# Defining an Agenda for Future Research on the Clinical Application of Mindfulness Practice

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**Interest in the clinical use of mindfulness practices has expanded rapidly in recent years. To provide a direction for future research in this area, this article identifies the primary scientific and clinical questions regarding the clinical application of mindfulness practice. In particular, the following questions are addressed: What is mindfulness? What are the consequences of separating mindfulness from its spiritual and cultural origins? Is mindfulness training an efficacious treatment intervention? What are the active or essential ingredients of mindfulness training? Can mindfulness enhance clinical practice apart from its role as a clinical intervention? How does mindfulness work? How should therapists be trained in order to deliver mindfulness interventions competently? Is mindfulness training amenable to widespread dissemination?**

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Careful examination of the extant research on mindfulness as a clinical intervention gives us a snapshot in time of a rapidly emerging area of research and clinical interest. And, like most good snapshots of subjects in motion, it allows us to examine both the elements of the frame in clear focus and those that remain somewhat blurry and in need of further development. In this commentary, we attend primarily to the parts of the picture requiring further development. To provide a direction for future work in this area, we discuss the scientific and clinical questions of greatest import for those interested in the clinical application of mindfulness practice.

## WHAT IS MINDFULNESS?

The development of shared consensus regarding the key characteristics or components of mindfulness represents one of the most critical steps towards a program of research on the clinical use of mindfulness. The lack of a clear operational definition of mindfulness has given rise to considerable and unfortunate ambiguity in the field, such as the equation of mindfulness interventions with acceptance interventions or with meditation, the confusion between mindfulness and relaxation, and the like. Moreover, the lack of widespread consensus on this issue has hindered the progress of research on determining the active ingredients of mindfulness interventions and mechanisms of change.

Although each clinical model utilizing mindfulness interventions uses slightly different terminology to describe the key components of mindfulness, we have argued that the considerable conceptual overlap among the models supports an overarching conceptualization (Dimidjian & Linehan, in press). This conceptualization identifies three qualities related to what one does when practicing mindfulness: (1) observing, noticing, bringing awareness; (2) describing, labeling, noting; and (3) participating. It also identifies three qualities related to the ways in which one does these activities: (1) nonjudgmentally, with accceptance, allowing; (2) in the present moment, with beginner's mind; and (3) effectively. It will be important for future research to empirically evaluate such theoretically derived classifications in order to determine whether each component represents a distinct aspect of mindfulness and whether all the essential components are included.

In addition, it is important to note that the framework just presented does not include the goals of mindfulness practice that are included in many treatment models (e.g., wisdom) but that remain poorly operationalized. Baer (2003; this issue, p. 140) has noted, "[operationalizing mindfulness interventions] risks overlooking important elements of the long tradition from which mindfulness meditation originates. . . . The practice of mindfulness is concerned with the cultivation of awareness, insight, wisdom, and compassion, concepts that may be appreciated by many people, yet difficult to evaluate empirically." For research on mindfulness to advance, it may be necessary to develop working definitions of constructs such as wisdom and compassion, as well as reliable and valid methods of measurement. Interestingly, in this sense, research on mindfulness may work in parallel with recent efforts to establish a "positive psychology" (Seligman & Csikszentmihalyi, 2000). In a special issue of *American Psychologist* devoted to "Positive Psychology," Seligman and Csikszentmihalyi (2000) suggest that "psychologists have scant knowledge of

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what makes life worth living. They have come to understand quite a bit about how people survive and endure under conditions of adversity. . . . The aim of positive psychology is to begin to catalyze a change in the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities" (p. 5). Mindfulness research may be in a unique position to help remedy much of what clinical psychology has heretofore neglected.

### WHAT IS GAINED AND WHAT IS LOST IN THE SEPARATION OF MINDFULNESS FROM ITS SPIRITUAL AND CULTURAL ORIGINS?

Although mindfulness has its roots in Eastern meditative and Christian contemplative traditions, the integration of mindfulness training into clinical treatment has been largely achieved by the secularization of mindfulness. Thus, although the primary clinical models utilizing mindfulness have been heavily influenced by this spiritual context, until recently, there has been little explicit discussion of such issues. (For exceptions, see a recent series in *Cognitive and Behavioral Practice* [Campos, 2002], as well as Miller [1999]). Although the secularization of mindfulness has undoubtedly been pragmatic in an effort to make the treatment models accessible to as many clients as possible, it is also possible that something is lost in the separation of mindfulness from its spiritual roots.

The costs of secularizing mindfulness are perhaps nowhere more important than in regard to questions of therapist training and competence. As is discussed in greater detail below, procedures for training therapists and ensuring competence represent areas of significant controversy in the field. However, methods of teaching mindfulness in the spiritual traditions noted above have been evolving for centuries, with clear procedures by which teachings are transmitted from teacher to student. Becoming a teacher therefore depends on a relationship with one's own teacher or spiritual director or guide and on a process by which permission is granted by one's teacher to begin taking students of one's own. As Western researchers and psychologists work to clarify training procedures and definitions of therapist competence, it may be important to create and maintain ongoing and public dialogues with spiritual teachers of mindfulness. Such a dialogue may prove helpful in two ways. First, it may prevent an unnecessary reinvention of the wheel, given that these traditions possess a body of time-honored methods for teaching teachers. Second, it may help to guide psychologists in their efforts to identify core qualities of therapist competence. Although spiritual teachers may not have operationalized their strategies for determining when their students are sufficiently prepared to take students of their own, clear methods and criteria exist in most traditions, even if implicitly. Ongoing discussion with spiritual teachers may help to articulate and ultimately operationalize their methods and criteria, which could then inform the development of guidelines for training and ensuring competence of clinical therapists teaching mindfulness.

Feedback from spiritual teachers of mindfulness has assuredly already shaped the development of the primary models in existence today. For instance, Linehan has engaged in ongoing discussions with her Zen teachers about the mindfulness skills taught in dialectical behavior therapy (DBT). Kabat-Zinn (2000) refers to conversations with the Dalai Lama about his mindfulness-based stress reduction (MBSR) programs. However, these models are now being widely disseminated and therefore are likely to be provided by therapists with minimal personal background in mindfulness, minimal relationships with spiritual mindfulness teachers, or both. Given this proliferation of interest, the importance of explicit and public dialogues with spiritual teachers may be more important now than ever.

In addition to the issues of training and competence, it is possible that relinking mindfulness with its spiritual roots may enhance clinical practice in other ways, as well. A broad array of critical questions should be addressed. For instance, would it be clinically advantageous to include in treatment programs a more explicit discussion of the goals of mindfulness as it is practiced in a spiritual context (e.g., as a method to experience enlightenment, to perceive the true nature of reality, and so forth)? Is the clinical practice of mindfulness diluted because of the failure to discuss these issues explicitly (i.e., do clients receive a "watered down" version of what they could receive if clinicians did not separate out these aspects)? Are we withholding teachings, which were originally provided for the express purpose of relieving suffering, because they have been labeled *religious* or *spiritual*? Conversely, do clinical models actually include discussion of such spiritual teachings without labeling them spiritual? These pragmatic questions also give rise to important conceptual discussions regarding the merit of continuing to uphold the separation of spirituality and science, and the criteria by which we categorize phenomena to be one or the other.

### IS MINDFULNESS TRAINING AN EFFICACIOUS TREATMENT INTERVENTION?

This is one of the most pressing questions for future research to address. Mindfulness interventions have been examined across a wide range of clinical disorders. Although results suggest that such interventions show clinical promise, researchers simply do not have enough evidence to answer basic questions about efficacy. Despite the encouraging mean effect size (0.59) reported across the 21 primary studies of mindfulness training conducted to date (Baer, 2003), only a handful of the studies included in the effect size calculations possess the methodological rigor (e.g., controlled trials with clinical populations) required to support conclusions about clinical efficacy. Unfortunately, the remainder of the studies used data from pre-post designs, nonclinical populations, or both. It is clear that future research must incorporate methodological components that have become standards in the field in order to address the central question of efficacy. These include adequate control groups, sufficient power to detect treatment effects, information on the number of subjects enrolled and completed, descriptions of training and supervision procedures, assessments of therapist adherence and competence, and consideration of clinical significance of findings.

It should also be noted that studies on treatments with mindfulness as a component (i.e., DBT and Marlatt's relapse prevention [RP]) were not included in the calculation of effect size (Baer, 2003) because the mindfulness components of these treatments were not investigated independently. However, it is important to emphasize that mindfulness training is also a component of treatments such as MBSR and mindfulness-based cognitive therapy (MBCT), because both MBSR and MBCT include a range of other interventions (e.g., psychoeducation, cognitive interventions, and so on.). Thus, no study to date has isolated and evaluated the pure mindfulness component of *any* treatment. Dismantling designs will be critical for future research in order to determine whether mindfulness is an active ingredient of any of the treatment packages that contain it. Moreover, in cases in which mindfulness interventions have been added to standard empirically supported treatments (e.g., cognitive therapy), it will be important to determine whether mindfulness training adds anything over and above such treatments. Finally, when mindfulness is proposed as a stand-alone treatment, it will be important to specify the dependent variables of interest and test the independent effect of mindfulness training; Marlatt (MacPherson & Marlatt, 2001) is currently pursuing such a design in the treatment of addictive behaviors and recidivism. In this trial incarcerated substance abusers are randomly assigned to a control condition or to a formal 10-day mindfulness meditation course.

### WHAT ARE THE ACTIVE OR ESSENTIAL INGREDIENTS OF MINDFULNESS TRAINING?

We have noted that mindfulness training is typically included as a component of larger treatment packages, but mindfulness training itself is not a unitary procedure. Different methods are used to teach mindfulness, and the practice of mindfulness comprises several component activities.

For instance, mindfulness training can include both meditation practices (e.g., sitting meditation, walking meditation, and so on) and other forms of mindfulness practice (e.g., mindfulness of eating, mindfulness of driving, and so forth). A central unresolved question for the field concerns the relative importance of these forms of training. MBSR and MBCT assume the essential quality of meditation for both clients and therapists. In discussing mindfulness of breathing, Kabat-Zinn (1990) has argued that "[informal meditation practice] is at least as valuable as the formal practice, but is easily neglected and loses much of its ability to stabilize the mind if it is not combined with a regular formal meditation practice" (p. 57). On the other hand, the emphasis on "formal" meditation in other treatments (e.g., DBT, Marlatt's RP) is far reduced. Linehan (1994) explains that DBT emphasizes the practice of the component activities (taught as skills) of mindfulness because it is not possible for seriously disturbed clients to engage in meditation, because of lack of motivation or capability, or both. These issues give rise to a central question for future research; namely, what types of practices are best suited for what types of clients? Which disorders and levels of severity would direct therapists to use or avoid which types of mindfulness training?

The investigation of possible "nonspecific" factors may be important as well. In particular, it is interesting to note that most mindfulness clinical interventions have been delivered in a group context. Segal, Williams, and Teasdale (2002) refer to the clear cost effectiveness rationale for the provision of treatment in a group format. It is, however, possible that the group format is more integrally linked to the teaching of mindfulness. As noted, mindfulness origi-

nates in spiritual traditions, and in all such traditions the group or community context has been an integral part of teaching and practicing mindfulness. Linehan (2001), in particular, has emphasized the importance of having a community in the clinical practice of mindfulness as well; in DBT, a group format is typically used both for clients (i.e., the skills-training group) and for therapists (i.e., the treatment-consultation group). It may be important for future research to address whether the group format is an essential quality of teaching mindfulness in the clinical context. And, if the group format is an essential part of mindfulness training, can mindfulness interventions be effectively integrated into individual treatment?

Finally, as noted, the practice of mindfulness also has several key characteristics or components. Research will need to determine whether the practice of each of the key components of mindfulness is necessary. Is it possible that the mastery of some components is more important than mastery of others for producing clinical change?

#### CAN MINDFULNESS ENHANCE CLINICAL PRACTICE APART FROM ITS ROLE AS A CLINICAL INTERVENTION (WILL BEING MINDFUL MAKE ONE A BETTER THERAPIST, EVEN IF ONE DOES NOT TEACH IT TO CLIENTS)?

Mindfulness is generally conceptualized as an intervention that a therapist delivers to a client; however, another important direction for research in this area has been suggested by Epstein (1999) and Linehan (1993; Dimidjian and Linehan, in press), namely mindfulness as a therapeutic strategy. In this sense, mindfulness is conceptualized as attitudes and behaviors that the therapist emits, as opposed to behaviors that the therapist teaches the client to do.

Epstein's (1999) discussion of the role of mindfulness in increasing physician competence was groundbreaking in highlighting the possible importance of clinician mindfulness. It would be valuable for future research to build upon this foundation by operationalizing what qualities and behaviors are emitted by a "mindful" clinician (e.g., spontaneity, nonjudgment, moment-to-moment awareness, nonattachment to outcome, compassion, and so on) and empirically assessing the relation between these factors and treatment outcomes. It may be important to conceptualize and account for the possible role of therapist modeling, in addition to and independent of any direct skill acquisition that mindfulness training may produce.

#### HOW DOES MINDFULNESS WORK?

A wide range of potential mechanisms of change have been proposed to date, including exposure, cognitive change, self-management, relaxation, and acceptance (Baer, 2003). Clearly, more research is needed to determine the role of these hypothesized mechanisms; however, a first line of research should determine whether clients are in fact becoming more mindful as a result of the mindfulness training they receive. Unfortunately, such investigations would require a psychometrically sound measure of mindfulness, which the field currently lacks. Even more unfortunate, however, is the fact that this lack highlights the more basic ambiguity in the field regarding what mindfulness is, as already noted. Thus, the development of shared consensus about the core components of mindfulness, as well as a reliable and valid method for measuring them, should be a top priority for mindfulness researchers.

#### HOW SHOULD THERAPISTS BE TRAINED IN ORDER TO DELIVER MINDFULNESS INTERVENTIONS COMPETENTLY?

In all studies of mindfulness training reported to date, none have included information about the training of therapists or measures of adherence or competence (Baer, 2003). This lack of attention underscores a fundamental area of controversy in the field; namely, how does the field train therapists to deliver mindfulness interventions competently?

A recent panel discussion at the Association for Advancement of Behavior Therapy addressed this question (Dimidjian & Dimeff, 2001). Segal (2001), representing a viewpoint common to both MBCT and MBSR, asserted the critical importance of a therapist's personal formal practice for the competent practice of MBCT. In contrast, Ronald Epstein (2001), who has focused on the role of mindfulness in the enhancement of physicians' competence, was more qualified in his support of clinician personal practice. He suggested that practice might risk creating rigidity or arrogance on the part of the practitioner. Following from this position, Linehan (2001) asserted that a mindfulness teacher or, in the absence of a teacher, close personal contact with teachings through a community of fellow practitioners or readings, is most important for learning mindfulness. Again, this position is consistent with the principles of DBT, which does not require therapists to have a personal formal meditation

practice but does require them to both practice mindfulness in their daily lives and be members of a clinical consultation team that practices formal mindfulness at the beginning of each meeting. Unlike other models, DBT does *not* require formal mindfulness meditation practices of DBT therapists. In explaining this element of DBT, Linehan refers primarily to the spiritual roots of mindfulness, suggesting that the decision to practice in one's personal life is a private decision, outside the bounds of what a therapeutic model can require. Like Epstein, however, she has over the past 10 years increasingly emphasized the importance of therapists' practice of mindfulness (observing, describing, participating nonjudgmentally, in the present moment, effectively) as part and parcel of treatment itself.

Clearly, the general questions about therapist training and adherence/competence, as well as the specific questions regarding formal practice requirements, cannot be resolved in the absence of empirical data. Therefore, procedures for training therapists to competence and preventing drift over time represent critical areas for future inquiry. In addition, as suggested, there will likely also be great benefit in establishing ongoing discussions about training and competence with teachers in the spiritual traditions from which mindfulness is derived.

## IS MINDFULNESS TRAINING AMENABLE TO WIDESPREAD DISSEMINATION?

To be of value a treatment must be not only efficacious but also amenable to dissemination. One may evaluate a treatment's potential relevance to a broader audience, in part, by asking two central questions: Will potential clients be interested in receiving the treatment, and will therapists practice the treatments as designed? It is possible that potential clients would not be receptive to mindfulness training, finding it an esoteric or foreign practice, perhaps too closely identified with meditation per se. However, the accumulating evidence suggests that client interest in mindfulness is high, with 85% of participants, averaged across studies, completing the treatment programs (Baer, 2003). It is less clear, however, whether therapists in diverse practice settings will provide the treatments as designed. Each of the models utilizing mindfulness interventions has particular requirements for therapist practice that may exceed routine community care standards (e.g., MBSR and MBCT have stringent requirements for their therapists to commit to a daily formal practice; DBT requires commitment to integrating mindfulness into one's own therapeutic practice behaviors and participation in ongoing treatment teams, etc.). At this point, it is unclear whether these requirements are realistic for therapists in community settings or whether they will limit the dissemination of these programs. It will be important to assess over time whether the more rigorous aspects of therapist training and adherence to the treatments are maintained as these models move from research settings to everyday clinical practice settings.

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