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How Does Mindfulness Reduce Anxiety, Depression, and Stress? An Exploratory Examination of Change Processes in Wait-List Controlled Mindfulness Meditation Training

Nicholas T. Van Dam · Andréa L. Hobkirk · Sean C. Sheppard · Rebecca Aviles-Andrews · Mitch Earleywine

Abstract The evidence base supporting mindfulness meditation training (MMT) as a potential intervention for anxiety, depression, and stress has grown dramatically in the last few decades. As MMT has grown in popularity, considerable variation has arisen in the way that mindfulness is conceptualized and in the trainings and interventions that have been included under this umbrella term. Increasing popularity has also raised concerns about how MMTs seem to have their effects. While previous studies have examined a wide variety of potential mechanisms, few studies have simultaneously examined these processes, potentially limiting conclusions about how MMTs might best be characterized as having their effects. The present study aimed to compare aspects of mindfulness, self-compassion, and emotion regulation, ascertaining which was most predictive of changes in anxiety, depression, and stress among 58 participants, randomly assigned on a 2:1 basis to MMT training or wait-list in a pre-/post-assessment design. The results indicated that the facets of overidentification and self-judgment (components of self-compassion) were most robustly predictive of changes in outcome variables, though mindfulness and emotion regulation also contributed. The findings suggest that mindfulness, as a process, may be more complicated than some have given credit and that attention and emotional balance may be particularly important aspects related to its effects.

N. T. Van Dam (✉) · A. L. Hobkirk · R. Aviles-Andrews ·
M. Earleywine
Department of Psychology, University at Albany, SUNY, 1400
Washington Ave, Albany, NY 12222, USA
e-mail: ntvandam@gmail.com

S. C. Sheppard
National Center for Veterans Studies, University of Utah, Salt Lake
City, UT, USA

Introduction

Mindfulness meditation training (MMT) has shown profound physical and psychological benefits across a number of populations and conditions (e.g., Chiesa and Serretti 2011; Grossman et al. 2004; Hofmann et al. 2010). Evidence is emerging that MMT can be superior (Grossman et al. 2007; Jain et al. 2007) or at least comparable to traditional interventions (e.g., Arch et al. 2013; Jazaieri et al. 2012; Manicavasgar et al. 2011). Nevertheless, null findings also exist (e.g., Schmidt et al. 2011). One reason for mixed findings might involve variability in the meditation training itself (e.g., Chiesa and Malinowski 2011). While there is a core session-by-session outline to the administration of Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn 1990), one of the earliest and most commonly used MMTs, its instruction is meant to rely heavily on the broader intentions of the program, personal experience of the instructor with mindfulness practice, and the zeitgeist of the group (Kabat-Zinn 2003, 2011; McCown et al. 2011). More recent versions of MMT, such as Mindfulness-Based Cognitive Therapy (MBCT; Segal et al. 2002) have a similar reliance on intentions, personal practice, and group dynamics, though efforts have been made to standardize the intervention (Crane et al. 2012).

Many studies have provided support for a mechanistic role of attention and emotion regulation (for reviews see, e.g., Chiesa and Serretti 2010; Hölzel et al. 2011), while others have provided support for increased bodily awareness in MMT (e.g., Farb et al. 2012). Support has also been

provided for something similar to cognitive flexibility (e.g., Heeren et al. 2009) and emotional stability (e.g., Britton et al. 2012), which, along with attention regulation, would seem to be consistent with early definitions of mindfulness practice (Analāyo 2003, 2013).

The most obvious candidate mechanism is mindfulness itself. Numerous studies are now present providing evidence of mediation by self-reported mindfulness in its various formats (Bränström et al. 2010; Kuyken et al. 2010; Nyklicek and Kuijpers 2008; Shahar et al. 2010; van Aalderen et al. 2012; Vollestad et al. 2011; Witkiewitz et al. 2013). However, many of these studies only tested total scale scores (e.g., Bränström et al. 2010; Vollestad et al. 2011), only provided support for a selection of subscales (van Aalderen et al. 2012; Witkiewitz et al. 2013), or found evidence of mediation by constructs other than mindfulness (Shahar et al. 2010; van Aalderen et al. 2012). Examination of subscales may be particularly important, given evidence that total scale scores may not be psychometrically supported for some measures of mindfulness (e.g., Van Dam et al. 2012) and that some subscales may have more predictive validity than others (e.g., Coffey et al. 2010).

There is also evidence that mindfulness may have its effects by other processes, both related and unrelated to particular ideas of mindfulness. Support exists for self-compassion (Kuyken et al. 2010; Shapiro et al. 2005), repetitive thought (i.e., rumination and worry; Jain et al. 2007; Shahar et al. 2010; van Aalderen et al. 2012), coping strategies, and beliefs (Sears and Kraus 2009). Other studies suggest that mindfulness may work via intermediate factors (Carmody et al. 2009; Greeson et al. 2011), suggesting an indirect effect. The combinations of constructs that have been shown to mediate MMT seem to complicate the story about how this training has its effects.

Many who teach or use MMT might argue that it is, in some ways, radically different from a conventional way of doing things (see e.g., Kabat-Zinn 2005). Given that MMTs draw on multiple practices from Buddhist traditions (Grossman 2010; Kabat-Zinn 2011; McCown et al. 2011), as well as the inclusion of modern psychotherapeutic techniques (e.g., Segal et al. 2002), it is perhaps no surprise that multiple mediators arise among different variations of MMT in different populations. As in the domain of psychotherapy, it seems likely that different teachers draw on different aspects of the traditions and context, that different clinical and nonclinical populations may improve by both general and specific mechanisms (Boswell et al. 2010), and perhaps, most importantly, that different individuals improve by different means (Norcross and Wampold 2011; Paul 1967). All this suggests that different MMTs may emphasize different pieces of an amalgam of potential practices aimed at cultivating a particular way of interacting with one's experience

(Kabat-Zinn 2005; McCown et al. 2011). Despite the potential variations in these interventions, there may also be core components to MMT that are somewhat consistent across these interventions.

A primary goal of the present study was to examine the mechanisms by which a hybrid MBSR/MBCT training, led by experienced MMT instructors, would lead to reduction in anxiety, depression, and perceived stress. We hypothesized that measures of mindfulness, as well as closely related factors (e.g., self-compassion; see Van Dam et al. 2011), along with other (psycho-) therapeutic mechanisms (i.e., emotion regulation, see e.g., Aldao et al. 2010; Berking et al. 2008; Coffey et al. 2010) would combine to lead to decreases in psychological symptoms.

Method

Participants

Potential participants were community individuals, experiencing peri-clinical levels (i.e., levels just below, at, or above a clinically relevant threshold) of anxiety, depression, and/or stress, recruited by local newspaper and online advertisements, referrals from local mental health practitioners and employee assistance program directors, and word of mouth. Participants completed a preliminary telephone screening to determine eligibility (see "Instruments"). Participants were required to have at least seven regularly occurring symptoms of anxiety and/or depression, as assessed by the phone screen. Because the present study had additional aims to examine hormonal and physiological stress responses (results not reported in the present paper) and to permit examination of changes in psychological symptoms, inclusion and exclusion criteria pertaining to symptoms and status were applied. Exclusion criteria included age <18 or over 65, current (within the past 6 months) use of psychotropic medications, any regular use of nicotine within the last year, any endocrine complication or disorder, regular use of any prescription medication that might alter normal stress hormones (e.g., statins), history of serious or intractable mental illness, any medical condition that might alter the stress response or create unnecessary participant risk, >400 mg daily caffeine intake, and regular experience with mindfulness (i.e., attendance at more than three *Vipassana* or similar mindfulness meditation trainings). An exception was made for as needed (*prn*) benzodiazepines or prescription sleep aids if cessation during the trial period was agreed by the participant and prescribing physician. The cut-off dosage for caffeine was defined as the maximum daily dosage associated with no adverse effects (Nawrot et al. 2003).

Procedures

All procedures took place between January 2009 and December 2010. Participants provided oral consent prior to participation in a phone screen. The first and last authors evaluated all cases for inclusion. Participants provided written consent prior to subsequent procedures. Assessments at time 1 (T1) were conducted by the first, second, and fourth authors, as well as research assistants (RAs) trained by the first author. Follow-up assessments (time 2—T2) were conducted by the second and fourth authors and RAs, who were blind to group randomization. The training was conducted in a location separate from assessments by three instructors with an average 12.5 years' experience each, administering MBSR and/or MBCT groups. All were trained at the Center for Mindfulness at the University of Massachusetts Medical School. All instructors had a committed regular meditation practice (approximately 20–30/min, 5–7 days/week, for 16–20 years) and regularly attended meditation retreats (14–16 retreats each). The MMT was formatted after MBSR, though with components of MBCT (for a detailed outline, see Appendix). It was an 8-week, group intervention with weekly 2-h sessions and a 6-h retreat following session 6. All procedures associated with the present study were approved by the Institutional Review Board at the University at Albany, SUNY.

Design

Eligible participants ($n=58$) came to the laboratory to complete several computer tasks, self-report measures, and other stress-related assessments before and after the Trier Social Stress Test (Kirschbaum et al. 1993). After completion of the initial assessment, participants were randomly assigned to a mindfulness meditation training group (MMT; $n=38$) or an inactive, no training control group (NT; $n=18$). Random assignment was conducted in a 2:1, MMT/NT, ratio. The 2:1 ratio was implemented for practical reasons; while screening and enrollment to the study were on a rolling basis, groups were closed and a critical mass was required to begin a group. Thus, a 2:1 random assignment method was used to ensure that the critical mass was reached in a timely fashion. Participants initially assigned to the NT group were offered the MMT after the second assessment. Participants returned to the laboratory for T2 assessment approximately 3.5 ± 1 months from the first assessment; there were no group differences in time to return for assessment. At T2, 41 participants (70.7 %) returned for assessment, though only 34 ($34/41=82.9$ %) completed all self-report measures.

Instruments

Telephone Screen Information was collected regarding contact, type and length of any meditation experience, history and treatment of any mental illness (including hospitalization and medication), and related medical data. Finally, individuals were asked to answer three sets of questions: (1) the working criteria for Mixed Anxiety Depressive Disorder as outlined in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision (American Psychiatric Association 2000)—participants confirmed or denied the presence of each symptom "more often than not" over the past 6 months; (2) a modified (screening) version of the State Trait Inventory for Cognitive and Somatic Anxiety (STICSA; Gros et al. 2007; Ree et al. 2008)—participants confirmed or denied the presence of each item at least one time per day, 2–3 days per week; and (3) a modified (screening) version of the Center for Epidemiologic Studies Depression Scale—Revised (Eaton et al. 2004; Van Dam and Earleywine 2011)—participants confirmed or denied the presence of 18 of the 20 items (items about suicidality were excluded) for more than one day during the past week.

Self-Report Scales

Outcome Variables

Anxiety Participants completed the STICSA (Gros et al. 2007; Ree et al. 2008). The STICSA is a 21-item questionnaire designed to differentiate the cognitive and somatic components of anxiety. There is a 10-item cognitive subscale (e.g., "I think that others won't approve of me," "I think that the worst will happen") and an 11-item somatic subscale (e.g., "My heart beats fast," "My muscles feel weak"). Participants respond to items on a 1 (not at all) to 4 (very much so) Likert-type scale. Psychometric properties are good, and the STICSA is gaining use in clinical and research contexts (Gros et al. 2007, 2010; Ree et al. 2008; Van Dam and Earleywine 2011; Van Dam et al. 2013). The full scale and subscales have shown good internal consistency across samples (full scale: $\alpha=.89$–$.92$; cognitive: $\alpha=.86$–$.89$; somatic: $\alpha=.78$–$.88$; Van Dam et al. 2013).

Depression Participants completed the Center for Epidemiologic Studies Depression Scale—Revised (CESD-R; Eaton et al. 2004). The CESD-R is an updated version of the CES-D (Radloff 1977).The CESD-R consists of 20 items that closely reflect the DSM-IV criteria for depression (see Eaton et al. 2004). Example items include "I felt sad," "I could not get going," and "I lost interest in my usual activities." Psychometric properties are good, and the scale is rapidly gaining use (Eaton et al. 2004; Van Dam and Earleywine 2011). Internal consistency has been high in previous studies ($\alpha=.93$; Van Dam and Earleywine 2011).

Perceived Stress Participants completed the 10-item Perceived Stress Scale (PSS; Cohen et al. 1983) and the

Perceived Stress Questionnaire—Revised (PSQ-R; Fliege et al. 2005). The PSS is the most widely used self-report measure of the perception of nonspecific life stress and has good psychometric properties and broad applications (Cohen and Williamson 1988; Pruessner et al. 1999). Some examples of items on the PSS include "In the last month, how often have you found that you could not cope with all the things you had to do?" and "In the last month, how often have you felt nervous and 'stressed'?" In the original development study (Cohen et al. 1983), the PSS had high reliability (α=.84–.86). The PSQ-R is slightly more specific than the PSS to different types of stressors and has excellent clinical and construct utility and good psychometric properties (Fliege et al. 2005; Levenstein et al. 1993). The PSQ-R includes four subscales: Worries (e.g., "You are afraid for the future," "Your problems seem to be piling up"), Tension (e.g., "You feel mentally exhausted," "You feel tense"), Joy (e.g., "You are full of energy," "You are lighthearted"), and Demands (e.g., "You have too many things to do," "You feel you're in a hurry"). Consistency has been good for the full scale (α=.85–.94) and the subscales (Worries, α=.77–.86; Tension, α=.77–.84; Joy, α=.75–.83; Demands, α=.77–.82) across samples (Fliege et al. 2005).

Process Variables

Mindfulness Participants completed the 39-item Five Facet Mindfulness Questionnaire (FFMQ; Baer et al. 2006) and the 15-item Mindful Attention Awareness Scale (MAAS; Brown and Ryan 2003). The FFMQ is a five-facet scale condensed from previously existing measures via statistical analysis (Baer et al. 2006). The FFMQ consists of five subscales: Observe (e.g., "I pay attention to sensations, such as the wind in my hair or sun on my face"), Describe (e.g., "I have trouble thinking of the right words to express how I feel about things"), Act Aware (e.g., "I find myself doing things without paying attention"), Non-Judge (e.g., "I think some of my emotions are bad or inappropriate and I shouldn't feel them"), and Non-React (e.g., "I perceive my feelings and emotions without having to react to them"). The MAAS assesses "dispositional" levels of present awareness and attention (e.g., "I rush through activities without being really attentive to them" and "I drive places on 'automatic pilot' and then wonder why I went there"). The FFMQ and MAAS are among the most widely used measures of mindfulness (Christopher et al. 2009). Both scales have reasonable psychometric properties (Baer et al. 2006, 2008; Brown and Ryan 2003), though there are some potential issues with their construct validity (e.g., Christopher et al. 2009; Höfling et al. 2011; Van Dam et al. 2009, 2010, 2012). In the original development study (Baer et al. 2006), the FFMQ subscales all showed good internal consistency (Observe, α=.83; Describe, α=.91; Act Aware, α=.87; Non-Judge, α=.87; Non-React, α=.75). In previous studies with the MAAS, internal consistency has also been high (α=.88; Van Dam et al. 2010).

Self-Compassion Participants also completed the Self-Compassion Scale (SCS; Neff 2003), a 26-item questionnaire designed to assess overall self-compassion (total score) and components of self-compassion across three conceptually distinct, but theoretically related facets. Items are designed to capture how respondents perceive their actions toward themselves in difficult times across six subscales: Self-Kindness (e.g., "I try to be loving towards myself when I'm feeling emotional pain"), Self-Judgment (e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"), Common Humanity (e.g., "I try to see failings as part of the human condition"), Isolation (e.g., "When I fail at something that's important to me, I tend to feel alone in my failure"), Mindfulness (e.g., "When something upsets me, I try to keep my emotions in balance"), and Overidentification (e.g., "When I'm feeling down, I tend to obsess and fixate on everything that's wrong"). The SCS has good reliability and validity cross-culturally (Neff 2003; Neff et al. 2007), as well as good psychometric properties (Van Dam et al. 2011). Reliability has been good for each of the subscales (Self-Kindness, α=.83; Self-Judgment, α=.75; Common Humanity, α=.76; Isolation, α=.73; Mindfulness, α=.72; Overidentification: α=.72), as well as the full scale (α=.92; Van Dam et al. 2011).

Emotion Regulation Participants completed the Difficulties in Emotion Regulation Scale (DERS; Gratz and Roemer 2004). The DERS is a 36-item scale with six facets (NonAcceptance, e.g., "When I'm upset, I feel guilty for feeling that way"; Goals, e.g., "When I'm upset, I have difficulty getting work done"; Impulse, e.g., "When I'm upset, I lose control over my behaviors"; Awareness, e.g., "I am attentive to my feelings"; Strategies, e.g., "When I'm upset, it takes me a long time to feel better"; Clarity, e.g., "I have no idea how I am feeling"), which have been confirmed in clinical and nonclinical adults (Gratz and Roemer 2004). The DERS exhibits good psychometric properties across populations (Gratz and Roemer 2004), and subscales have been shown to have important overlap with mindfulness in predicting well-being (Coffey et al. 2010). In the original development study (Gratz and Roemer 2004), internal consistency was good for the overall scale (α=.93) and each of the subscales (NonAcceptance, α=.85; Goals, α=.89; Impulse, α=.86; Awareness, α=.80; Strategies, α=.88; and Clarity, α=.84).

Statistical Analyses

Residualized Change Scores Between Groups Given the small sample size and the intention to explore mechanisms

of change, analyses were conducted to explore the effects as they pertained to those participants who completed all assessments through time 2 ($n=34$ total; $n=21$ in MMT; $n=13$ in NT). In order to optimize examination of relationships between changes in outcomes and processes, residualized change scores were computed for all variables of interest. Residualized change scores are "base-free" measures; in other words, these scores remove the influence of baseline from a pre-/post-comparison (Cohen et al. 2003; Lord 1963; Tucker et al. 1966). Inferences based on residualized change scores are often indistinguishable from those of analysis of covariance (MacKinnon 2008), and the reduction of variables that results from the computation of residualized change scores facilitates modeling. This facilitation of modeling occurs because fewer parameters need to be estimated in analyses, which, in small samples, can actually increase statistical power (Maxwell and Delaney 2004). In the present case, the reduction of variables actually meant that bootstrap-based statistical tests could be used. Using bootstrap-based statistics is especially preferable in smaller samples to yield more reliable estimates of effects and of their confidence intervals, on which statistical inference can be based (Efron and Tibshirani 1993). Briefly, bootstrap resampling provides estimates based on a specific number of resamples of the data using random sampling with replacement. Bootstrap-based methods are the preferred method for mediation analyses in the behavioral sciences (see, e.g., MacKinnon 2008; Hayes 2009). In order to compute residualized change scores, T2 values were regressed on T1 variables across groups, and the predictions were saved as new variables. The prediction was then subtracted from the raw T2 score, yielding a residualized change score (Cohen et al. 2003). In essence, examination of residualized change scores inform the question of whether there is a statistical difference between groups in terms of how much participants have changed on a given variable (the process of statistically controlling for baseline allows for a comparison of a single estimate).

Group differences were examined by computing a point estimate of the mean difference in residualized change scores between groups. t test statistics were computed by comparing the differences between group means, based on 5,000 bootstrap-based resamplings. Point estimates were accompanied by bias-corrected, accelerated 95 % confidence intervals (see e.g., Efron and Tibshirani 1993). Effect sizes (Cohen's d) were computed using point estimates for each group.

Exploration of Change Processes In order to determine which processes were most relevant to change in psychological variables, residualized change scores for those outcome variables showing a significant group difference were regressed individually on all process variables showing

significant group differences as a result of the training (i.e., MMT vs. NT). To identify those processes most related to change in psychological variables, a backwards step-wise regression approach was used. The backwards regression approach works by entering all predictors into the equation and, in a step-wise fashion, deleting the variable that most improves the model. This process is repeated until no further model improvement is possible, yielding the fewest predictors of the outcome variable.

Some have used a multiple mediation approach to examine multiple process variables (e.g., Shahar et al. 2010). Multiple mediation analysis (at least as implemented by e.g., Preacher and Hayes 2008) considers mediators in parallel, which can be desirable under many circumstances but can also lead to a statistical reduction of the influence of any given variable by virtue of its covariation with other variables. Since we were concerned with covariation among process variables and wanted to identify which process variables were most robustly related to change, we used a backwards regression approach.

All analyses were computed in IBM SPSS Statistics v20.0 with a nominal p value set to .05 for significance, unless otherwise specified.

Results

Demographics

Based on an algorithmic classifier (see Van Dam and Earleywine 2011) for the CESD-R, 11.8 % of participants ($n=4$) met criteria for "probable depression" prior to training. Based on a cut score of 43 on the STICSA (see Van Dam et al. 2013), 67.6 % of participants ($n=23$) met criteria for "probable anxiety disorder," prior to training. There were no statistical differences between group demographics (see Table 1).

Group Differences

Means (M) and standard deviations (SDs), as well as point estimates of group differences, bias-corrected, accelerated 95 % confidence intervals, effect size estimates, and p values based on the bootstrap-based t tests are provided for all variables.

Outcome Variables Statistics for main outcome variables are displayed in Table 2. Significant differences between groups are notable for depression (CESD-R), perceived stress (PSQ-R), stress-related worries, stress-related tension, overall anxiety (STICSA), cognitive anxiety, and somatic anxiety. In the case of joy in the context of stress, the difference between groups approached but did not reach

Table 1 Group demographics

	MMT (*n*=21) M (SD)	NT (*n*=13) M (SD)	*t*
Age	41.8 (14.1)	37.4 (15.0)	0.86
	% (*n*)	% (*n*)	χ^2
Female	66.7 (14)	61.5 (8)	0.09
Race			
Caucasian	85.7 (18)	84.6 (11)	1.91
Asian	14.3 (3)	7.7 (1)	
Hispanic/Latino	0.0 (0)	7.7 (1)	
Education			
High school	9.5 (2)	7.7 (1)	2.49
Some college	14.3 (3)	7.7 (1)	
Associate's degree	4.8 (1)	15.4 (2)	
Bachelor's degree	23.8 (5)	38.5 (5)	
Graduate	47.6 (10)	30.8 (4)	
Occupation			
Student	28.6 (6)	46.2 (6)	2.44
Nonmedical	52.4 (11)	23.1 (3)	
Medical	19.0 (4)	23.1 (3)	

statistical significance ($p<.10$). In all cases except joy in the context of stress, these significant differences reflect decreases in symptoms for the MMT group and/or an increase or lack of change in the NT group. For joy, this difference reflects an increase for the MMT group and a slight decrease for the NT group.

Intent-to-treat analyses were also conducted using restricted maximum likelihood mixed modeling with T1 and T2 means. These findings were less robust; only the worries subscale of the PSQ-R, the overall STICSA, and the Cognitive subscale of the STICSA exhibited significant interactions at $p<.05$, though the CESD-R and Tension subscale of the PSQ-R exhibited interactions at $p<.1$.

Process Variables Statistics for process variables are displayed in Table 3. Significant differences between groups were present for the Act Aware subscale of the FFMQ, the MAAS, as well as the Self-Judgment and Overidentification subscales of the SCS. Group differences for the Non-Judge subscale of the FFMQ, overall SCS, and Isolation subscale of the SCS approached, but did not reach statistical significance ($p<.10$). Some variables (i.e., FFMQ and its subscales, MAAS, SCS total score and SK, CH, and M subscales) indicate positive features; significant differences there represent increases for the MMT group and/or no change or small decreases for the NT group. Other variables (i.e., Self-Judgment, Isolation, and Overidentification subscales of the SCS) indicate negative features, and significant differences represent decreases for the MMT group and/or no change or increases for the NT group. Significant differences between groups were present for the NonAcceptance, Awareness, and Strategies subscales of the DERS. Group differences in the overall DERS, as well as the Goals and Impulse subscales of the DERS, approached but did not reach significance ($p<.10$). All significant differences for the DERS reflect decreases for the MMT group and/or no change or decreases for the NT group.

Table 2 Comparison of outcome variables by training group for study completers

	MMT (*n*=21)		NT (*n*=13)		Group differences			
	T1, M (SD)	T2, M (SD)	T1, M (SD)	T2, M (SD)	Δ	BCa 95 CI	*d*	*p* value
CESD-R	45.09 (13.50)	31.48 (7.23)	44.69 (16.93)	42.77 (11.23)	−11.38	−17.27, −5.49	−1.43	.001**
PSS	32.50 (2.33)	30.70 (2.34)	32.46 (3.18)	32.31 (2.96)	−1.40	−3.15, 0.36	−0.59	.120
PSQ-R	50.00 (5.88)	46.30 (5.17)	52.23 (5.04)	50.85 (3.58)	−3.63	−6.88, −0.38	−0.83	.023*
Worries	13.78 (2.68)	11.04 (2.96)	14.00 (3.16)	14.15 (2.04)	−3.09	−4.58, −1.60	−1.31	.001**
Tension	12.30 (1.99)	11.04 (1.22)	12.69 (1.49)	12.54 (1.45)	−1.44	−2.41, −0.48	−1.11	.006**
Joy	10.91 (2.39)	12.00 (2.59)	10.92 (2.66)	10.77 (1.79)	1.15	−0.36, 2.65	0.57	.097#
Demands	13.00 (2.56)	12.22 (2.58)	14.62 (2.60)	13.38 (2.29)	−0.25	−1.87, 1.36	−0.11	.745
STICSA	46.87 (7.69)	37.78 (6.28)	48.85 (10.19)	47.38 (8.22)	−9.52	−14.18, −4.86	−1.51	<.001***
Cognitive	25.74 (5.41)	20.87 (4.49)	26.62 (5.17)	26.69 (4.05)	−5.64	−8.53, −2.76	−1.45	.001**
Somatic	21.13 (4.79)	16.91 (3.30)	22.23 (6.34)	20.69 (5.48)	−3.76	−6.25, −1.27	−1.12	.006**

MMT Mindfulness Meditation Training; *NT* No Training; Δ mean difference between group residualized change scores; *BCa 95 CI* bias corrected, accelerated 95 % confidence interval based on 5,000 bootstrapped samples; *d* Cohen's *d* for group difference in mean residualized change scores; *p* level of significance based on an independent samples *t* test using group means generated by 5,000 bootstrapped samples; *CESD-R* Center for Epidemiologic Studies Depression Scale—Revised; *PSS* Perceived Stress Scale; *PSQ-R* Perceived Stress Questionnaire—Revised (*Worries*= worries subscale; *Tension*=tension subscale; *Joy*=joy subscale; *Demands*=demands subscale); *STICSA* State Trait Inventory for Cognitive and Somatic Anxiety (*Cognitive*=cognitive subscale; *Somatic*=somatic subscale)

***$p<.001$; **$p<.01$; *$p<.05$; #$p<.10$

Table 3 Comparison of process variables by training group for study completers

	MMT (n=21)		NT (n=13)		Group differences			
	T1, M (SD)	T2, M (SD)	T1, M (SD)	T2, M (SD)	Δ	BCa 95 CI	d	p value
FFMQ	107.78 (14.67)	120.78 (16.59)	114.08 (21.90)	114.54 (15.94)	9.12	−2.00, 20.24	0.61	.104
Observe	23.96 (4.51)	26.22 (3.79)	26.38 (6.49)	25.54 (3.64)	1.18	−1.30, 3.67	0.35	.303
Describe	23.70 (6.03)	25.83 (5.51)	27.23 (5.18)	26.77 (5.09)	0.70	−2.88, 4.28	0.15	.683
Act Aware	19.57 (3.76)	23.09 (3.78)	21.15 (5.30)	20.77 (4.82)	3.04	0.22, 5.87	0.80	.046*
Non-Judge	22.65 (4.81)	25.48 (7.10)	21.77 (5.29)	22.15 (6.57)	4.15	−0.41, 8.72	0.67	.076#
Non-React	17.91 (3.42)	20.17 (3.85)	17.54 (5.27)	19.31 (3.77)	0.92	−1.72, 3.56	0.26	.477
MAAS	3.05 (0.64)	3.53 (0.47)	3.19 (0.64)	3.25 (0.59)	0.37	0.10, 0.63	1.05	.011*
SCS	2.56 (0.51)	2.96 (0.54)	2.49 (0.77)	2.61 (0.65)	0.33	0.00, 0.65	0.72	.056#
SK	2.45 (0.58)	2.88 (0.67)	2.25 (0.94)	2.63 (1.05)	0.13	−0.32, 0.59	0.23	.583
SJ	3.64 (0.74)	3.08 (0.92)	3.66 (0.81)	3.77 (0.73)	−0.71	−1.16, −0.26	−1.17	.003*
CH	2.65 (0.71)	2.92 (0.72)	2.77 (1.13)	2.90 (0.73)	0.07	−0.34, 0.48	0.13	.717
I	3.46 (0.79)	3.12 (0.99)	3.44 (0.90)	3.52 (0.56)	−0.44	−0.96, 0.08	−0.62	.061#
M	2.76 (0.51)	3.04 (0.44)	2.58 (1.05)	2.79 (0.92)	0.15	−0.25, 0.55	0.28	.469
OI	3.61 (0.63)	3.05 (0.69)	3.79 (0.91)	3.73 (0.77)	−0.61	−1.03, −0.20	−1.09	.005*
DERS	93.29 (12.34)	89.70 (13.67)	102.77 (18.59)	101.46 (14.70)	−6.56	−13.89, 1.24	−0.61	.089#
Non-Acc	15.19 (5.17)	12.96 (5.46)	18.31 (6.50)	17.62 (3.91)	−3.31	−5.76, −0.78	−0.84	.021*
Goals	15.90 (2.83)	14.61 (2.68)	16.38 (3.82)	16.31 (3.20)	−1.51	−3.07, 0.09	−0.66	.061#
Imp	12.95 (2.89)	12.04 (2.59)	14.38 (3.15)	15.00 (4.44)	−2.15	−4.58, 0.29	−0.68	.090#
Aware	19.76 (3.75)	16.22 (4.60)	18.46 (6.16)	18.23 (5.15)	−2.57	−4.76, −0.38	−0.71	.047*
Strat	20.57 (5.24)	18.09 (5.24)	22.23 (7.56)	22.00 (5.40)	−2.97	−5.57, −0.23	−0.74	.039*
Clarity	12.43 (1.54)	12.22 (1.98)	13.92 (1.98)	12.77 (1.59)	−0.46	−1.71, 0.68	−0.28	.408

MMT Mindfulness Meditation Training; *NT* no training; Δ=mean difference between group residualized change scores; *BCa 95 CI* bias corrected, accelerated 95 % confidence interval based on 5,000 bootstrapped samples; *d* Cohen's *d* for group difference in mean residualized change scores; *p* level of significance based on an independent samples t-test using group means generated by 5,000 bootstrapped samples; *FFMQ* Five Facet Mindfulness Questionnaire (Observe, Describe, Act Aware, Non-Judge, Non-React=FFMQ subscales), *MAAS* Mindful Attention and Awareness Scale; *SCS* Self-Compassion Scale (*Tot* total score, *SK* self-kindness subscale, *SJ* self-judgment subscale, *CH* common humanity subscale, *I* isolation subcale, *M* mindfulness subscale, *OI* Overidentification subscale); *DERS* Difficulties with Emotion Regulation Scale (Non-Acceptance, Goals, Impulse, Awareness, Strategies, Clarity=DERS subscales)

*p<.05; #p<.10

Backwards Regression of Outcome Variables on Process Variables

Only CESD-R, PSQ-R, PSQ-R Worries, PSQ-R Tension, STICSA, STICSA Cognitive, and STICSA Somatic showed significant group differences as a result of training×time (see Table 2). Similarly, only the Act Aware subscale of the FFMQ, MAAS, Self-Judgment and Overidentification subscales of the SCS, and NonAcceptance, Aware, and Strategies subscales of the DERS exhibited group differences as a result of training×time (see Table 3). All beta weights, *t* statistic values for *t* tests of beta weights, and corresponding *p* values for predictors in the final models are displayed in Table 4. CESD-R change scores were most parsimoniously predicted by change in Self-Judgment (SCS) [$R=.505, F(1, 33)=10.96, p=.002, R^2=.255$]. Perceived stress (PSQ-R) change scores were most parsimoniously predicted by change in Overidentification (SCS) [$R=.479, F(1, 33)=$

9.53, $p=.004, R^2=.229$]. Change scores for PSQ-R Worries were most parsimoniously predicted by change on the MAAS and change on the Overidentification subscale of the SCS [$R=.753, F(2, 33)=20.34, p<.001, R^2=.567$]. Change scores for PSQ-R Tension were most parsimoniously predicted by change on the Self-Judgment subscale of the SCS [$R=.409, F(1, 33)=6.41, p=.016, R^2=.167$]. Change scores in overall anxiety (STICSA) were also most parsimoniously predicted by change on the Self-Judgment subscale of the SCS [$R=.572, F(1, 33)=15.54, p<.001, R^2=.327$]. Change scores on the cognitive subscale of the STICSA were most parsimoniously predicted by change on the Self-Judgment subscale of the SCS, as well as changes in the Strategies subscale of the DERS [$R=.702, F(2, 33)=15.05, p<.001, R^2=.493$]. Finally, change scores on the Somatic subscale of the STICSA were most parsimoniously predicted by change on the Aware subscale of the DERS [$R=.375, F(1, 33)=5.23, p=.029, R^2=.141$].

Table 4 Results from backwards regression of outcome variables on process variables

	CESD-R		
	β	t	p value
SCS-SJ	.505	3.31	.002**
	PSQ-R		
	β	t	p value
SCS-OI	.479	3.09	.004*
	PSQ-R Worries		
	β	t	p value
MAAS	−.349	2.61	.014*
SCS-OI	.524	3.93	<.001***
	PSQ-R Tension		
	β	t	p value
SCS-SJ	.409	2.53	.016*
	STICSA		
	B	t	p value
SCS-SJ	.572	3.94	<001***
	STICSA Cognitive		
	β	t	p value
SCS-SJ	.460	2.93	.006**
DERS-Strat	.326	2.08	.046*
	STICSA Somatic		
	β	t	p value
DERS-Aware	.375	2.29	.029*

CESD-R Center for Epidemiologic Studies Depression—Revised; *PSQ-R* Perceived Stress Questionnaire—Revised (Worries=Worries subscale; Tension=Tension subscale); *STICSA* State Trait Inventory of Cognitive and Somatic Anxiety (Cognitive=Cognitive subscale; Somatic=Somatic subscale); *DERS* Difficulties in Emotion Regulation Scale (Aware=Aware subscale; Strat=Strategies subscale); *MAAS* Mindful Attention and Awareness Scale; *SCS* Self-compassion scale (*OI* Overidentification subscale, *SJ* Self-Judgment subscale)

***$p < .001$; **$p < .01$; *$p < .05$

Discussion

Summary of findings

A novel MMT, including brief explicit instruction in the *Brahmavihara*, showed evidence of meaningful reductions in anxiety, depression, and stress. Of the process variables assessed, the Act Aware subscale of the FFMQ and the MAAS were the only mindfulness variables to show significant group differences, while the Self-Judgment and Overidentification subscales of the SCS also showed significant group differences. Finally, the Non-Acceptance, Aware, and Strategies subscales of the DERS all showed significant group differences. Furthermore, the Non-Judge subscale of the FFMQ, SCS total score, Isolation subscale of the SCS, DERS total score, and Goals and Impulse subscales of the DERS all approached significant group

differences ($p < .10$). Backwards regression analyses revealed that the Self-Judgment and Overidentification subscales of the SCS were the most parsimonious predictors of change in psychological symptoms.

Comparison of psychological outcomes to extant literature

Similar to previous examinations of MMT, the training group showed significant reductions in anxiety and depression relative to the no training group (see, e.g., Hofmann et al. 2010). Notably, the effect size estimates for the present study (see Table 2) were substantially larger (Cohen's $d > 1$) than has been reported in previous meta-analyses (Cohen's $d \approx .8$; Hofmann et al. 2010). This likely reflects an inflation of the effect size estimates relative to the "true" effect. Perceived stress was also reduced on one measure (PSQ-R) and two of its subscales (stress-related worries and tension), but not on another scale (PSS). The lack of significant change on the PSS is inconsistent with previous findings (e.g., Bränström et al. 2010; Nyklicek and Kuijpers 2008), though effect size estimates for the PSS in the present study suggest that the study may simply have been underpowered (see Table 2). It is, however, possible that the variation of MMT used in this study is ineffective at reducing perceived stress as measured by the PSS, though it does seem to be effective at reducing perceived stress as measured by the PSQ-R. The latter inconsistency would seem to support the idea that the present study may simply have been underpowered.

Some expected and unexpected findings about "mindfulness"

Although some indicators of mindfulness (i.e., Act Aware subscale of FFMQ, MAAS) showed a significant change, others did not (see Table 3). It may have been an issue of power, though effect size estimates for pre-/post-changes would seem to suggest otherwise. The MAAS showed a significant response to MMT, while the FFMQ did not. Consistent with previous findings (e.g., Kuyken et al. 2010), self-compassion showed significant changes between groups (see Table 3), though only at a level that approached significance for the total scale and for the negatively worded subscales (two were significant at $p < .05$, the other approached significance at $p = .06$). However, there is evidence that negatively and positively worded subscales on the SCS are closely related (e.g., Van Dam et al. 2011), the present finding might reflect wording bias (see e.g., Van Dam et al. 2012). Finally, several emotion regulation variables showed significant group differences (notably, Non-Acceptance, Awareness, and Strategies from the DERS). The DERS, as well as its Goals and Impulse subscales approached significance. These findings suggest the MMT may have an effect on emotion regulation, as has been suggested by theoretical models (e.g., Hölzel et al. 2011).

With regards to change processes, changes in those outcome variables that showed significant relationships to group (CESD-R, cognitive, somatic, and full scale of STICSA, worries, tension, and full scale of PSQ-R) were most consistently predicted by the Self-Judgment and Overidentification subscales of the SCS. The emotion regulation facets of strategies and awareness were only included in the models of change in cognitive and somatic anxiety, respectively. Furthermore, mindfulness (MAAS) was only included in a single model, changes in stress-related worries (PSQ-R worries). The predictive utility of facets of self-compassion is consistent with our previous cross-sectional findings, suggesting that the SCS may better measure aspects related to mindfulness in relation to psychological variables than some measures of mindfulness (Van Dam et al. 2011).

Finding a compassionate balance

It is perhaps tempting to speculate that self-compassion is the key mechanism of change in mindfulness meditation training. However, self-compassion has shown strong relationships to mindfulness (e.g., Baer et al. 2006; Van Dam et al. 2011) and emotion regulation (e.g., Roemer et al. 2009). Given the strong relation of self-compassion to the facets of the FFMQ (Baer et al. 2006) and that the FFMQ and emotion regulation have been shown to have close, interwoven ties in predicting psychological symptoms and well-being (Coffey et al. 2010), it seems unlikely that it is just "self-compassion" that is doing all the work in MMTs. Rather, we suspect that the subscales of the SCS reflect critical aspects of mindfulness, as we have previously suggested (Van Dam et al. 2011). The self-judgment subscale, which is closely tied to its positive opposite, self-kindness, though merely a peripheral aspect of historical MMT (in the form of *Brahmavihara*), is arguably a more centralized piece to contemporary MMT. To elaborate, traditional teachings in the Theravada Buddhist tradition clearly differentiate the practices of compassion (*karunā*), loving kindness (*mettā*), and other positive mind states associated with the *Brahmavihara* from the practice of mindfulness (Nanamoli and Bodhi 1995). However, mindfulness, as taught in many contemporary settings, often explicitly includes practices to foster positive mind states (e.g., Kabat-Zinn 2005; McCown et al. 2011). The Overidentification subscale, and its positive opposite, mindfulness, are conceptualized by the SCS as a type of emotional equanimity in relationship to suffering. Along with attentional processes, equanimity or emotional balance would seem to have a critical role in some of the earliest available discussions of mindfulness practice (see Analāyo 2003, 2013).

The potential role of positive mind states, especially self-compassion, in the salutary effects of MMT deserves some consideration. While self-compassion is not explicitly taught in MBSR or MBCT, it is often implicit and other aspects of the *Brahmavihara* are also at least modeled by the instructors, if not taught explicitly (see, e.g., McCown et al. 2011). This may be particularly relevant among those individuals with mixed anxiety and depression, as our previous analyses have shown that deficits in self-compassion are more predictive of anxiety, depression, and reduced well-being than at least one prominent measure of mindfulness (the MAAS; Van Dam et al. 2011). It is also relevant given that there is evidence supporting a lack of positive emotion (and even some evidence for a fear of positive emotion) in emotional disorders (see, e.g., Gilbert 2009). Given the prominent role that self-compassion seems to play in the salutary effects observed herein, it may be worth considering more explicit inclusion of positive mind-states among MMT, along with the potential utility of approaches that explicitly focus on mind states such as self-compassion (e.g., Mindful Self-Compassion; Neff and Germer 2013).

The complexity of therapeutic change

It is noteworthy that our findings diverge to some extent from previous examinations of mechanisms of change in MMT (see, e.g., Kuyken et al. 2010; Shahar et al. 2010). As discussed early in the paper, previous findings have suggested that self-report mindfulness, self-compassion, repetitive thought, coping style, and beliefs all play a mechanistic role in MMT. There may be common and unique factors to MMTs. The fact that different MMTs should have common and unique "mindful" factors should come as no surprise to those who are familiar with the variety of methods that have been labeled as cognitive–behavioral therapy. There are clear distinctions between the style of intervention and change processes among cognitive behavioral therapies (David and Szentagotai 2006). Consider interventions such as Ellis's Rational Emotive Therapy (Ellis 1958), Beck's Cognitive Therapy (Beck et al. 1979), or Meichenbaum's cognitive behaviour modification (Meichenbaum 1977). One notices even more differences between the aforementioned forms of CBT and more recent variations such as Dialectical Behavior Therapy (Linehan 1993) or Acceptance and Commitment Therapy (Hayes et al. 2003—both of which some consider to be a modern variation on CBT; see Hofmann and Asmundson 2008).

A Multitude of Mindful Factors

Jon Kabat-Zinn, the founder of MBSR, has recently remarked about his use of the term mindfulness, that it was "…[used] intentionally as an umbrella term to…link [our work] explicitly with what I have always considered to be a universal dharma that is co-extensive, if not identical, with the teachings of the Buddha…it is used…as a placeholder for the entire dharma…it is meant to carry multiple meanings and traditions simultaneously…" (Kabat-Zinn 2011, p. 290). Here, we see

that MMT may entail multiple mechanisms that vary with different groups, problems, clinicians/teachers, situations, and patients/participants. Knowing how and when to apply variations that are consistent with the core of MMT is not so different from the use of evidence-based treatment in other forms of therapy (i.e., finding out which forms and types of therapy work for which individuals under what circumstances; Paul 1967). Recognition of "multiple meanings and traditions" need not necessarily translate to the idea that mindfulness does everything for everyone. More work is needed to ascertain which variations in MMT are most effective for which groups under what circumstances. The present findings would seem to suggest that at its core, self-kindness and emotional balance are critical to the salutary benefits of MMT in anxiety, depression, and stress (at least in an MMT that includes some explicit instruction in the *Brahmavihara*). It is worth noting that our findings do not necessarily exclude mindfulness as an important variable in MMT. It may, however, raise further question about the validity of current mindfulness measures, though we would also like to acknowledge that the lack of significant findings with mindfulness measures in the present study could merely be a measurement issue. MMT and measures of mindfulness are arguably discernible constructs though. Additionally, despite the efficacy of the present MMT and prior findings on the effects of MMT for various conditions (e.g., Grossman et al. 2004; Hofmann et al. 2010), null results (e.g., Schmidt et al. 2011) remind us that MMT is likely not a panacea.

Limitations

The present study has several limitations that should be considered when evaluating our findings. The sample size of the current study is relatively small. Furthermore, more robust statistical analyses led to less promising findings; only three of the seven outcome variables that were significant in the other analyses (see Table 2) were significant at $p < .05$ with intent-to-treat analyses. While bootstrap-based statistics were used to offset any biases that may have occurred in the data itself, the findings could be somewhat idiosyncratic to the sample and their interactions with the particular MMT instructors that implemented the training. Furthermore, our explicit instruction in the *Brahmavihara* could make the present MMT uniquely different from other MMTs. The sample was, however, quite heterogeneous in composition and the MMT used a combination of MBSR and MBCT techniques. Thus, suggested mechanisms of change based on the analyses could be consistent across different types of problems, different individuals, and different MMTs, though such a hypothesis requires further examination.

Additionally, assessment was only conducted prior to and after the training for the MMT group, with analogous measurements during the same interval for the NT group. To test hypotheses about true mediation, one would need to examine changes that precede those of the outcome variable (i.e., assess process variables at some timepoint that temporally precedes assessment of outcome variables). Because we only had two timepoints, we chose to examine how well changes in outcome variables were related to changes in process variables using a residualized change score approach. This approach, however, is an insufficient substitute for data collection at multiple timepoints during an intervention.

Conclusions

While the present study does contain limitations, it is one of only a few studies to examine the contributions of multiple process mechanisms to outcome variables in an MMT administered to a heterogeneous participant population by experienced mindfulness instructors. The findings suggest that self-judgment and overidentification (purported aspects of self-compassion) are particularly important change processes related to the reduction of anxiety, depression, and stress via MMT. We postulate that these changes are not specific to self-compassion, but rather reflect a broader attitudinal set that is an important component of contemporary mindfulness practice (e.g., Kabat-Zinn 1990, 2005), as well as development of emotional balance or equanimity. Emotional balance, along with the refinement of attentional skills, is a critical characteristic of mindfulness practice, as described across traditional lineages (Analāyo 2003, 2013). Attentional factors have a strong empirical (e.g., Lutz et al. 2008) and historical (Analāyo 2003, 2013; Bodhi 2011) evidence base and should be explored further in conjunction with self-compassion and emotional balance (though self-compassion may relate to emotional balance).

Furthermore, we should also consider social, ethical, and other general lifestyle factors that were part of historical prescriptions for MMT. While the forms of MMT we are most familiar with in clinical contexts (e.g., MBSR, MBCT) were developed as secular practices that have been applied in numerous therapeutic settings, MMT does contain a broad contextual background and represents at least an introduction to an alternate way of being (Grossman 2010; Kabat-Zinn 1990, 2003, 2005). Some of the most profound changes resulting from mindfulness practice may require more explicit adoption of the principles and ideas that support mindfulness practice some of the most impressive physical and psychological changes have been observed in long-term meditators (e.g., Levenson et al. 2012; Slagter et al. 2007). However, the difference between an 8-week training and committing to a life of contemplative practice is sizeable. Determining the combination of components and practice length necessary and sufficient for outcomes along

the continuum of symptom reduction and a profound realization of well-being (as described by historical texts related to MMT) will require considerably more research.

Appendix

A1. Overview of Intervention Protocol

Session 1: New Beginnings

I. Names and what individuals noticed on their way to campus.

    a. *Cocktail Party* by T.S. Eliot

II. Setting course expectations

    a. Island of Being
    b. What brings you here?
    c. What is mindfulness?

III. Raisin exercise

IV. Experience/Qualities of being present

    a. past/future versus present

V. Brief Body Scan (approximately 15-20 min)

VI. HANDOUT: Mindfulness Overview[1]

VII. Closing Remarks

    Homework: Eat one food mindfully 1x/day; Checking in – where you are 1x/day; Body Scan 1x/day

Session 2: Being in Your Body

I. Welcome Back

    a. Commend the effort required to return

II. Review of Mindfulness

    a. Why the body scan? Section on Body Scan (from MBSR)[2]

    b. Share experiences/difficulties with Body Scan and Mindful Practice
    c. HANDOUT: Common Hang-ups (from MBCT)[3]

III. Stress 101: Why should you stick with it?

IV. Qualities that Support Practice

    a. HANDOUT: pp 33–40 (MBSR)[2]

V. The Qualities of Practice

    a. Purpose, goals, experience

VI. Introduction to Sitting Practice

    a. Posture: Sit so as to embody dignity
    b. The influence of posture/gestures on feelings/mood
    c. 10 minutes of breathing

VII. Closing Remarks

    Homework: Body Scan 1×/day; 10 min sitting meditation 1×/day

Session 3: Being with your Experience

I. Brief Sitting Meditation (10 min)

II. Body Scan (20 min)

III. Mindfulness of Emotion

    a. *The Guest House* by Rumi
    b. How do you work with emotion?

      i. Riding the waves of emotion

IV. Basics of Depression and Anxiety[4]

    a. What does depression/anxiety feel like?
    b. How do you relate to the experience of depression/anxiety?

V. Introduction to Mindful Yoga

    a. The Practice
    b. Meeting your limitations
    c. Being present and making choices
    d. Caring for myself
    e. HANDOUT: Yoga Postures (MBSR)[2]
    f. Brief Practice (time permitting)

    Homework: Pleasant experiences questionnaire; Alternate Body Scan/Yoga daily; 20 min Sitting Med daily

Session 4: Being Present

I. Sitting Meditation (20 min)

    a. Focus on Sound
    b. Focus on Breath

II. Discussion of Qualities of different anchors

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III. *The Raft Analogy* (annotated from works by Stephen Batchelor)[5]
IV. Introduction to Breathing Space
V. Discussion of Meditation Experiences
VI. Review Mindfulness of Emotions
VII. Mountain Meditation (40 min)

Homework: Breathing Space (3× day); Alternate Sitting (20 min)/Mountainn Med (20 min); Yoga 5 days of week

Session 5: Staying Present

I. Sitting Meditation (30 min)
II. *Getting Closer to Our Experience* (excerpt from writings of Sharon Salzberg)[6]
III. Mindfulness of Thoughts

    a. Introductory Activities from MBCT[3]

IV. Encountering Obstacles

    a. Drawing your obstacles
    b. Discuss drawings

Homework: Breathing Space in difficult moments (min 1x day; record ABCs); Alternate Sitting Meditation (40 min) & Body Practice (Body Scan or Yoga)

Session 6: Being with Uncertainty

I. Introduction to Walking Practice

    a. HANDOUT: *Overview of Walking Meditation* by Thich Nhat Hanh[7] Walking Practice (20 min)

II. Stress & Uncertainty

    a. Excerpt from *Crossing the Unknown Sea* by David Whyte (pp 411–412)[8]
    b. HANDOUT: *Change: One thing you can be sure of* (MBSR)[2]
    c. Life is Change
    d. How is mindfulness a support?
    e. Managing the gaps
    f. What is Solace?

III. Allowing Things to Be as They Are

    a. Intentions for the practice
    b. What are your intentions now?

Homework: Breathing Space in difficult moments (min 1x day; record ABCs); Alternate Sitting Meditation (40 min) & Body Practice (Body Scan or Yoga)

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DAY OF MINDFULNESS

Session 7: Caring for Yourself and Your World

I. Lovingkindness Practice (30 min)
II. Being Gentle with Yourself

    a. *Wild Geese* by Mary Oliver
    b. *Desiderata* by Max Ehrmann

III. Cultivating Gentleness

    a. Finding your triggers to Negative Talk/Emotions
    b. How to meet yourself in the moment
    c. Practice as purification

IV. Introduction to Brahmavihara

    a. Excerpt from *Teachings on Love* by Thich Nhat Hanh[9]

V. Introduction to Compassion Practice

Homework: You pick daily (1 ea. lovingkindness, compassion)

Session 8: Life is Practice

I. Acknowledging the end
II. Sitting Meditation (30 min)
III. Awakening to Change
IV. Formal vs. Informal Practice
V. Resources for Cultivating your Practice

    a. HANDOUT: local resources

VI. Lovingkindness Practice (30 min)
VII. *Keeping Quiet* by Pablo Neruda
VIII. Final Sit (30 min)
IX. *You Reading This*, *Be Ready* by William Stafford

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