosis in a cognitive-behavioral framework to treat depression; he described a range of hypnotic techniques designed to improve patients' expectations for their lives and to change their focus from negative, global thoughts to specific issues for which patients can find resources to cope. Thus, hypnosis can be utilized to focus on certain aspects of an experience or memory or to compare and contrast different aspects of it, thereby modulating the associated emotions. Perhaps surprisingly, though, hypnosis has rarely been used as the primary treatment for patients with clinical depression.

The experience of long-term depressed mood often includes loneliness and feelings of isolation. Participation in group therapy has been shown to be effective for reducing those symptoms (D. Spiegel, 1990), and the social structure in group therapy can encourage the therapeutic expression of emotions (Giese-Davis et al., 2002). The development of group hypnotherapy for the treatment of long-term depressed mood is an attempt to bridge the benefits of hypnosis with those of group therapy to find effective ways of treating the disorder.

In the present pilot study, we examined the efficacy of two possible alternative treatments for long-term, clinically significant depressed mood: (a) meditation with hatha yoga (and psychoeducation) and (b) group therapy with hypnosis (and psychoeducation), and each was compared to a psychoeducation-only control group. Participants who qualified for a diagnosis of a mood disorder lasting for at least the past 2 years without a significant remission were recruited and randomized to one of the three study conditions. The psychoeducational materials provided to each group

included depression-related readings, a list of Internet resources, and David Burns' (1999) depression self-help book *Feeling Good*. In the present analyses, we sought to examine treatment effects on three outcomes: (a) diagnostic caseness at 9-month follow-up (i.e., whether participants still met criteria for the depression-related diagnosis they had at study entry), (b) whether an MDE had developed during the period of study participation, and (c) depression symptom levels.

## Method

### *Participants*

*Demographics*. The randomized sample ($N = 46$) was 74% female and 26% male. Mean age of the sample was 50.4 years ($SD = 14.8$, range = 22–80), with an average of 16.7 years of education ($SD = 3.2$, range = 3–24) and a median total household income of between $60,000 and $79,000. The primary ethnic background distribution was 87% Caucasian/White, 9% Asian/Asian American, 2% Hispanic/Latino, 2% Middle Eastern, 2% American Native/Alaska Native, and 9% other (Ethnicity percents exceed 100 because several participants endorsed more than one primary ethnicity.)

*Psychiatric characteristics*. Based on the information collected in initial clinical interviews, 50% ($n = 23$) of the original sample was diagnosed with dysthymia (a long-term minor depressive condition), 28% ($n = 13$) was diagnosed with "double depression" (dysthymia with a superimposed MDE), 15.2% ($n = 7$) was diagnosed with an MDE in partial remission, and 6.5% ($n = 3$) was diagnosed with chronic major depression of 2 or more years of duration. Overall, 63% of the sample had experienced at least one MDE in the past, with half of the sample experiencing three or more episodes. One individual (2%) was in current individual psychotherapy, 3 (7%) others were in couples therapy, 10 (22%) were taking psychiatric medications (antidepressant: 7, anxiolytic: 2, both an antidepressant and an anxiolytic: 1), and none of the participants were taking St. John's Wort.

### *Overview of Recruitment and Diagnostic Assessment*

Potential participants were recruited through press releases, newspaper and Internet advertisements, posted flyers, and mailings sent to local San Francisco Bay Area physicians and mental health professionals and organizations from August 2000 to October 2001. Over 350 inquiries about the study were received, 259 brief phone screen interviews were conducted, and 139 in-office diagnostic interviews to determine eligibility were completed. Structured clinical interviews were conducted to determine the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (*DSM-IV*; APA, 1994) diagnostic status, and therefore the eligibility, of each potential participant. To be eligible for the study, potential participants had to be diagnosed with a long-term (2+ years) depressive condition without a significant remission of 2 months or more. Sixty-eight of the 139 (49%) participants who completed the in-office interview were determined to be eligible, and 52 of the 68 (76%) eligible participants chose to enroll in our randomized study, though 6 (11.5%) withdrew from the study after randomization and so were not included in the analyses.

*Psychosocial assessments*. All assessments were conducted in the Department of Psychiatry and Behavioral Sciences at Stanford University School of Medicine.

If participants met the diagnostic criteria and were not excluded for other reasons, they were given the Hypnotic Induction Profile (HIP; H. Spiegel & Spiegel, 2004) to evaluate their level of hypnotizability and were asked to complete a baseline packet of psychosocial questionnaires assessing life events, general functioning, satisfaction with life, and aspects of mood (including symptom levels), personality, health, social support, traumatic experience, and spirituality. These "paper-and-pencil" assessments also were conducted at two additional time points: at approximately 6 months and 9 months following study entry. A second diagnostic interview also was conducted to determine final clinical status at 9-month follow-up. Research assistants (RAs) administered the psychosocial questionnaires; trained and supervised clinical psychology graduate students conducted the diagnostic interviews, HRSD interviews, and the HIPs. The interviewers and the supervisor were blind to participant study condition. Of the 46 participants who entered the study, 3 failed to complete the follow-up assessments (1 hypnosis, 2 control), and an additional 3 (2 meditation, 1 hypnosis) could not be scheduled for their final follow-up interview-based assessment.

*Inclusion criteria*. For inclusion in the study, participants had to (a) meet *DSM-IV* (APA, 1994) criteria for a depressive disorder, with the additional requirement that depressive symptoms had to have lasted for at least the past 2 years without a remission of 2 months or more. In addition, participants had to be (b) at least 18 years of age, (3) sufficiently proficient in English to be able to participate in group therapy, and (4) able to attend weekly meetings at Stanford University.

*Exclusion criteria*. Individuals were excluded from the study if they had (a) current bipolar disorder or depressive disorder with psychotic features; (b) current or past psychosis; (c) current primary diagnosis of panic disorder, generalized anxiety disorder, or posttraumatic stress disorder; (d) current drug or alcohol dependence or abuse (within the last 3 months); (e) current suicidality beyond simple ideation or had made prior attempts; (f) a significant medical condition that could interfere with participation in meditation/yoga; (g) current participation in individual or group psychotherapy or a meditation group; or (h) started (or changed level or type of) prescribed antidepressant medication or St. John's Wort in the previous 3 months. Of note, although all participants were queried in their initial phone screen about whether they were currently in psychotherapy (and excluded if they were participating in individual or group psychotherapy), 1 participant later revealed (in her baseline treatment history assessment) that she had been receiving such treatment for 3 years. Due to the small sample size in this study, her data were retained in the present sample.

*Randomization*. Following the baseline assessment, all participants were randomly assigned by the project director (L. D. B.) to one of three study groups via a computer-generated random sequence (the sequence was not concealed): meditation with yoga (and psychoeducation), group therapy with hypnosis (and psychoeducation), or control (psychoeducation-only). Seventeen (32.7%) participants were randomized to the meditation group, 17 (32.7%) participants to the hypnosis group, and 18 (34.6%) participants to the control group. All participants were given educational materials, including a packet of depression-related readings and Internet resources and David Burns' (1999) book *Feeling Good*.

*Interventions*

Therapist-led groups met once a week in the Department of Psychiatry and Behavioral Sciences at Stanford University School of Medicine to participate in an intervention that included either meditation and yoga exercises or group therapy with formal hypnotic inductions.

*Meditation and hatha yoga intervention*. The meditation/yoga sessions followed the Inner Resources (IR) program (Waelde, 1999), which includes instruction and group practice in meditation, hatha yoga, breathing techniques, guided breathing imagery, and mantra repetition. The IR program emphasizes the meditative practice of surrender. Surrender involves observing thoughts and feelings as they arise and then consciously letting go of these thoughts and feelings using breathing and visualization. Participants are encouraged to use surrender during periods of sitting meditation and to cope with their depressive thoughts and feelings in daily life. IR includes techniques found in mindfulness programs, such as focus on breathing and mindful hatha yoga (see Kabat-Zinn, 1994), but also includes additional techniques drawn from the Classical Yoga tradition (Waelde, 2004). These techniques include breathing exercises and imagery that is associated with breathing (e.g., imagining that the lungs are two balloons being filled with air). Other IR techniques drawn from the Yoga tradition include mantra repetition and surrender. Surrender in the IR program refers to a breathing and visualization exercise designed to help practitioners let go of thoughts, feelings, and sensations as they arise, without pushing them away or engaging them. This approach encourages practitioners to recognize that thoughts and feelings are transient, and it seems particularly suited to mood disorders, which may be maintained by depressive rumination (Nolen-Hoeksema, 2000).

The meditation program included 8 weekly group sessions of 2 hrs each, one 4-hr retreat, and one booster session in Week 12. Six of the weekly sessions as well as the retreat and booster sessions began with a 40-min meditation; the other two weekly sessions began with a hatha yoga practice period. All were followed by a 40-min discussion of ways to apply these practices to mood management. During the last 40 min of each session, new meditation techniques were taught and practiced. Participants were encouraged to use the meditation techniques such as breath awareness and mantra repetition during periods of sitting meditation and throughout the day. Participants were asked to practice the meditation and/or yoga techniques for at least 30 min per day for 6 days per week and were provided a manual and four audiocassettes to aid home practice. Each meditation group was conducted by a clinical psychologist and a student co-leader who also had experience in leading meditation groups. While conducted in a group setting, the meditation was structured as a class featuring learning, practicing, and applying meditation and yoga techniques to depressive thoughts and feelings rather than focusing on the content of these thoughts and feelings.

*Group therapy with hypnosis intervention*. The hypnosis intervention involved 10 weekly sessions of 1½ hrs each and a 2-hr booster session in Week 12. The hypnosis groups were typically co-led by two trained therapists. The senior group leader was either a psychiatrist or a clinical psychologist with expertise in the psychotherapeutic uses of hypnosis and in conducting group therapy; the junior group leader was either a psychologist or an advanced clinical psychology graduate student trained in conducting hypnosis and in leading psychotherapy groups. Each session involved

conducting formal group hypnotic inductions and exercises at the beginning and end of the meeting aimed at helping participants practice positive affect, increase the modulation of affect, generate alternative responses, and, where appropriate, explore life themes and significant life events that participants believed might be related to their current mood. Participants also were taught self-hypnosis to use outside the group for relaxation and affect regulation (as described in H. Spiegel & Spiegel, 2004). The group's experiences using hypnosis were the basis for discussion in the middle of the group sessions. These were conducted based upon Yalom's (1985) "here-and-now" group therapy model in which both process and content were examined in the context of feelings and interactions stimulated in the group during discussion of depression-related problems. The protocol for this hypnosis intervention was developed in part from supportive-expressive psychotherapy (SET; D. Spiegel & Classen, 2000), a group therapy intervention that has been used to help cancer patients. Additional material was adapted from Yapko's (1992, 2001) well-delineated program of hypnosis for treating depression.

### *Measures*

*Diagnosis*. Participants were assessed with the Structured Clinical Interview for the *DSM-IV* [SCID-I/P (with Psychotic Screen); First, Spitzer, Gibbon, & Williams, 1998] at baseline and at the 9-month follow-up. The follow-up assessment determined diagnostic caseness and whether the participant had developed a new MDE during the course of the study. Interviews were conducted by advanced clinical psychology graduate students who had been trained in SCID administration and were supervised by a clinical psychologist (L. W.). Interviewers and the supervisor were blind to each participant's study condition.

*Depression symptoms*. Depression symptoms were assessed with the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). The HRSD is considered by many to be the "gold standard" of measures of depression severity in large clinical trials (Demyttenaere & De Fruyt, 2003; Williams, 2001), and its psychometric properties have been demonstrated to be generally adequate (though they have recently been called into question; Bagby, Ryder, Schuller, & Marshall, 2004). In the present study, we used the 26-item version of the measure, and it was administered by interview at all three assessments. Scores were summed to a total score for analyses. Cronbach's $\alpha$ on the HRSD at baseline in this sample was .86.

*Dysthymia symptoms*. Dysthymia symptoms were assessed with the 27-item Cornell Dysthymia Rating Scale-Self Report (CDRS-SR; Mason et al., 1995). The CDRS-SR was developed to assess the frequency and severity of dysthymia symptoms, some of which may not be adequately assessed with the HRSD. The clinician-rated version of this measure has been shown to have adequate internal consistency and construct validity, and greater distributions of severity and better content validity than the HRSD for dysthymic patients (Hellerstein, Batchelder, Lee, & Borisovskaya, 2002). Items are rated on a 4-point scale: 1 (*none or a little of the time*), 2 (*some of the time*), 3 (*good part of the time*), and 4 (*most or all of the time*). Cronbach's $\alpha$ on the CDRS-SR at baseline in this sample was .89.

*Treatment history*. Treatment history was assessed with a self-report questionnaire created for this study. Participants were asked at baseline, 6 months, and 9 months whether they were currently in psychotherapy (and if so, which type, number of sessions, etc.) or taking psychiatric medications or St. John's

Wort (and if so, which medications, dosage, start date, etc.) as well as questions about use of alternative therapies (e.g., alternative medications/supplements, acupuncture, massage, Qi Gong, Reiki, etc.). Use of these alternative therapies was not examined in the present study.

## Data Analyses

Chi-squares were used to examine whether the three groups differed in the proportion who received outside treatment, and who had remitted or developed an MDE over the course of the study. Point-biserial correlations and Cramér's $V$ coefficients were used to examine the relationship of each outcome to receipt of outside treatment. Slopes analyses were used to test for differences among groups on symptom levels (HRSD and CDRS). Each participant with a pre-randomization baseline measure and at least one post-baseline assessment had a slope constructed across available assessments regressed on time using months as the unit of time. Because this was a pilot study, the analyses were not conducted as intention-to-treat. These outcome slopes became the dependent measure in two analyses of variance examining treatment effects (meditation vs. hypnosis vs. control) on HRSD symptom levels and CDRS symptom levels. Because change in symptoms is typically associated with initial levels, each analysis included the intercept as a covariate. The intercept was included rather than the baseline value because the intercept is the best estimate of the true baseline value (Kraemer & Blasey, 2004). All hypothesized relationships were tested with two-tailed tests ($\alpha = .05$).

## Results

### *Psychotherapy and Antidepressant Use During the Study*

The proportion of participants receiving outside treatment at baseline or 9-month follow-up did not differ significantly among the groups (see Table 1 for baseline and 9-month follow-up use of individual or group psychotherapy and antidepressant medication).

Table 1
*Baseline and 9-Month Follow-Up Number (and %) Receiving Outside Psychotherapy and/or Antidepressants by Study Condition*

| | Meditation | | Hypnosis | | Control | |
|---|---|---|---|---|---|---|
| | Baseline ($n = 15$) | Follow-up ($n = 13$) | Baseline ($n = 15$) | Follow-up ($n = 13$) | Baseline ($n = 16$) | Follow-up ($n = 14$) |
| Psychotherapy alone | 0 (0%) | 2 (15%) | 1 (7%) | 1 (8%) | 0 (0%) | 1 (7%) |
| Antidepressants alone | 3 (20%) | 3 (23%) | 2 (13%) | 1 (8%) | 2 (12.5%) | 3 (21%) |
| Both psychotherapy and antidepressants | 0 (0%) | 1 (8%) | 0 (0%) | 1 (8%) | 0 (0%) | 3 (21%) |
| Total receiving outside treatments | 3 (20%) | 6 (46%) | 3 (20%) | 3 (23%) | 2 (12.5%) | 7 (50%) |

*Note*. Outside psychotherapy includes individual or group psychotherapy. No participant reported use of St. John's Wort at baseline or 9-month follow-up.

Table 2
*Final Follow-Up Number (and %) of Remissions of Diagnostic Caseness and Presence of Current Major Depressive Episode (MDE) by Study Condition*

| | Meditation ($n = 13$) | Hypnosis ($n = 13$) | Control ($n = 14$) |
|---|---|---|---|
| Remission of diagnostic caseness | 10 (77%) | 8 (62%) | 5 (36%) |
| In current MDE | 0 (0%) | 0 (0%) | 3 (21%) |

*Remission of Diagnostic Caseness*

We conducted two chi-square analyses to determine whether participants in either of the two treatment groups experienced more remissions (i.e., did not have a mood disorder of at least 2 months at the time of the 9-month follow-up) than did those in the control group (see Table 2). Analyses indicated that significantly more participants in the meditation group experienced a remission ($n = 10$) than did controls ($n = 5$), $\chi^2$ (1, $N = 27$) = 4.64, $p < .031$, effect size = −.41 (Cramér's $V$). Eight participants in the hypnosis group also experienced a remission; however, the difference from the control group did not reach statistical significance. Of the 23 total participants who did remit, 9 (39%) were in psychotherapy and/or taking antidepressant medications at the time of the follow-up (5 meditation, 1 hypnosis, 3 control); for those 17 who did not remit, 7 (41%) were in psychotherapy and/or taking antidepressant medications (1 meditation, 2 hypnosis, 4 control). Neither psychotherapy nor antidepressant use at 9 months was significantly associated with remission of diagnostic status.

*Development of an MDE During the Assessment Period*

Two more chi-square analyses were conducted to examine the proportion of participants in either of the two treatment groups who developed an MDE by the time of the 9-month follow-up compared to the proportion in the control group (see Table 2). Results indicated that 3 of the controls, but none of the meditation or hypnosis participants, were in a new MDE at the time of the last assessment, a marginally statistically significant difference in both cases, $\chi^2$ (2, $N = 27$) = 3.13, $p < .08$, effect size = .34 (Cramér's $V$). Among the 26 meditation and hypnosis participants (none of whom developed an MDE during the assessment period), 9 (35%; 6 meditation, 3 hypnosis) were in outside psychotherapy and/or on antidepressant medications (two were receiving both) at the time of the follow-up. Seven of the 11 controls (64%) who did not develop an MDE were in psychotherapy and/or on medications (three were receiving both) while none of the 3 control participants who did develop an MDE was receiving outside treatment. Neither psychotherapy nor antidepressant use at 9 months was significantly associated with development of an MDE.

*Depression Symptom Levels*

Descriptive statistics for CDRS and HRSD mean scores and slopes are presented in Table 3. Visual inspection of means and slopes indicates that reported symptom levels declined over time in each group (with the exception of the CDRS means at the first and second follow-ups for control group). To examine whether the groups differed significantly in the rate of decline (slope) over time, we conducted two ANOVAs to compare the slopes of change of CDRS and HRSD depression scores

Table 3
*CDRS and HRSD Means, SDs, and Ranges by Study Condition*

| | Meditation | | | | Hypnosis | | | | Control | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | *M* | *SD* | Range | *n* | *M* | *SD* | Range | *n* | *M* | *SD* | Range |
| CDRS Baseline | 15 | 68.25 | 12.28 | 40–89 | 15 | 62.47 | 11.85 | 45–82 | 16 | 67.58 | 10.02 | 47–83 |
| CDRS 1st FU | 13 | 58.54 | 18.10 | 34–98 | 12 | 56.24 | 10.56 | 41–79 | 11 | 58.27 | 11.90 | 42–77 |
| CDRS 2nd FU | 13 | 54.77 | 12.63 | 28–74 | 13 | 53.15 | 11.18 | 37–78 | 14 | 58.5 | 14.24 | 38–94 |
| CDRS Slopes | 15 | −.053 | .031 | −.11–.00 | 14 | −.024 | .048 | −.09–.06 | 13 | −.04 | .043 | −.11–.03 |
| HRSD Baseline | 15 | 15.87 | 7.29 | 6–29 | 15 | 12.33 | 5.41 | 5–24 | 16 | 15.81 | 8.01 | 2–33 |
| HRSD 1st FU | 12 | 14.25 | 8.99 | 2–28 | 12 | 8.14 | 5.32 | 2–17 | 11 | 12.90 | 8.14 | 0–22 |
| HRSD 2nd FU | 13 | 6.31 | 5.53 | 0–19 | 13 | 7.31 | 5.92 | 2–17 | 14 | 12.21 | 7.67 | 3–30 |
| HRSD Slopes | 15 | −.022 | .027 | −.06–.04 | 14 | −.019 | .029 | −.08–.02 | 13 | −.020 | .029 | −.08–.02 |

*Note*. CDRS = Cornell Dysthymia Rating Scale; HRSD = Hamilton Rating Scale for Depression; FU = Follow-up.

over the three assessment points (baseline, 6-month follow-up, and 9-month follow-up), controlling for initial symptom levels. In this design, the slopes of the CDRS and HRSD scores were calculated from the data available for each individual who had completed at least one follow-up. The slopes of the CDRS and HRSD scores were included as dependent variables in separate ANOVAs, with treatment condition as the independent variable. In neither case was there a significant effect of condition on the slope of change across the three assessments. Neither psychotherapy nor antidepressant use at 9 months was significantly correlated with the slopes for the CDRS or the HRSD.

## Discussion

The present pilot study examined whether meditation with yoga and psychoeducation or group therapy with hypnosis and psychoeducation could affect diagnostic status and/or depressive symptoms when compared to psychoeducation alone, among a sample of adults suffering from long-term depression. We found promising preliminary support for the use of these interventions to improve diagnostic status and ward off the development of further MDEs. We did not, though, demonstrate statistically significant improvement in overall symptom reports over the course of the study.

Remission rates are usually the primary outcomes for depression studies in general. Kocsis (2000) noted that the highest remission rates ever reported for chronic depression are for a combination of antidepressants and psychotherapy (73% response rate). Our findings that meditation produced a 77% remission rate, hypnosis produced a 62% remission rate, and the control group experienced a 36% remission rate indicate that these two nontraditional interventions have potential as treatments for long-term depressed mood, over and above psychoeducation. Indeed, even with outside psychotherapy and/or antidepressant medication use (meditation = 46%, control = 50%), the meditation group experienced significantly more remissions than did the control group.

In addition, only participants in our education-only control group developed new MDEs while participating in the study, which suggests that meditation with yoga and group therapy with hypnosis may provide some prophylactic effects with respect to depressive exacerbations of the present condition. However, that these differences

in rates of new episodes did not reach statistical significance. Clearly, these findings warrant additional exploration and future replication.

With respect to the clinical significance of our findings, it is noteworthy that although the two diagnostic status variables appeared to be affected by the interventions, we did not find an overall difference in symptom-level decline between groups. This highlights the importance of assessing changes in overall diagnostic profile in addition to simple symptom levels to yield clinically meaningful information. Moreover, examination of the symptom-level means over the course of the assessments suggests that change appears to have taken time in this sample, and it could be that an extended period of practice is needed to see the benefits of these interventions for a chronic depressive condition. Although some meditation studies have found pre–post improvements in symptoms after only 8 weeks (e.g., Waelde et al., 2004), to yield improvement in chronic depression, future implementations may require a longer intervention period.

Depression can be understood as a disorder in which mood dominates cognition, rendering it relatively inflexible and reducing opportunities to alter it. While clearly cognitive (Beck, Rush, Shaw, & Emery, 1979) and interpersonal (Weissman, 2007a, 2007b) psychotherapies can be helpful, it makes sense that other techniques designed to alter mental states, such as mindfulness (Bruckstein, 1999; Kabat-Zinn, 1994; Kabat-Zinn, Massion, Herbert, & Rosenbaum, 1998; Rosch, 1997) and hypnosis (H. Spiegel & Spiegel, 2004), also might affect depression (Yapko, 2001). These techniques may work by teaching depressed individuals means of altering their current mental state, providing flexibility in altering the typically unremitting pall of sadness experienced in depression. Meditation in the Classical Yoga tradition may be used to let go of thoughts that maintain the depressive affect. Hypnosis can be and was utilized to combine a pleasant sense of physical relaxation with a restructuring of situations that typically exacerbate depression (e.g., picturing an apparently humiliating encounter with a boss from the perspective of a third party who might have reached a very different conclusion about what had happened). Thus, both approaches may combine learning skills designed to alter the mental and physical state with amplification of principles utilized in cognitive and interpersonal psychotherapy of depression.

A number of important limitations to the present study should be considered when drawing conclusions from these data. One limitation was that there were marked challenges in recruiting our sample and in retaining them over the course of the study. Some participants became discouraged with their group assignment, and others refused to participate in follow-up assessments. Some of these difficulties may be attributable to characteristics of the population under study, whose symptoms may include lower motivation and poor treatment compliance (Hübner-Liebermann, Spiessl, & Cording, 2001). Moreover, there may have been additional factors that influenced the makeup of our final sample, and possibly limited its representativeness, such as whether the sample was restricted to those who found alternative (i.e., nontraditional) forms of treatment appealing, the level of severity of participants' conditions associated with a desire for alternative treatment, and participants' willingness to participate in a randomized treatment protocol lasting several months. Additionally, the sample was mixed with respect to mood disorder diagnosis, which added variability to the sample. While all participants had experienced a clinically significant, long-term, relatively low-grade depressive disorder, they varied in a number of ways, including their history of MDEs, age at initial onset, and length of current condition. The small sample size did not offer enough power to examine

whether differences in depressive presentation affected treatment response. However, as mentioned, recent findings have suggested that a number of chronic depressive states may be viewed as a single broad condition with similar psychological and response characteristics even though they manifest a variety of clinical presentations (McCullough et al., 2003).

Ideally, future studies of these interventions for depression will be designed to dismantle the components that were examined here in combination and would therefore be able to test a number of important issues including whether there are unique and/or additive effects of yoga with meditation practice and of hypnosis in the group therapy context. Similarly, the present study design did not control for the contribution of nonspecific factors (e.g., receiving attention from therapists or support from other group members) to treatment effects or whether receiving outside psychotherapy or medications augmented the effects of these alternative treatments. Unfortunately, the present study cannot illuminate these questions, and they are important limitations to its design. Additionally, the hypnosis intervention was in development in this pilot study and was therefore only partly manualized at the time it was administered, and relied on the expertise of the therapists more than would be the case for a fixed procedure. Consequently, replication of the hypnosis protocol may be difficult for future practitioners. Finally, our pilot sample was small and thereby limited our statistical power to detect differences, particularly between the two intervention conditions.

This study was a prospective trial that included the examination of innovative interventions, random assignment of participants to study groups, and an educational control comparison group. Indeed, all groups received the educational materials, which controlled for the effects of what has been demonstrated as an effective treatment (den Boer et al., 2004) and provided a stringent test of the effects that meditation with yoga and group therapy with hypnosis might yield in addition.

The present findings add to the growing body of literature documenting the effectiveness of alternative interventions for conditions that have been addressed traditionally with pharmacotherapy or cognitive-behavioral psychotherapy. The fact that patients with long-term depressed mood often fail to seek traditional treatments for this chronic condition (Shelton et al., 1997) underscores the potential importance of examining and demonstrating the effectiveness of nontraditional modalities so that they may be offered as treatment alternatives to this psychiatric population.

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