

# A Pilot Study of Mindfulness-Based Cognitive Therapy for Bipolar Disorder

David J. Miklowitz

*University of California, Los Angeles and University of Oxford*

Yousra Alatiq, Guy M. Goodwin, John R. Geddes,  
and Melanie J. V. Fennell

*University of Oxford*

Sona Dimidjian and Monika Hauser

*University of Colorado, Boulder*

J. Mark G. Williams

*University of Oxford*

**Background:** Increasingly, bipolar disorder is being treated with maintenance combinations of medication and psychotherapy. We examined the feasibility and benefits associated with an 8-week mindfulness-based cognitive therapy (MBCT) class for bipolar patients who were between episodes. Participants ( $N = 22$ ; mean age, 40.6 yrs; 14 bipolar I, 8 bipolar II) were existing patients in outpatient clinics at Oxford University ( $n = 14$ ) or the University of Colorado, Boulder ( $n = 8$ ), most undergoing pharmacotherapy with mood stabilizers and/or atypical antipsychotic agents. Patients underwent a pretreatment assessment of symptoms and then received the 8-week MBCT in four separate groups, two at each site. MBCT consisted of mindfulness meditation strategies and traditional cognitive-behavioral techniques to address the mode in which negative thoughts and feelings and emerging manic symptoms are processed. We examined within-group changes from pre- to posttreatment in the four aggregated groups. Of the 22 patients, 16 (72.7%) completed the groups. Reductions were observed in depressive symptoms and suicidal ideation, and to a lesser extent, manic symptoms and anxiety. A case study illustrating the effects of MBCT is given. In conclusion, MBCT is a promising treatment alternative for bipolar disorder, particularly for managing subsyndromal depressive symptoms. There is a need for larger-scale randomized trials that examine the cost-effectiveness and relapse-prevention potential of this modality.

This study was funded by the Danny Alberts Foundation of Colorado and the Wellcome Trust, UK. We wish to thank Chris Hawkey for his assistance.

Address correspondence to David J. Miklowitz, Ph.D., Department of Psychiatry, UCLA Semel Institute for Neuroscience and Human Behavior, Division of Child and Adolescent Psychiatry, 760 Westwood Plaza, Rm 217, David Geffen School of Medicine at UCLA, Los Angeles, CA 90024-1759. E-mail: dmiklowitz@psych.ucla.edu

Patients with bipolar disorder have high rates of recurrence (up to 60% in 2 years) even when they are maintained on medications (Gitlin, Swendsen, Heller, & Hammen, 1995; Perlis et al., 2006). Rates of recurrence of depression and total time spent in depressive episodes may be as much as three times higher than rates of recurrence of mania or time spent in manic episodes (Judd et al., 2002; Perlis et al., 2006). Because of the limited effectiveness of pharmacotherapy alone, psychosocial interventions have been developed as adjuncts to pharmacotherapy. Randomized trials support the use of cognitive-behavioral therapy, interpersonal therapy, family-focused therapy, and group psychoeducation in relapse prevention and episode stabilization (Miklowitz, 2008). However, each of these treatments is lengthy (typically 12 to 21 sessions), costly, and hard for many patients to obtain. There is a significant need to develop effective psychosocial treatments that can be administered to large numbers of patients over briefer intervals.

Mindfulness-based cognitive therapy (MBCT) is an 8-week group treatment that teaches patients mindfulness meditation and cognitive-behavioral skills to prevent relapse of depression. Specifically, it combines practices to promote mindfulness (nonjudgmental self-observation) with traditional cognitive therapy techniques (e.g., observing thought-feeling links, activity scheduling). Teasdale and colleagues (Ma & Teasdale, 2004; Teasdale et al., 2000) found that MBCT is associated with lower rates of relapse than is usual care among recovered but highly recurrent major depressive patients. Kuyken et al. (2008) found MBCT to be as effective as continued medication in the prevention of recurrence in recurrently depressed patients.

In an 8-week trial, Williams et al. (2008) reported that immediate treatment with MBCT protected against increases in anxiety in bipolar patients, and was associated with improved depression scores in both bipolar and unipolar patients relative to a wait-list control group. However, this study only included patients with suicidal ideation or behavior, and it is not known whether the findings can be extended to bipolar patients without these symptoms. Second, the Williams et al. trial did not examine manic or hypomanic symptoms as an outcome variable. This is important because treatments that reduce depression carry the risk of aggravating manic symptoms in bipolar disorder (Thase, 2006). Third, because the Williams et al. trial was not specifically designed to examine bipolar disorder, no adaptations of the MBCT were undertaken to help patients manage emerging manic symptoms.

This article describes a preliminary open trial ( $N = 22$ ) of an adaptation of MBCT for bipolar disorder, conducted in a collaboration between outpatient clinics at the Warneford Hospital, Oxford University, and the Department of Psychology, University of Colorado, Boulder. MBCT was modified to include instructions on mindful awareness of prodromal manic and hypomanic symptoms as well as depression, suicidal thinking, and anxiety. Patients in the 8-week treatment groups were assessed for mood symptom severity by interview and self-report prior to the first MBCT session and again at the end of the 8-week treatment. The key hypotheses were that patients would show high rates of treatment completion; reductions in depression and suicidal ideation; and no increases in mania or anxiety over the 8 weeks of the treatment program.

## METHOD

### Inclusion Criteria

Participants met the following criteria: (1) diagnosis of bipolar disorder (American Psychiatric Association, 1994) in remission, as diagnosed by an independent judgment of the MINI International Neuropsychiatric Interview administered by a psychologist; (2) no current or one depressive and/or a manic episode within the 12 months prior to which the patient had not had a manic episode; (3) the most recent episode of depression was within the 12 months prior to the study. Patients were excluded if they had any current or most had subsyndromal manic or depressive prodromal symptoms or other current prodromal symptoms of bipolar disorder (Perlis et al., 2006).

### Participants

Potential participants were recruited from a list of patients provided by a psychiatrist or psychologist at the Robert Sutherland Center for Treatment and Research, University of Colorado, Boulder. Patients who were interested in participating in the study and an information sheet were sent to the screening procedure. If they were invited to participate in the study was approved by the Institutional Review Board Committee and the University of Colorado.

The 14 patients from the screening procedure who were invited to participate in the study were invited to participate in the study. The pretreatment assessment was conducted with eight patients who were invited to participate in the study but then did not appear for the study.

Two groups were formed: one was conducted in the spring (2008) and the other was conducted in the spring (2009) (a mixture of bipolar and unipolar patients).

In the Oxford site, the assignment was conducted in the spring (2008) and the participant's recruitment was conducted in the spring (2009). Participants at both sites were recruited from the same source.

## METHOD

### Inclusion Criteria

Participants met the following eligibility criteria: (a) age 18–70; (b) met DSM-IV-TR (American Psychiatric Association, 2000) criteria for bipolar I or II disorder, currently in remission, as diagnosed by two sources: the patient's treating psychiatrist and the independent judgment of a diagnostic interviewer. Patients were diagnosed through the MINI International Neuropsychiatric Interview (Sheehan et al., 1998), administered by a psychologist. Criteria based on the interview were as follows: (c) at least one depressive and/or a manic, mixed, or hypomanic episode in the past 2 years from which the patient had recovered; (d) at least 3 months had passed since the onset of the most recent episode, and (e) good understanding and comprehension of English. Patients were excluded if they were experiencing a fully syndromal mood episode, but most had subsyndromal manic, hypomanic, or depressive symptoms at entry. Subsyndromal symptoms are common among outpatients undergoing pharmacotherapy for bipolar disorder (Perlis et al., 2006).

### Participants

Potential participants were notified of the availability of the groups by their treating psychiatrist or psychologist at the Warneford Hospital, University of Oxford, UK; the Sutherland Center for the Treatment of Bipolar Disorder, Department of Psychology, University of Colorado, Boulder; or through posted advertisements for the study. Patients who were interested called a telephone number and received a letter of invitation and an information sheet about the study, which asked if they would agree to a phone screening procedure. If they appeared to be eligible on the basis of the phone screen, they were invited to participate in the study and signed an informed consent form. The study was approved by the Mid and South Buckinghamshire, U.K. Research Ethics Committee and the University of Colorado's Human Research Committee.

The 14 patients from the Oxford site were drawn from a total of 38 referrals of remitted bipolar I and II patients, all but 11 of whom were being treated pharmacologically at the Warneford outpatient clinic; 14 agreed to participate and completed the pretreatment assessments. The seven patients from the Colorado site were drawn from eight patients who were invited to participate during their ongoing treatment at the Robert Sutherland Center. One Colorado patient initially accepted participation but then did not appear for the first session.

Two groups were conducted at each site. At the Oxford site, groups were conducted in the spring ( $n = 6$ ) and fall of 2007 ( $n = 8$ ); at Colorado, the groups were conducted in the spring ( $n = 3$ ) and fall of 2008 ( $n = 4$ ). Each group contained a mixture of bipolar and major depressive patients (typically, between 7 and 15 patients/group).

In the Oxford site, assignment to the spring or fall groups was based on random assignment. In the Colorado site, assignment to the spring or fall groups was based on the participant's recruitment sequence, with later enrollees assigned to the later group. Participants at both sites continued to receive pharmacotherapy from their psychiatrist



encourages patients to identify, evaluate the evidence for and against, and restructure negative thoughts as a means of improving mood.

MBCT contained two additional elements designed to help patients with bipolar disorder: education about mood change and its provoking factors (e.g., interpersonal conflict, sleep/wake cycle disruptions), and learning to nonjudgmentally observe one's mood, thinking, or behavior during periods of mood escalation. Thus, the same strategies used to help patients manage depressive states were applied to managing mania and hypomania. Participants were encouraged to identify their prodromal mood change symptoms, apply the skill of mindfulness when they observed these symptoms recurring, and to identify specific action steps that could be implemented to respond effectively to these periods of increased risk.

### Posttreatment Assessments

Research staff members interviewed patients at the end of the 8-week class, using the instruments above. Changes from pretreatment to posttreatment were estimated using Cohen's *d* effect sizes (Cohen, 1977). We calculated standard errors and 95% confidence intervals for each effect size estimate. Because the study sample was small and we wanted to reduce the possibility of false negative hypothesis-tests, no formal statistical significance tests were conducted.

## RESULTS

### Sample Characteristics

The sample (mean age 40.6 years.; 16 female, 6 male) is described in Table 1. Of the 22 patients, 14 had bipolar I disorder and 8 had bipolar II. The mean HRSD score at entry was 5.45 ( $SD = 6.02$ ); the mean YMRS score was 2.14 ( $SD = 2.87$ ). The most recent episode was major depression among 13 of the 22 patients. All but four patients were receiving mood stabilizers or atypical antipsychotics at entry. Five patients were taking antidepressants (three as adjuncts to mood stabilizers, two alone). Two patients were not taking any medications.

### Sample Attrition

Of the 14 participants at the Oxford site, three participants left the study before attending the first MBCT session; one had been assigned to the first group and two to the second group. Two other patients left the study after completing 1–2 sessions of MBCT; 9 others completed the 8-week treatment. Postassessment interviews were obtained for seven of these nine treatment completers and for the two patients who completed 1–2 MBCT sessions. Of the nine with postassessment interviews, eight completed the BDI-II, BAI, and BSSI. At the Colorado site, eight patients were evaluated for and accepted into the groups. All but one of these participants completed the 8-week groups (three in spring, four in fall), and all seven completed the posttreatment assessments.

TABLE 1. Sample Demographics (*N* = 22)

Variable	<i>M</i> (or <i>N</i> )	<i>SD</i> (or %)
Age, yrs	40.6	12.0
Sex, no. female	16	72.7
Bipolar I	14	66.7
Bipolar II	8	36.4
Most recent episode		
Depressed	13	59.1
Manic	7	31.8
Mixed	2	9.1
Alcohol/substance use disorder, lifetime	7	33.3
Currently married or partnered	15	68.2
Receiving psychotherapy at entry	12	54.5
Unemployed	7	31.8
Working or Student	13	59.1
Retired	2	9.1
Type of medications at entry		
Divalproex sodium	7	33.3
Lithium	8	36.4
Lamotrigine	6	27.3
Other anticonvulsant	4	18.2
Atypical antipsychotic	11	50.0
Antidepressant	5	22.7
No medications	2	9.1

At the Oxford site, patients who did not complete the postassessments ( $n = 5$ ) did not differ from the patients who completed the assessments ( $n = 9$ ) on baseline HRSD scores, YMRS scores, BDI-II scores, BAI scores, BSSI scores, sex, or bipolar I/II status (for all,  $p > .10$ ). However, patients who left the study were younger (mean  $\pm$  *SD*,  $29.2 \pm 8.7$  yrs.) than those who completed the treatment and posttreatment assessments ( $48.3 \pm 9.3$  yrs.),  $F(1, 12) = 14.17, p = .003$ .

### Change in Symptom Scores from Pretreatment to Posttreatment

Table 2 lists the pre- and postassessment HRSD, YMRS, BDI-II, BAI, and BSSI scores for the 22 patients recruited into the study. Missing data were imputed through replacing the missing score with the sample's mean score (Streiner, 2002). Mean HRSD scores dropped by an average of 0.37 *SD* ( $SE = 0.30$ ) over the 8 weeks of treatment. BDI-II scores dropped an average of 5 points during the same interval ( $d = 0.49, SE = 0.31$ ). Improvements were observed in Beck Scale for Suicide Ideation scores ( $d = 0.51, SE = 0.31$ ). These improvements were not accompanied by a worsening of baseline mania symptoms, which dropped slightly ( $d = 0.17; SE = 0.30$ ). Modest improvements from pre- to posttreatment were also observed in BAI scores ( $d$

TABLE 2. Pretreat

Variable
Hamilton Depression Scale
Young Mania Rating Scale
Beck Depression Inventory
Beck Anxiety Scale
Beck Suicide Ideation Scale

$= 0.23; SE = 0.30$ ). The were not imputed.

### Case Vignette

Sarah, 36-year-old woman with bipolar I disorder, with her husband and her relationship with her children. She had little experience with psychotherapy, Sarah came to the study.

Being in a group with other people helped to "normalize" Sarah's symptoms, such as anxiety and fatigue, which she had experienced since the nature of bipolar disorder. Sarah was able to take a decentered perspective on her thoughts and reported the subjective experience of using this strategy outside of her sessions and returning.

Sarah reported that she was able to practice when she was becoming more comfortable with the 3-minute breathing space practice. In this practice, in the present moment-to-moment experience; second, the physical moment-to-moment experience. Sarah noticed physical sensations (e.g., "she always does this!"). This practice using her mindfulness practice more effectively altered her mood and upset her. She reported that her relationship.

There were times when she practiced. During those times she was engaged in at

TABLE 2. Pretreatment to Posttreatment Changes in Mood Symptoms (N = 22)

Variable	Pretreatment M (SD)	Posttreatment M (SD)	Cohen's <i>d</i>	95% Confidence interval
Hamilton Depression Scale	5.45 (6.02)	3.69 (2.89)	.37	-.23, .96
Young Mania Rating Scale	2.14 (2.87)	1.75 (1.70)	.17	-.43, .75
Beck Depression Inventory	15.62 (12.16)	10.64 (7.46)	.49	-.11, 1.08
Beck Anxiety Scale	15.38 (11.42)	12.80 (10.93)	.23	-.37, .82
Beck Suicide Ideation Scale	4.05 (5.69)	1.87 (2.02)	.51	-.10, 1.10

= 0.23; SE = 0.30). These effect sizes were of similar magnitude when missing scores were not imputed.

### Case Vignette

Sarah, 36-year-old woman with a husband and two children, was diagnosed with bipolar I disorder, with three severe episodes in the past 2 years. She had lost her job, and her relationship with her husband and children had become strained. Sarah had had little experience with mindfulness before she started the program. Motivated to try anything that could be helpful beyond her medication regimen and individual therapy, Sarah came to every class and did her homework diligently.

Being in a group with other patients with bipolar and unipolar disorder helped to “normalize” Sarah’s experiences of depression, including her feelings of lethargy and fatigue, which she had previously attributed to laziness or weakness rather than to the nature of bipolar disorder. She found mindfulness practice to be helpful in dealing with her racing thoughts. When practicing a sitting meditation, she was increasingly able to take a decentered, observing stance toward her thoughts. When she did so, she reported the subjective sense that her thoughts were slowing down. She also used this strategy outside of her formal meditation practice when she noticed this symptom returning.

Sarah reported that practicing directed awareness helped her to notice earlier when she was becoming upset and angry. Specifically, she found the practice of the 3-minute breathing space (Williams, Teasdale, Segal, & Kabat-Zinn, 2007) to be useful. In this practice, individuals are taught to bring awareness to three steps: first, present moment-to-moment experience, including thoughts, feelings, and body sensations; second, the physical sensations of breathing; and third, an expanded sense of moment-to-moment experience. She began to use the 3-minute breathing space when she noticed physical sensations of anger (clenched jaw) or particular thoughts (“He always does this!”). Typically, such states would spiral to angry outbursts; however, using her mindfulness practice allowed Sarah to observe this cycle closely and to practice more effective alternative responses, such as articulating to her husband what had upset her. She reported that such changes ultimately had a positive impact on their relationship.

There were times when Sarah had difficulty finding time for a formal meditation practice. During those times, she practiced present moment awareness of the activity she was engaged in at the time (e.g., doing the dishes, playing with her children). She

reported that this awareness had a calming effect on her and improved the quality of these moments, especially those with her children.

Sarah reported that, prior to the MBCT course, she had had difficulty recognizing the early warning signs of depression and mania. During the course, she began to recognize that experiencing everyone else as "slow," observing an increased speed of her thinking, and feeling particularly good about herself were early signs of an oncoming manic episode. The reverse symptoms (e.g., experiencing others as too fast, a slowing down of her thinking) more typically heralded the beginning of a depressive episode.

At the end of the course, Sarah wrote a relapse prevention letter to herself, incorporating the early warning signs of mania and depression and the specific behavioral steps she could take when she noticed these occurring. Use of mindfulness skills played prominently in her plans. She listed "disclosing my mood changes to my husband and asking him for help"—for example, requesting his assistance with their children—as an important component of the relapse plan.

## DISCUSSION

This study reports feasibility and outcome data from a pilot open trial examining MBCT for patients with bipolar disorder. Participants were not in acute episodes, but most had mild-to-moderate depressive symptoms at the beginning of the trial. The overall rate of treatment completion was 72.7% (16/22) across the sites. Assessments of symptom change indicated that patients tended to improve in depression and suicidal ideation scores over the course of MBCT, consistent with an earlier trial involving patients with bipolar disorder (Williams et al., 2008). Furthermore, this is the first trial of MBCT examining mania as an outcome variable. Only one patient showed a worsening of mania symptoms (from a YMRS score of 0 to 8, which is still within the subsyndromal range). Thus, improvement in depression did not coincide with a worsening of mania symptoms.

MBCT teaches patients "moment-by-moment awareness," in which subtle changes in mood, behavior, or thinking are observed in a nonjudgmental and accepting manner. Thus, minor shifts in energy level and accompanying rapidity or slowing of thinking are approached from an observing stance. This increased awareness of internal states may allow the patient to step out of habitual sequences of automatic thoughts, emotions, and actions. Participants also are taught attention-focusing skills (for example, observing one's breathing) or other "skillful actions" (e.g., engaging in pleasurable activities) when emotions or thoughts begin to worsen or escalate. One participant noted that, during her hypomanic phases, she tended to multitask and make multiple lists in her head. After the MBCT she reported that "I can now sit in a chair and watch what is happening inside my head without having to act on it, which slows down my thinking and my body."

Like the Williams et al. (2008) trial, we did not observe significant increases in anxiety symptoms in MBCT, and in fact found modest decreases over time. Williams and colleagues found that anxiety symptoms increased among bipolar patients in a

wait-list condition, suggesting that the benefits of MBCT may be unique among bipolar patients. In our study, however, in the control group, we cannot determine if participants had not received any treatment.

This study was exploratory and did not include a comparison group. To establish the statistical significance of the effects, larger sample sizes (0.37-0.49 for depression and 0.37-0.49 for mania) would be needed. Pilot treatment trials are often used to inform randomized controlled trials. For example, Noda, Tinklenberg, & Yatham (2008) used a pilot trial to inform a larger trial.

We were unable to conduct a randomized controlled trial due to the difficulty of finding a control group. It is possible that the improvements may have been due to the attention and support received in the course, or to other treatment factors. Future trials should include a wait-list control group to determine if the improvements are due to the mindfulness strategy.

MBCT was developed as a relapse prevention strategy. The longevity of effects of MBCT is an important question. It will be important to determine if the improvements are enduring. Additionally, it is important to determine whether participants add to their skills over time (2002). Future studies should include a wait-list control group without the structure and support of a meditation instructor to determine if the improvements translate into long-term benefits.

Although rates of completion were high (87.5% at Colorado State University), the MBCT course was not completed by all participants. The course was 2-hour sessions and up to 8 weeks long. Some patients may not have had the time or resources to complete the course.

In conclusion, MBCT showed short-term improvements in depressive symptoms and mania symptoms in a class format, both of which are important outcomes. Future randomized designs should include a wait-list control group, generally, meditation-based interventions in preventing symptoms, and improving quality of life.

wait-list condition, suggesting that MBCT may have a protective effect against anxiety among bipolar patients. Because the present study did not have an untreated comparison group, we cannot determine whether anxiety scores would have increased if the participants had not received MBCT.

This study was exploratory and so has several limitations, most notably the absence of a comparison group and the small sample size, which did not enable us to establish the statistical reliability of our findings. The observed within-group effect sizes (0.37-0.49 for depression) may overestimate the expected size of between-group effects. Pilot treatment trials are essential to evaluating the likely success of larger randomized controlled trials, although questions have been raised about whether effect sizes found in small trials are stable estimates of true effect sizes (Kraemer, Mintz, Noda, Tinklenberg, & Yesavage, 2006).

We were unable to determine if the combination of MBCT and pharmacotherapy led to more significant mood improvement than would have occurred with pharmacotherapy alone, which would have been possible in a randomized design. Observed improvements may have also reflected differences among patients in medication adherence, other treatments received during the study interval, or simply the passage of time. Future trials should examine whether changes in medication regimens in response to minor symptom fluctuations become less necessary when patients learn to use mindfulness strategies.

MBCT was developed as a prophylaxis for relapse/recurrence; however, assessing the longevity of effects of MBCT was not possible in this study given the pre-post design. It will be important for future studies to evaluate patients over longer follow-up intervals to determine if positive changes such as those observed in this open trial are enduring. Additionally, it is assumed that clinical benefits in MBCT are contingent on whether participants adopt a regular meditation practice (Segal, Williams, & Teasdale, 2002). Future studies should assess whether patients continue to use mindfulness skills without the structure and group support offered by the sessions, and whether daily meditation translates into ongoing symptom improvement and stability.

Although rates of treatment completion were reasonably high (64.3% at Oxford, 87.5% at Colorado), some patients had difficulty with the time requirements of the MBCT course. The commitment required to complete a course of MBCT—eight 2-hour sessions and up to one hour of daily homework—may be too intensive for some patients.

In conclusion, MBCT appears to be acceptable, feasible, and associated with short-term improvements in bipolar depression and suicidal ideation, without accompanying increases in mania or anxiety. The treatment is brief and can be administered in a class format, both of which may have considerable pragmatic and cost advantages. Future randomized designs will be necessary to determine whether MBCT and, more generally, meditation-based practices are cost-effective adjuncts to mood stabilizing medications in preventing manic or depressive recurrences, reducing intermorbidity symptoms, and improving functioning among patients with bipolar disorder.

## REFERENCES

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1987). *Cognitive therapy of depression*. New York: Guilford.
- Beck, A. T., & Steer, R. A. (1990). *Beck Anxiety Inventory manual*. San Antonio, TX: Psychological Corporation.
- Beck, A. T., Steer, R. A., Beck, J. S., & Newman, C. F. (1993). Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide and Life-Threatening Behavior*, 23, 139-145.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Gitlin, M. J., Swendsen, J., Heller, T. L., & Hammen C. (1995). Relapse and impairment in bipolar disorder. *American Journal of Psychiatry*, 152, 1635-1640.
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry*, 12, 56-62.
- Judd, L. L., Akiskal, H. S., Schettler, P. J., Endicott, J., Maser, J., Solomon, D. A., et al. (2002). The long-term natural history of the weekly symptomatic status of bipolar I disorder. *Archives of General Psychiatry*, 59, 530-537.
- Kraemer, H. C., Mintz, J., Noda, A., Tinklenberg, J., & Yesavage, J. A. (2006). Caution regarding the use of pilot studies to guide power calculations for study proposals. *Archives of General Psychiatry*, 63, 484-489.
- Kuyken, W., Byford, S., Taylor, R. S., Watkins, E., Holden, E., White, K., et al. (2008). Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *Journal of Consulting and Clinical Psychology*, 76, 966-978.
- Ma, S. H., & Teasdale, J. (2004). Mindfulness-based cognitive therapy for depression: Replication and exploration of differential relapse prevention effects. *Journal of Consulting and Clinical Psychology*, 72, 31-40.
- Miklowitz, D. J. (2008). Adjunctive psychotherapy for bipolar disorder: State of the evidence. *American Journal of Psychiatry*, 165, 1408-1419.
- Perlis, R. H., Ostacher, M. J., Patel, J., Marangell, L. B., Zhang, H., Wisniewski, S. R., et al. (2006). Predictors of recurrence in bipolar disorder: Primary outcomes from the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD). *American Journal of Psychiatry*, 163, 217-224.
- Rush, A. J. (2000). *Handbook of psychiatric measures*. Washington, DC: American Psychiatric Publishing.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., et al. (1998). The Mini-International Neuropsychiatric Interview (MINI): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry*, 59 (Suppl. 20), 22-33.
- Streiner, D. L. (2002). The case of the missing data: Methods of dealing with dropouts and other research vagaries. *Canadian Journal of Psychiatry*, 47, 68-75.
- Teasdale, J. D., Segal, Z. V., Williams, J. M., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68, 615-623.
- Thase, M. E. (2006). Pharmacotherapy of bipolar depression: An update. *Current Psychiatry Reports*, 8, 478-488.
- Williams, J. M. G. (2008). Mindfulness, depression and modes of mind. *Cognitive Therapy and Research*, 32, 721-733.
- Williams, J. M. G., Alatiq, Y., Crane, C., Barnhofer, T., Fennell, M. J., Duggan, D. S., et al. (2008). Mindfulness-Based Cognitive Therapy (MBCT) in bipolar disorder: Preliminary evaluation of immediate effects on between-episode functioning. *Journal of Affective Disorders*, 107, 275-279.
- Williams, J. M. G., Teasdale, J. D., Segal, Z. V., & Kabat-Zinn, J. (2007). *The mindful way through depression: Freeing yourself from chronic unhappiness*. New York: Guilford Press.
- Young, R. C., Biggs, J. T., Ziegler, V. E., & Meyer, D. A. (1978). A rating scale for mania: Reliability, validity, and sensitivity. *British Journal of Psychiatry*, 133, 429-435.

## Predictive Prognostic Generalized

Robert C. Durham  
University of Dundee

Julie A. Chambers  
University of Stirling

Peter L. Fisher  
University of Liverpool

This paper reports  
long-term follow-up  
verity of presenting  
sessions of therapy.  
for generalized anx  
lowing original trea  
rated by an indepen  
Inventory. The two  
at posttreatment (t  
at long-term follow  
of presenting probl  
value of refined and  
a clinical and theor

In this paper we invest  
plexity of presenting p  
ing the posttreatment  
therapy for generalized  
prognostic indices can

The preparation of this artic  
Assessment Program, whose  
article do not necessarily ref  
invaluable assistance in co-  
Major, Kevin Power and An  
Research Team.

Address correspondence to  
Neuroscience, Ninewells H  
dundee.ac.uk