How Long Does a Mindfulness-Based Stress Reduction Program Need to Be? A Review of Class Contact Hours and Effect Sizes for Psychological Distress

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The mindfulness-based stress reduction (MBSR) program was designed to be long enough for participants to grasp the principles of self-regulation through mindfulness and develop skill and autonomy in mindfulness practice. It traditionally consists of 26 hours of session time including eight classes of 2-1/2 hours and an all-day class. The circumstances of some groups exclude them from participating in this standard form and a number of trials have evaluated programs with abbreviated class time. If lower program time demands can lead to similar outcomes in psychological functioning, it would support their utility in these settings and might lead to greater participation. However, the effect of variation in class hours on outcomes has not been systematically studied. To obtain preliminary information related to this question we examined effect sizes for psychological outcome variables in published studies of MBSR, some of which had adapted the standard number of class hours. The correlation between mean effect size and number of in-class hours was nonsignificant for both clinical and nonclinical samples and suggests that adaptations that include less class time may be worthwhile for populations for whom reduction of psychological distress is an important goal and for whom longer time commitment may be a barrier to their ability or willingness to participate. However, the standard MBSR format has accrued the most empirical support for its efficacy and session time may be important to the development of other kinds of program outcomes. The result points to the importance of empirical studies systematically examining this question. J Clin Psychol 65: 627–638, 2009.

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The duration of the mindfulness-based stress reduction (MBSR) program was designed by Kabat-Zinn to be long enough that participants could grasp the principles of self-regulation through mindfulness and develop skill and autonomy in mindfulness practice (Kabat-Zinn, 1982). The current standard form involves 26 hours of session time consisting of eight weekly classes of 2-1/2 hours each plus an all-day 6-hour class on a weekend day during the sixth week (Kabat-Zinn, 1990). In its earlier forms the program ranged from 20 to 24 hours of class time; meeting for eight or ten weekly 2-hour sessions and sometimes including the all-day session (Kabat-Zinn, 1982) (Kabat-Zinn & Chapman-Waldrop, 1988; Kabat-Zinn, Lipworth, & Burney, 1985; Kabat-Zinn et al., 1992).

For some clinical groups, such as in-patient populations, some cancer patients, and some cardiovascular patients, mindfulness training may provide an opportunity for reduction in suffering, but the circumstances of their condition may mean that the demands of MBSR in its standard form exclude them from the possibility of participating. For other groups, such as students and caregivers, the time demands of the standard program can represent a significant strain in an already overcommitted schedule and the class time requirements may be sufficient reason for them to decline participation. For example, Minor, Carlson, Mackenzie, Zernicke, and Jones (2006) reported that the length of the program was a reason for some potential participants to decline an MBSR group for caregivers of children with chronic illnesses. Similarly, recruitment data from a recent clinical trial of the 8-week MBSR program showed that of 131 apparently eligible potential participants who declined to participate when contacted by the recruiter, 59 (45%) gave a reason related to the time required for the classes (Carmody, 2008). An increasing number of trials of MBSR are being published in the professional literature and, in recognition that an 8-week program is not feasible for some groups, several of these studies describe and evaluate a program with abbreviated class contact time. If an 8-week program is, in fact, necessary for participants to experience reductions in psychological distress, abbreviated programs can reasonably be expected to find poorer outcomes. However, the MBSR protocol has not been systematically studied for the effect on outcomes of variation in hours participants spend in class. Preliminary to the study of this question it is useful to examine whether the magnitude of measured outcomes in published studies are related to the programs' class time demands.

As an initial step in this process, we examined effect sizes for psychological outcome variables in several published studies of MBSR that had reduced the standard number of class contact hours, and informally compared them to studies using the standard number of contact hours with a similar population. For example, Speca, Carlson, Goodey, and Angen (2000) describe an MBSR program with a sample of patients with cancer that used seven 1-1/2-hour weekly classes and eliminated the day-long class, resulting in a total in-class time of 10.5 hours. Despite the considerably smaller amount of class contact time than in standard MBSR, mean pre- and post-MBSR effect size for the psychological outcome scores was .75 (a medium-to-large effect; .72 on the Profile of Mood States [POMS], McNair, Lorr, & Droppelman, 1992). This is very similar to the effect size of .71 found by Kabat-Zinn (1982) for the psychological measures (.74 on the POMS) in chronic pain patients who received 20 hours of class time. In a second study with cancer patients, Carlson, Speca, Patel, and Goodey (2003) extended the program to eight

weekly classes and added a half-day (3-hour) class on a weekend day in the sixth week to be more consistent with the standard format. That addition of 4 1/2 hours of class contact time was associated with a mean pre- and post-MBSR effect size of only .20 for psychological distress variables (.06 on the POMS), a much smaller effect than in their previous study. The authors attributed this smaller effect size to a floor effect due to the lower initial distress scores of the sample compared with those of their previous study.

A recent report by Jain and colleagues (Jain et al., 2007) of a randomized trial of an MBSR program with 12 hours of class time found a pre- and post-MBSR effect size of 1.36 (Cohen's *d*) in the General Severity Index (GSI) of the Brief Symptom Inventory (BSI; Derogatis, 1992), a measure of overall psychological distress. In a recent report of outcomes from an 8-week program comprising 26 hours of class time, Carmody and Baer (2008) found an effect size of .65 for the same measure. Participants in these two studies reported similar levels of distress at preprogram assessment (*T* score range 62–64). At the most extreme end of the program time spectrum a recent trial by Klatt, Buckworth, and Malarkey (2008) found an effect size of .61 in a program consisting of 6 in-class hours. Finally, in a recent meta-analysis of MBSR outcomes, Grossman, Niemann, Schmidt, and Walach (2004) reported a mean between-groups effect size at posttreatment for all mental health scales of .62 for a trial in which MBSR included 20 hours of class time (Shapiro, Bootzin, Figueredo, Lopez, & Schwartz, 2003) and a similar effect size (.56) for a trial in which MBSR included 28 hours of class time (Williams, Kolar, Reger, & Pearson, 2001). Both studies used nonclinical samples (students or community volunteers).

These comparisons suggest that reductions in the number of MBSR in-class hours may not necessarily lead to compromised outcomes and points to the fact that more systematic study of the relationship between hours of MBSR class time and effect sizes in psychological outcomes is warranted. Evidence that programs with lower time demands can lead to similar outcomes in psychological functioning variables would support the potential utility of shorter programs in settings where reduced time demands might lead to greater participation. Because this question has not previously been studied, the present project begins an examination of the question by reviewing the published literature on effect sizes of MBSR on measures of psychological distress in adults and an exploratory analysis this relationship. Based on the comparisons just described, we predicted that the number of in-class hours would not be systematically related to extent of improvement in psychological functioning.

Method

Using Medline (http://www.ncbi.nlm.nih.gov/pubmed/) and PsycINFO (http://www.apa.org/psycinfo/) databases, the published literature was searched for studies of the effects of MBSR on psychological distress measures, including general distress or global severity of psychological symptoms, negative mood or affect, stress, depression, and anxiety. Reference lists for all articles obtained and for recently published reviews of this literature were examined for additional articles. Studies were included if they were published in English, investigated the effects of MBSR in a group format with adult participants, conducted pre- and post-MBSR comparisons for psychological distress measures, and reported means and standard deviations, *t* values for matched-pairs (pre and post) *t* tests, or the statistical significance (*p*) of the change in distress. Studies that provided only percentage

decrease in distress were not included. Unpublished studies, conference presentations, and dissertations were not included. Studies of other mindfulness-based interventions, such as dialectical behavior therapy (Linehan, 1993) and mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002) were also not included. Thirty studies meeting these criteria were identified. Studies of MBCT were excluded because although the MBCT protocol is very similar to MBSR, MBCT was developed for participants currently in remission from major depressive episodes. Its primary purpose is the prevention of relapse over the long term and substantial, immediate pre- and post-MBCT changes in psychological distress might therefore not be expected. Applications of MBCT for other problems are emerging, but this literature is still quite small and it seems important to establish the efficacy of standard MBCT for these applications before exploring adaptations in session time.

For all studies, pre- and post-MBSR (within-group) effect sizes (d) were computed for all measures of psychological distress in the group receiving MBSR. These effect sizes reflect the degree of change over the course of treatment in standard deviation units. For most studies, we computed d by dividing the difference between pretreatment and posttreatment score for each instrument by the pooled standard deviation (SD) of the two time points. When means and standard deviations were not provided, effect size was calculated from t values or statistical significance. All calculations of effect sizes used formulas described by Rosenthal (Rosenthal, 1984). Because our primary question of interest was the relationship between degree of change with treatment and number of in-class hours, pre- and post-MBSR effect sizes were used in most of our analyses. However, for those studies that included control groups, between-groups effect sizes (d) at posttreatment also were computed. These effect sizes reflect the magnitude of the difference between the treatment and control groups at the conclusion of treatment, also in standard deviation units. They were computed by dividing the difference between MBSR group and the control group score at posttreatment by the pooled standard deviation of the two groups. When means and standard deviations were not provided, effect sizes again were calculated from t values or statistical significance.

Results

Session Information

Table 1 presents session data and other characteristics for all included studies. Number of sessions ranged from 4 (one study) to 10 (three studies). The most frequent number of sessions was eight (24 of 29 studies, or 83%). Length of weekly sessions ranged from 1 hour (1 study) to 2.5 hours (10 studies). The mode was 2.0 hours (12 studies), and the mean was 121 minutes. Seven studies used sessions of 1.5 hours. The all-day (or in some cases, half-day) session was included in 13 of 30 studies (43%). Length of this session ranged from 3 to 8 hours. Three of these studies used half-day sessions (3.0 or 3.5 hours), whereas 10 included sessions of 6–8 hours. Total in-class hours, including the all-day or half-day if it was held, ranged from 6 (one study) to 28 (two studies) with a mean of 18.8 hours ($SD = 5.90$ hours). The median was 17.7 hours and the mode was 16 hours (7 studies).Total in-class hours for one study (6 in-class hours; Klatt et al., 2008) fell more than two standard deviations below the mean and therefore might be considered an outlier on this variable.

Table 1
Effect Sizes, Session Data, and Other Characteristics of Published Studies of the Effects of Mindfulness-Based Stress Reduction (MBSR) on Psychological Distress in Adults

Study	*N* for MBSR goup	Participants	Psychological distress measures	Control group	Mean pre-post *d*	Mean between-group *d* at post	Number of sessions	Session length hours	All-day session hours	Total in-class hours	Weekly assigned practice minutes
Anderson et al., 2007	39	Healthy adults	BAI, BDI, PANAS	Wait list	.58	.01	8	2.0	0	16	–
Carlson & Garland, 2005	63	Cancer patients	SOSI, POMS	None	.50	–	8	1.5	3.0	15	270
Carlson et al., 2003	42	Cancer patients	SOSI, POMS	None	.20	–	8	1.5	3.0	15	–
Carmody & Baer, 2008	174	Stress/illness	BSI, PSS	None	.83	–	8	2.5	6.0	26	270
Chang et al., 2004	28	Students	PSS	None	.51	–	8	2.5	0	20	270
Davidson et al., 2003	25	Healthy adults	STAI	Wait list	.64	.42	8	2.5	7.0	27	360
Gross et al., 2004	20	Organ transplant	CES-D, STAI	None	.51	–	8	2.5	0	20	225
Grossman et al., 2007	39	Fibromyalgia	HADS	Support	.62	.36	8	2.5	7.0	27	315
Jain et al., 2007	27	Students	BSI	Wait list relaxation	1.37	.61 .53	4	1.5	6	12	–
Kabat-Zinn, 1982	51	Chronic pain	POMS, SCL-90R	None	.71	–	10	2.0	0	20	270
Kabat-Zinn et al., 1992	22	Anxiety	BAI, BDI, HAM-A&D	None	.97	–	8	2.0	7.5	23.5	270
Klatt et al., 2008	22	Working adults	PSS, PSQI,	Wait list	.61	.10	6	1.0	0	6	80
Koszycki et al., 2007	26	Social anxiety	BDI, social anxiety	CBGT	1.07	-.75	8	2.5	7.5	27.5	180
Kutz et al., 1985	20	Psychotherapy	POMS, SCL-90R	None	.72	–	10	2.0	0	20	315
Marcus et al., 2003	21	Substance use	PSS	None	.14	–	8	2.5	0	20	342
Minor et al., 2006	44	Parents	POMS, SOSI	None	.62	–	8	2.0	0	16	270
Ramel et al., 2004	22	Mood, anxiety	BDI, STAI	Wait list	.34	.44	8	2.0	3.5	19.5	259
Randolph et al., 1999	78	Chronic pain	BSI, POMS	None	.19	–	8	2.0	6.0	22	270
Reibel et al., 2001	104	Mixed medical	SCL-90R, SF36-MCS	None	.57	–	8	2.5	7.0	27	120
Robinson et al., 2003	24	HIV+	POMS, PSS	TAU	.10	.11	8	2.5	8.0	28	315
Rosenzweig et al., 2003	125	Medical students	POMS	Didactic	.21	.20	10	1.5	0	15	120
Roth et al., 1997	79	Mixed medical	BAI, SCL-90R	None	.83	–	8	2.0	0	16	210
Roth & Robbins, 2004	68	Mixed medical	SF36-MCS	No treat	.97	1.11	8	2.0	0	16	222
Sagula & Rice, 2004	39	Chronic pain	BDI, STAI	Wait list	.72	.49	8	1.5	0	12	140

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Table 1.
Continued

Study	*N* for MBSR goup	Participants	Psychological distress measures	Control group	Mean pre-post *d*	Mean between-group *d* at post	Number of sessions	Session length hours	All-day session hours	Total in-class hours	Weekly assigned practice minutes
Shapiro et al., 2007	54	Counsg students	PANAS, PSS, STAI	No treatment	.87	.66	8	2.0	0	16	–
Speca et al., 2000	53	Cancer	POMS, SOSI	Wait list	.75	.60	7	1.5	0	10.5	–
Tacon et al., 2004	27	Breast cancer	STAI (state)	None	1.38	–	8	1.5	0	12	–
Tacon et al., 2003	9	Heart disease	STAI (state)	Wait list	.94	1.34	8	2.0	0	16	–
Vieten & Astin, 2008	13	Pregnant women	CES-D,PANAS, PSS,STAI	Wait list	.82	.17	8	2.0	0	16	140
Williams et al., 2001	35	Healthy/stressed	SCL-90R	Education	.47	.47	8	2.5	8.0	28	420

Note. CBGT = Cognitive behavioral group therapy; HIV = human immunodeficiency virus; TAU = treatment as usual; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; BSI = Brief Symptom Inventory; CES-D = Center for Epidemiologic Studies Depression Scale; HADS = Hospital Anxiety and Depression Scale; HAM-A = Hamilton Rating Scale for Anxiety; HAM-D = Hamilton Rating Scale for Depression; PANAS = Positive and Negative Affect Scales; POMS = Profile of Mood States; PSQI = Pittsburgh Sleep Quality Index; PSS = Perceived Stress Inventory; SCL-90R = Symptom Checklist 90 Revised; SF36-MCS = Short Form 36 Mental Component Summary; SOSI = Symptoms of Stress Inventory; STAI = State Trait Anxiety Inventory.

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Effect Sizes

Many studies used mixed populations (general medical or psychotherapy) and several used nonclinical samples (students or healthy volunteers). In such samples, effects of MBSR are likely to include reductions in a range of psychological distress variables, including anxiety, depression, negative affect, and stress (although nonclinical samples may have smaller reductions due to floor effects). Similarly, samples with a specific medical problem (such as cancer, chronic pain, fibromyalgia, or heart disease) are likely to be experiencing mixed symptoms of psychological distress. Not surprisingly, most studies included two or three measures covering several types of distress or negative affect. Because it was not apparent that any particular measure should be more likely to change with treatment, effect sizes for all measures of psychological distress were averaged within studies, creating a single mean effect size for each study. Pre- and post-MBSR effect sizes ranged from .10 to 1.38, with a mean of .66 ($SD = .33$). When each mean effect size was weighted by the study's sample size, overall mean effect size was .63. This finding is consistent with the pre- and posttreatment effect sizes reported by Baer (2003) and by Grossman et al. (Grossman et al., 2004).

Because the included studies used a wide variety of populations, dependent variables, and methods, we examined differences in mean effect size related to several study characteristics. Results are given in Table 2. Because of the small number of effect sizes available, statistical analyses were not conducted in all cases and results of these analyses must be interpreted cautiously. Findings suggested no differences between clinical and nonclinical samples in mean pre- and posttreatment effect size for psychological distress (ds = .65 and .66, respectively). This difference was not statistically significant ($F = .01$, $p = .95$). Among the clinical samples, mean pre- and posttreatment effect size for those with specific medical problems such as cancer, heart disease, chronic pain, or fibromyalgia, did not appear to differ from those with psychological complaints such as mood or anxiety disorders or general stress (mean ds = .60 and .62, respectively). Mean pre- and posttreatment effect size did not

Table 2
Mean Effect Size by Selected Study Characteristics

Characteristic	*N*	Mean *d*	*SD*
Type of sample			
Clinical	20	.65	.34
Nonclinical	10	.66	.31
Type of problem			
Specific medical	11	.60	.37
Psychological/general stress	6	.62	.36
All-day session			
Included	13	.60	.37
Not included	17	.70	.29
Type of dependent variable			
General distress	18	.66	.32
Depression	8	.65	.15
Anxiety	13	.77	.31
Stress	11	.56	.32
All studies: pre–post-MBSR	30	.66	.32
MBSR vs. any control post-MBSR	16	.39	.47
MBSR vs. no treatment post-MBSR	11	.54	.40

Note. MBSR = mindfulness-based stress reduction.

appear to differ between studies including the all-day (or half-day) session and studies not including it (mean *d*s = .60 and .70, respectively). This difference was not statistically significant (F = .65, $p = .43$). Mean effect sizes appeared roughly similar across several types of dependent variables, including general distress, anxiety, depression, and stress (although perhaps slightly higher for anxiety), ranging from .55 to .77. Finally, when MBSR was compared to a no-treatment or wait-list control group ($N = 11$ studies), mean effect size was .54 ($SD = .40$), which is slightly smaller than the mean pre- and posttreatment effect size, though still a medium-size effect. When all studies comparing MBSR to any control group were included ($N = 16$ studies), mean effect size was somewhat smaller ($d = .39$, $SD = .47$). This is not surprising, because some of the control conditions were active treatments, which (unlike no-treatment controls) are expected to produce beneficial effects in participants. In one study (Koszycki, Benger, Shlik, & Bradwejn, 2007), MBSR participants were significantly less improved than those in the comparison group (cognitive–behavioral group therapy), although both groups had improved significantly, and the mean between-group effect size was therefore negative ($d = -.75$), although the pre-and posttreatment effect size was large and positive.

Relationships Between In-Class Hours and Mean Effect Sizes

When computed in the entire sample of 30 studies, the correlation between mean pre- and posttreatment effect size and number of in-class hours was nonsignificant ($r = -.25$, $p = .18$). Although statistically nonsignificant, the magnitude of the correlation falls within a range that would be significant with a somewhat larger sample (Cohen, 1977). The relationship also is in the unexpected direction (with longer versions of MBSR showing smaller effects). This puzzling finding could be related to two studies (Jain et al., 2007; Tacón, Caldera, & Ronaghan, 2004) whose mean effect sizes fell more than two standard deviations above the mean for all studies and therefore might be considered outliers. These studies had mean effect sizes of 1.37 and 1.38, respectively, and both included only 12 in-class hours, which falls near the low end of the distribution. When this analysis was repeated with these two outliers removed, the correlation again was nonsignificant ($r = -.08$, $p = .69$, $N = 28$ studies), and was small enough to be clinically or practically meaningless even in a very large sample.

We also correlated mean effect size with in-class hours in the subset of studies that used clinical samples ($N = 20$). This correlation was nonsignificant ($r = -.22$, $p = .34$). When we eliminated the one study identified as a potential outlier that also used a clinical sample (Tacón et al., 2004), the correlation again was nonsignificant ($r = -.08$, $p = .76$, $N = 19$ studies) and small enough to be meaningless in a larger sample with greater power. Finally, we correlated in-class hours with mean between-group effect size at posttreatment for those studies ($N = 11$) that had included a no-treatment or wait-list control group. This correlation also was nonsignificant ($r = .11$, $p = .75$).

Although most studies did not report the extent of home practice in which participants engaged, 23 of 30 studies reported the amount of home practice assigned. Minutes per week of assigned home practice are given in Table 1 and ranged from 80 to 420, with a mean of 245.78 minutes ($SD = 85.13$). The median and mode were both 270 minutes per week (45 minutes per day for 6 days). The correlation between assigned practice minutes per week and mean pre- and posttretment effect size for psychological distress was nonsignificant ($r = -.25$,

$p = .25$, $N = 23$ studies). Although statistically nonsignificant because the small sample size power is low, this correlation would be significant in a somewhat larger sample. This correlation also is in the unexpected direction, with greater assigned practice time associated with smaller effect sizes. This result is not related to the two outliers identified earlier because neither of them reported assigned practice time; therefore, they were not included in this analysis. Two of the 23 studies had assigned practice times that were approximately two standard deviations above or below the mean (420 assigned minutes per week, Williams et al., 2001; 80 assigned minutes per week, Klatt et al., 2008). When recalculated without these two studies, this correlation was unchanged ($r = -.25$, $p = .27$, $N = 21$ studies). This finding must be interpreted cautiously because it reflects only assigned practice time. Actual practice time was rarely reported. Some previous studies have found significant relationships between actual practice time and outcomes (Carmody & Baer, 2008; Kristeller & Hallett, 1999), whereas others have not (Astin, 1997; Davidson et al., 2003).

Discussion

Kabat-Zinn (1982) designed the MBSR program to be an intensive training experience in mindfulness and its integration into everyday life. It sought to provide participants with sufficient autonomy in mindfulness practice as well as an understanding of its role in self-regulation. Although the earliest studies of MBSR used slightly varying formats, the sequence of eight weekly 2 1/2-hour classes with a 6-hour all-day class in Week 6 (total of 26 hours class time) has come to be the accepted standard MBSR format. Because the circumstances of some populations may prevent them from enrolling in a program of this length however, in the interest of maximizing accessibility a number of MBSR studies have adapted the program to better suit these peoples' situations. It appears that self-reported mindfulness increases with the amount of formal home mindfulness practice participants report doing and that the increases in mindfulness appear to mediate increases in well-being (Carmody & Baer, 2008; Lau et al., 2006); however, the significance of MBSR class time demands in facilitating the program's observed effects have not been systematically studied. As a preliminary step in this enquiry, we examined the relationship between the number of class hours employed in published trials of MBSR and the effect sizes for measures of psychological distress. In this brief analysis, no significant relationship was found. We also found no evidence that shortened versions of MBSR are less effective than the standard format in reducing psychological distress and our review suggests that shortened versions of MBSR merit further study. Experimental trials in which versions of MBSR with differing numbers of contact hours are directly compared would provide more conclusive information on this question.

Reductions in measures other than psychological distress were not addressed in this analysis and it remains possible that number of in-class hours is an important factor in medical or biological outcomes, such as brain and immune function measures (see Davidson et al., 2003). Such variables were assessed in too few of the studies examined here to allow statistical analyses. In addition, other dimensions of the person may be affected that are not captured in these or other psychological scales. Similarly, variables that have been proposed as possible mechanisms by which mindfulness training may lead to beneficial outcomes, such as increased mindfulness, reduced rumination, reduced fear of emotion, increases in self-compassion (Shapiro, Carlson, Astin, & Freedman, 2006) or spirituality (meaning and peace, and faith) (Carmody, Reed, Merriam, & Kristeller, 2008) have rarely been measured in studies

of MBSR. Total session time may be important to the development of such outcomes. It is also possible that the number of in-class hours influences the maintenance of improvements over time. Follow-up analyses were reported in very few of the studies examined here and relationships between in-class time and long-term improvement in psychological distress could not be examined. Finally, other factors, in addition to in-class hours, also may influence outcomes such as the spacing of the classes and the level of experience of the instructors and the degree to which they embody the principles of MBSR. This latter factor is widely believed to be an important determinant of outcome and it is possible that highly skilled instructors are necessary to obtain optimal outcomes in shortened versions of MBSR. There has been no systematic study of this variable, however, and published articles typically do not describe in detail the level of experience of the instructors. Given that such factors may obscure a relationship between in-class hours and outcomes, it is important that future studies measure these variables.

The findings of this brief review point to the importance of more systematic studies to determine the effects of several aspects of MBSR, including time spent in class, amount of homework practice and experience, spacing of the class sessions, and skills of the instructors, on both immediate and long-term outcomes. Until more information is available, the standard 8-week format for MBSR has accrued the most empirical support for its efficacy, and may be the format of choice for many applications. Our findings suggest, however, that adaptations of MBSR that include less class time than the traditional format may be worthwhile for populations for whom reduction of psychological distress is an important goal and for whom a lesser time commitment may be an important determinant of their ability or willingness to participate.

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