

## PRACTICE REVIEW

# What Are the Benefits of Mindfulness? A Practice Review of Psychotherapy-Related Research

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Research suggests that mindfulness practices offer psychotherapists a way to positively affect aspects of therapy that account for successful treatment. This paper provides psychotherapists with a synthesis of the empirically supported advantages of mindfulness. Definitions of mindfulness and evidence-based interpersonal, affective, and intrapersonal benefits of mindfulness are presented. Research on therapists who meditate and client outcomes of therapists who meditate are reviewed. Implications for practice, research, and training are discussed.

*Keywords:* mindfulness, psychotherapy, meditation, literature review

Mindfulness has enjoyed a tremendous surge in popularity in the past decade, both in the popular press and in the psychotherapy literature (Didonna, 2009a; Shapiro & Carlson, 2009). Owing largely to the success of mindfulness-based stress reduction (MBSR) programs and the central role of mindfulness in dialectical behavior therapy, as well as acceptance and commitment therapy, mindfulness has moved from a largely obscure Buddhist concept to a mainstream psychotherapy construct. Advocates of mindfulness would have us believe that virtually every client, and their therapists, would benefit from being mindful. In fact, mindfulness has been proposed as a common factor in psychotherapy (Martin, 1997). Among its theorized benefits are self-control (Bishop et al., 2004; Masicampo & Baumeister, 2007), objectivity (Adele & Feldman, 2004; Brown, Ryan, & Creswell, 2007; Leary & Tate, 2007; Shapiro, Carlson, Astin, & Freedman, 2006), affect tolerance (Fulton, 2005), enhanced flexibility (Adele & Feldman, 2004), equanimity (Morgan & Morgan, 2005), improved concentration and mental clarity (Young, 1997), emotional intelligence (Walsh & Shapiro, 2006), and the ability to relate to others and one's self with kindness, acceptance, and compassion (Fulton, 2005; Wallace, 2001). Is mindfulness as good as advertised, however? What does the research literature have to say about the benefits of mindfulness? The purpose of this paper is to provide psychotherapists with information about the empirically supported advantages of mindfulness, contextualized by effect sizes of these advantages. In addition, we review research on practices that have been found to promote mindfulness, as well as the effects on therapists and trainees exposed to mindfulness meditation. The paper concludes with implications for practice, research, and train-

ing. We begin by exploring the meaning of the term "mindfulness."

### Definitions: Ancient and Modern

The term "mindfulness" has been used to refer to a psychological state of awareness, a practice that promotes this awareness, a mode of processing information, and a characterological trait (Brown et al., 2007; Germer, Siegel, & Fulton, 2005; Kostanski & Hassed, 2008; Siegel, 2007b). The word *mindfulness* originally comes from the Pali word *sati*, which means having awareness, attention, and remembering (Bodhi, 2000). Mindfulness can simply be defined as "moment-by-moment awareness" (Germer et al., 2005, p. 6) or as "a state of *psychological freedom* that occurs when attention remains quiet and limber, *without attachment* to any particular point of view" (Martin, 1997, p. 291, italics included in original text). For the purposes of the present paper, and for the sake of consistency with most of the research that is reviewed subsequently, mindfulness is defined as a moment-to-moment awareness of one's experience without judgment. In this sense, mindfulness is viewed as a state and not a trait, and while it might be promoted by certain practices or activities (e.g., meditation), it is not equivalent to or synonymous with them. When slightly different definitions of mindfulness are used in the literature that is reviewed, these shall be noted.

Mindfulness has similarities to other psychotherapy-related constructs. For example, mindfulness is similar to mentalization (Bateman & Fonagy, 2004, 2006; Fonagy & Bateman, 2008), the developmental process of understanding one's own and others' behavior in terms of individuals' thoughts, feelings, and desires. Both constructs emphasize the temporary, subjective, and fluid nature of mental states and both are thought to enhance affect regulation and cognitive flexibility (Wallin, 2007). Mindfulness differs from mentalizing in that mindfulness is both being aware of the "reflective self" engaged in mentalizing, and the practice of fully experiencing the rising and falling of mental states with acceptance and without attachment and judgment. Wallin proposes

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that the receptivity that mindfulness fosters enables the process of mentalization to occur.

A second construct, intersubjectivity (Benjamin, 1990), has been theorized to relate to Buddhist psychology (Epstein, 2007; Surrey, 2005; Thompson, 2001; Wallace, 2001) and to being in the present moment in psychotherapy (Stern, 2004). Mindfulness and intersubjectivity are similar in that they both enable a sense of connection with others (Thompson, 2001), or what Thich Nhat Hanh (1987) calls *interbeing*. *Interbeing* is a Buddhist notion that by living in the present moment, the interdependent nature of all phenomena and people is experienced (Hanh, 1987). To date, there is no research relating mindfulness with either mentalization or intersubjectivity.

Finally, insight, the conscious process of making novel connections (Hill & Castonguay, 2007), can be construed as a beneficial outcome of mindfulness practice. Siegel (2007b, 2009) has proposed a neurological basis for the connection between mindfulness and insight, and research discussed later in this article has begun to support this proposition.

### How Can Mindfulness Be Enhanced?

Although there are several disciplines and practices that can cultivate mindfulness (e.g., yoga, tai chi, qigong; Siegel, 2007b), the majority of theoretical writing and empirical research on the subject has focused on mindfulness developed by mindfulness meditation. Meditation refers to:

A family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calm, clarity, and concentration (Walsh & Shapiro, 2006, p. 228).

While a myriad of meditation practices including Tibetan and Zen Buddhist meditation styles also cultivate mindfulness, the term *mindfulness meditation* is typically used synonymously with Vipassana, a form of meditation that derives from Theravada Buddhism (Gunaratana, 2002; Young, 1997). Vipassana is a Pali word for insight or clear awareness and is a practice designed to gradually develop mindfulness or awareness (Gunaratana, 2002).

Mindfulness is systematically cultivated in Vipassana practice by applying one's attention to one's bodily sensations, emotions, thoughts, and surrounding environment (Bodhi, 2000; Germer, 2005; Germer et al., 2005; Gunaratana, 2002; Wallace, 2001; Young, 1997).

While it may be assumed that all meditation practices equally benefit the practitioner, research rather intriguingly suggests that different styles of meditation practice elicit different brain activity patterns (Cahn & Polich, 2006; Lutz, Dunne, & Davidson, 2007; Valentine & Sweet, 1999). For example, mindfulness meditation more than concentrative forms of meditation (e.g., focusing on a mantra) has been shown to stimulate the middle prefrontal brain associated with both self-observation and metacognition (Cahn & Polich, 2006; Siegel, 2007b) and foster specific attentional mechanisms (Valentine & Sweet, 1999). With the advancement of neurological technology, mindfulness researchers are examining distinct components of mindfulness meditation such as focused attention, open monitoring (nonjudgmental moment-to-moment observation of one's experience), and loving-kindness compassion practice and their specific physiological outcomes (Lutz, Slagter, Dunne & Davidson, 2008; Lutz et al., 2009).

### Empirically Supported Benefits of Mindfulness

As research evidence begins to accumulate concerning the positive outcomes of mindfulness, it is possible to categorize these benefits along several dimensions. Three dimensions that are particularly relevant to psychotherapy pertain to the affective, interpersonal, and other intrapersonal benefits of mindfulness. Another empirically supported benefit of mindfulness, empathy, will be discussed later in the paper when research is reviewed on therapists who practice mindfulness meditation. Practical examples of mindfulness-based interventions that could be used with clients are provided in Table 1.

### Affective Benefits

**Emotion regulation.** There is evidence that mindfulness helps develop effective emotion regulation in the brain (Corcoran, Farb, Anderson, & Segal, 2010; Farb et al., 2010; Siegel, 2007b).

Table 1  
*Examples of Mindfulness-Based Interventions for Clients*

Benefits	Practical mindfulness-based interventions to use with clients	
Emotion regulation	"Can you stay with what is happening right now? . . . Can you breathe with what is happening right now?" <sup>1</sup>	"What can you tell me about your experience right now? Notice any changes in your feeling, however subtle." <sup>2</sup>
Decreased reactivity & increased response flexibility	Slowly scan your entire body starting at your toes. Notice any sensations in your body without trying to change them. <sup>3</sup>	Can you allow and accept this feeling and stay in touch with it without reacting to it? If not, what is happening in your experience that's reacting to this feeling? <sup>4</sup>
Interpersonal benefits	For couples: Face each other, look into each other's eyes and notice what reactions, feelings, and thoughts arise. <sup>5</sup>	For couples: Face each other, look into each other's eyes, and practice sending loving-kindness to one another. <sup>5</sup>
Intrapersonal benefits	Therapist and client can practice mindfulness meditation together during the therapy session. <sup>6</sup>	Informal daily practice can include: walking and eating meditations, such as mentally saying "lifting . . . stepping forward . . . heel touching . . . toe touching . . . lifting . . ." when walking. <sup>7</sup>

<sup>1</sup> (Morgan, 2005, p. 135). <sup>2</sup> (Morgan, 2005, p. 138). <sup>3</sup> (Body Scan, Kabat-Zinn, 1990). <sup>4</sup> (Adapted from Didonna, 2009b). <sup>5</sup> (MBRE, Carson et al., 2006). <sup>6</sup> (Lysack, 2005). <sup>7</sup> (Germer, 2005, p. 14).

In terms of proposed mechanisms of change, Corcoran et al. theorize that mindfulness meditation promotes metacognitive awareness, decreases rumination via disengagement from perseverative cognitive activities, and enhances attentional capacities through gains in working memory; these cognitive gains, in turn, contribute to effective emotion regulation strategies.

In support of Corcoran et al.'s model, research indicates that mindfulness meditation is negatively associated with rumination and is directly related to effective emotion regulation (Chambers, Lo, & Allen, 2008; McKim, 2008; Ramel, Goldin, Carmona, & McQuaid, 2004). In particular, 20 nonclinical novice meditators who participated in a 10-day intensive mindfulness meditation retreat were compared to a waitlisted control group on mindfulness, rumination, affect, and performance tasks for attention switching, sustained attention and working memory (Chambers et al., 2008). Following the meditation retreat, the meditation group had significantly higher self-reported mindfulness, decreased negative affect, fewer depressive symptoms, and less rumination compared to the control group. In addition, the meditation group had significantly better working memory capacity and greater ability to sustain attention during a performance task compared to the control group. Differences were not detected between the groups on self-reported anxiety or positive affect.

Chambers et al.'s (2008) finding that mindfulness training decreased rumination is consistent with research with participants having chronic mood disorders. Ramel et al. (2004) found that participants in an 8-week MBSR training had significantly less reflective rumination compared to: a) participants' initial rumination scores, and b) a control group matched on age, gender, and initial depressive symptoms. In addition, decreases in rumination scores were significantly predicted by participants' amount of meditation practice. In another study, prepost scores after an 8-week MBSR intervention were compared among a community sample that experienced ongoing anxiety, depression, and/or chronic pain (McKim, 2008). Following MBSR, participants had significantly higher scores on self-reported mindfulness and significantly lower scores on self-reported rumination, psychological distress, depression, anxiety, and physical illness. Mindfulness scores significantly predicted anxiety, rumination, medical symptoms, and psychological distress. Furthermore, the relationship between mindfulness and depression was significantly mediated by decreased rumination.

A recent meta analysis of 39 studies supports the efficacy of mindfulness-based therapy for reducing anxiety and depression symptoms (Hoffman, Sawyer, Witt, & Oh, 2010). MBSR and mindfulness-based cognitive therapy constituted the majority of mindfulness-based therapies in these 39 studies. For clinical populations, the average prepost effect size was large, and a moderate effect size was found among nonclinical populations. For 19 studies that assessed depressive and anxiety symptoms in long-term follow-ups, moderate effect sizes supporting the effectiveness of mindfulness interventions were detected. Hoffman et al. concluded that mindfulness-based therapy has utility for potentially altering affective and cognitive processes that underlie multiple clinical issues.

Hoffman et al. (2010)'s findings are consistent with evidence that mindfulness meditation leads to increased positive affect and decreased anxiety and negative affect (Davidson et al., 2003; Erisman & Roemer, 2010; Farb et al., 2010; Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010; Way, Creswell, Eisenberger, &

Lieberman, 2010). In one study, participants randomly assigned to an 8-week MBSR training group were compared to waitlisted controls on self-report measures of depression, anxiety, and psychopathology and on neural reactivity as measured by functional magnetic resonance imaging (fMRI) after watching sad films (Farb et al., 2010). Participants exposed to MBSR displayed significantly less anxiety, depression, and somatic distress relative to the control group (Farb et al., 2010). Still further, fMRI data indicated that the MBSR group had less neural reactivity while exposed to the films than the control group, and they displayed distinctively different neural responses while watching the films than they did prior to the MBSR training. These findings suggest that mindfulness meditation shifts individuals' ability to employ emotion regulation strategies that enable them to experience emotion selectively, and that the emotions they experience may be processed differently in the brain (Farb et al., 2010; Williams, 2010).

In a study of trait mindfulness, Way et al. (2010) investigated the relationships among mindfulness, depressive symptoms, and neural activity in a nonclinical sample of adults. Trait mindfulness was found to be inversely related to amygdala activity when participants were in a resting state; amygdala activity was further associated with depressive symptoms. This study provides support that trait mindfulness may alter baseline amygdala activity so that serves a preventive or buffering role in depressive mood.

Erisman and Roemer (2010) conducted a study in which participants in an experimental group were exposed to a brief mindfulness intervention and then watched film clips that contained either positive affect or mixed affect. Compared to a control group, participants in the experimental group reported more positive emotions after watching the film clips containing positive affect and reported less negative emotions after watching affectively mixed film clips.

Jha et al. (2010) examined working memory capacity and emotional experience among a military group who participated in an 8-week mindfulness training, a nonmeditating military group, and civilians; both military groups were in a highly stressful predeployment period. The nonmeditating military group displayed decreased working memory capacity over time whereas working memory capacity among nonmeditating civilians was stable across time. Within the meditation military group, working memory capacity increased in proportion to actual amount of meditation practice. In addition, meditation practice was directly related to self-reported positive affect and inversely related to self-reported negative affect. Working memory capacity mediated the relationship between meditation practice time and negative affect. These findings suggest that adequate mindfulness meditation practice may enhance working memory capacity, similar to results obtained by Chambers et al. (2008), thereby promoting effective emotion regulation during periods of stress when working memory may otherwise diminish.

Thus, research indicates that meditation may elicit positive emotions, minimize negative affect and rumination, and enable effective emotion regulation. Even eight weeks of mindfulness meditation practice may alter the ways in which emotions are regulated and processed in the brain (Williams, 2010). Emotion regulation has such strong empirical support as a benefit of mindfulness meditation that recently the term "mindful emotion regulation" was coined to refer to "the capacity to remain mindfully aware at all times, irrespective of the apparent valence or magni-

tude of any emotion that is experienced" (Chambers, Gullone, & Allen, 2009, p. 569).

**Decreased reactivity and increased response flexibility.** Research has demonstrated that mindfulness meditation enables people to become less reactive (Cahn & Polich, 2009; Goldin & Gross, 2010; Ortner, Kiner, & Zelazo, 2007; Siegel, 2007a, 2007b) and have greater cognitive flexibility (Moore & Malinowski, 2009; Siegel, 2007a, 2007b). Evidence indicates that mindfulness meditators develop the skill of self-observation that neurologically disengages automatic pathways created from prior learning and enables present moment input to be integrated in a new way (Siegel, 2007a). Meditation activates regions of the brain associated with more adaptive responding to stressful or negative situations (Cahn & Polich, 2006; Davidson et al., 2003). Activation of this region of the brain corresponds with faster recovery to baseline after being negatively provoked (Davidson, 2000; Davidson, Jackson, & Kalin, 2000).

Moore and Malinowski (2009) compared a group of experienced mindfulness meditators with a control group who had no meditation experience on measures assessing their ability to focus attention and suppress distracting information. The meditation group had significantly better performance on all measures of attention and had higher self-reported mindfulness. Mindfulness meditation practice and self-reported mindfulness were correlated directly with cognitive flexibility and attentional functioning.

In another study, individuals with one month to 29 years of mindfulness meditation practice experience viewed pleasant, unpleasant, and neutral pictures and then had their reaction times measured to categorizing tones as either short or long (Ortner et al., 2007). Reaction time was thought to represent emotional interference with the categorization task. Meditation experience was inversely related to emotional interference when viewing unpleasant pictures. Ortner et al. suggest that mindfulness meditation practice may help individuals disengage from emotionally upsetting stimuli, enabling attention to be focused on the cognitive task at hand. In a follow-up study, participants were assigned to either a 7-week training in mindfulness meditation, relaxation meditation, or a waiting list control group. The mindfulness meditation group exhibited less emotional interference in response to the unpleasant pictures than the other groups. Ortner et al.'s findings support the notion that mindfulness meditation decreases emotional reactivity.

In addition, Cahn and Polich (2009) assessed the reactions of very experienced mindfulness meditators to distracting stimuli. Findings revealed that while in a meditative state, practitioners displayed minimal emotional and cognitive reactivity to distracting stimuli. These findings support the notion that mindfulness meditation contributes to decreased reactivity.

A recent study investigated the effects of MBSR training on emotional reactivity and regulation of negative self-beliefs among adults with social anxiety disorder (Goldin & Gross, 2010). Participants completed two attention tasks before and after participating in an 8-week MBSR training. In pretest tests, participants displayed lower levels of negative emotion, decreased amygdala activity, and increased levels of activity in areas of the brain associated with attentional deployment.

## Interpersonal Benefits

The question of how mindfulness affects interpersonal behavior has been pursued recently by scholars who have addressed concepts such as mindful relating (Wachs & Cordova, 2007), mindful responding in couples (Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007), and mindfulness-based relationship enhancement (MBRE) (Carson, Carson, Gil, & Baucom, 2006). Evidence indicates that trait mindfulness predicts relationship satisfaction, ability to respond constructively to relationship stress, skill in identifying and communicating emotions to one's partner, amount of relationship conflict, negativity, and empathy (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007; Wachs & Cordova, 2007). Barnes et al. found that people with higher trait mindfulness reported less emotional stress in response to relationship conflict and entered conflict discussion with less anger and anxiety. Evidence shows that mindfulness is inversely correlated with distress contagion and directly correlated with the ability to act with awareness in social situations (Dekeyser, Raes, Leijssen, Leyson, & Dewulf, 2008). Thus, empirical evidence suggests that mindfulness protects against the emotionally stressful effects of relationship conflict (Barnes et al., 2007), is positively associated with the ability to express oneself in various social situations (Dekeyser et al., 2008), and predicts relationship satisfaction (Barnes et al., 2007; Wachs & Cordova, 2007). Given that the therapeutic relationship is emotionally intimate, potentially conflictual, and inherently interpersonal, therapists' trait mindfulness may aid their ability to cultivate and sustain successful relationships with clients.

## Other Intrapersonal Benefits

In addition to the affective and interpersonal benefits identified above, mindfulness has been shown to enhance functions associated with the middle prefrontal lobe area of the brain, such as self-insight, morality, intuition, and fear modulation (Siegel, 2007b, 2009). There is also evidence that mindfulness meditation has numerous health benefits including increased immune functioning (Davidson et al., 2003; see Grossman, Niemann, Schmidt, & Walach, 2004 for a review of physical health benefits). Mindfulness meditation has been shown to improve well-being (Carmody & Baer, 2008) and reduce psychological distress (Coffey & Hartman, 2008; Ostafin et al., 2006).

Neuroplasticity—the rewiring that occurs in the brain as a result of experience—now explains how regular mindfulness meditation practice alters the brain's physical structure and functioning (Davidson et al., 2003; Lazar et al., 2005; Siegel, 2007a; Vestergaard-Poulsen et al., 2009). Changes in the structure of the brain include thicker brain regions associated with attention, sensory processing and sensitivity to internal stimuli (Lazar et al., 2005), distinct gray matter concentrations (Hölzel et al., 2008), and thicker brain stems, which may account for positive cognitive, emotional and immunoreactive benefits (Vestergaard-Poulsen et al., 2009). Research suggests that states experienced during mindfulness meditation eventually can become effortless traits over time (Farb et al., 2007; Siegel, 2007a). Thus, the longer therapists practice mindfulness meditation, the more they may benefit from its effects.

Other benefits of mindfulness meditation practice include increased information processing speed (Moore & Malinowski,

2009), decreased task effort (Lutz et al., 2009), and having fewer thoughts that are unrelated to the task at hand (Lutz et al., 2009). In particular, Lutz et al.'s research implies that due to increased attentional skills and increased ability to manage distractions, therapists who practice mindfulness meditation may have an increased ability to be present to their clients.

### Effects of Meditation on Therapists and Therapist Trainees

Whereas the literature on the benefits of applying mindfulness approaches to psychotherapy clients is vast (see Didonna, 2009 and Baer, 2006 for reviews), research on the effects of mindfulness on psychotherapists is gradually emerging. This body of literature will be reviewed and synthesized below. Practical examples of mindfulness-based interventions for therapists and therapist trainees in practice are shown in Table 2.

#### Empathy

Mindfulness meditation consistently has been theorized to promote empathy (Anderson, 2005; Fulton, 2005; Martin, 1997; Morgan & Morgan, 2005; Shapiro & Izett, 2008; Walsh & Shapiro, 2006), and research utilizing a variety of methods is now accumulating in support of this premise. In a within-subjects study on meditation and empathy, counselors in training demonstrated increased empathy after participating in a 4-week Zen meditation training (Lesh, 1970). In a between-groups experiment, premedical and medical students who participated in an 8-week MBSR training had significantly higher self-reported empathy than a control group (Shapiro, Schwartz, & Bonner, 1998). A qualitative study (Aiken, 2006) of therapists who were experienced meditators

found that they believed that mindfulness meditation helped develop empathy toward clients. In particular, interviews were conducted with six psychotherapists who each had more than 10 years of experience practicing both therapy and mindfulness meditation. Consistent themes from the data indicated that mindfulness helps therapists: develop their ability to experience and communicate a felt sense of clients' inner experiences; be more present to clients' suffering; and help clients express their body sensations and feelings. Finally, along similar lines, Wang (2007) used a passive design and found that therapists who were experienced mindfulness meditators scored higher on measures of self-reported empathy than therapists who did not meditate.

#### Compassion

In addition to empathy, a second therapist characteristic that seems to derive from meditation is compassion. For example, MBSR training has been found to enhance self-compassion in health care professionals (Shapiro, Astin, Bishop, & Cordova, 2005) and therapist trainees (Shapiro, Brown, & Biegel, 2007). Kingsbury (2009) investigated the role of self-compassion in relation to mindfulness. Two components of mindfulness, nonjudging and nonreacting, were strongly correlated with self-compassion, and two dimensions of empathy, taking on others' perspectives (i.e., perspective taking) and reacting to others' affective experiences with discomfort. Self-compassion fully mediated the relationship between perspective taking and mindfulness.

#### Counseling Skills

Empirical literature now demonstrates that including mindfulness interventions in psychotherapy training may contribute to the

Table 2  
Examples of Mindfulness-Based Interventions for Trainees and Therapists

Benefits	Practical mindfulness-based interventions for trainees' and therapists' mindfulness	
Empathy	In trainee dyads in "therapist" & "client" roles: Have therapists track their internal responses to client, and what makes them feel more and less empathetic towards client. <sup>7</sup>	In dyads, pause after each person speaks and consciously relax. While pausing, with acceptance and curiosity ask yourself: What is happening now? What am I feeling now? What might this person be experiencing? <sup>8</sup>
Compassion	Visualize an image, color, or memory that elicits feeling friendly towards yourself. Visualize sending this feeling towards an image of yourself, or a challenging client. <sup>9</sup>	Practice sending loving-kindness towards oneself, towards a loved one, towards a 'neutral' client, towards a challenging client, and towards all beings. <sup>9</sup>
Counseling skills	In dyads, sit in silence with eyes open. Pay attention to your internal experience in the presence of another person, practicing to bring your attention back to their breath when it wanders. <sup>10</sup>	In trainee dyads in "therapist" & "client" roles: Have therapists let go of judgments and the desire to say 'something' and practice fully listening to clients. Have therapists track when their attention wanders off and practice returning attention to back to present moment. <sup>7</sup>
Decreased stress & anxiety	Bring your attention to your experience of breathing. Imagine seeing a client. Pay attention to any feelings of anxiety and fear. Notice how they shift from moment to moment, allowing what is to be there. <sup>11</sup>	In dyads, have each person track their own internal feelings, thoughts, & sensations as they stand at varying distances from each other. Practice with an accepting attitude towards internal reactions with eyes open, with eyes closed, facing each other, & with their backs facing each other. <sup>10</sup>
Other benefits for therapists	Therapists can practice formal sitting mindfulness meditation individually or in groups.	In between sessions, take one minute each to: 1) Ask 'what is my experience right now?' 2) Notice the sensation of each in and out breath 3) Expand your awareness to your whole body with an attitude of acceptance. <sup>12</sup>

<sup>7</sup> (Adapted from Shapiro & Izett, 2008). <sup>8</sup> (Adapted from Deep Listening & Authentically Speaking, Surrey, 2005). <sup>9</sup> (Adapted from Morgan & Morgan, 2005). <sup>10</sup> (From author's (Davis) mindfulness training at Naropa University). <sup>11</sup> (Adapted from Brach, 2003). <sup>12</sup> (Adapted from 3-minute Breathing Space from MBCT, Segal, Williams, & Teasdale, 2002).

development of skills that impact trainees' effectiveness as therapists. In a 4-year qualitative study, counseling students reported considerable positive effects on their counseling skills and therapeutic relationships, including being more attentive to the therapy process, more comfortable with silence, and more attuned with oneself and clients, after taking a 15-week course that included mindfulness meditation (Newsome, Christopher, Dahlen, & Christopher, 2006; Schure, Christopher, & Christopher, 2008). Counselors in training who have participated in similar mindfulness-based interventions have reported significant increases in self-awareness, insights about their professional identity (Birnbau, 2008), and overall wellness (Rybak & Russell-Chapin, 1998).

### Decreased Stress and Anxiety

Research has found that premedical and medical students report less anxiety and depression symptoms after an 8-week MBSR training compared to a waiting list control group (Shapiro et al., 1998). The control group evidenced similar gains after exposure to MBSR training. Similarly, following MBSR training, therapist trainees have reported decreased stress, rumination, and negative affect (Shapiro et al., 2007). In addition, when compared with a control group, MBSR has been shown to decrease total mood disturbance, including stress, anxiety and fatigue in medical students (Rosenzweig, Reibel, Greeson, Brainard, & Hojat, 2003). Using qualitative and quantitative measures, nursing students reported better quality of life and a significant decrease in negative psychological symptoms following exposure to MBSR (Bruce, Young, Turner, Vander Wal, & Linden, 2002). Recent evidence from a study of counselor trainees exposed to interpersonal mindfulness training suggests that such interventions can foster emotional intelligence and social connectedness, and reduce stress and anxiety (Cohen & Miller, 2009). Similarly, in a study of Chinese college students, those students who were randomly assigned to participate in a mindfulness meditation intervention had lower depression and anxiety, as well as less fatigue, anger, and stress-related cortisol compared to a control group (Tang et al., 2007). These same students evidenced greater attention, self-regulation, and immunoreactivity. Waelde et al. (2008) assessed changes in symptoms of depression, anxiety, and posttraumatic stress disorder among New Orleans mental health workers following an 8-week meditation intervention that began 10 weeks after Hurricane Katrina. Although changes in depression symptoms were not found, PTSD and anxiety symptoms significantly decreased after the 8-week intervention. Findings suggest that meditation may serve a buffering role for mental health workers in the wake of a disaster.

### Other Benefits of Mindfulness for Therapists

To date, one study has investigated the relationship between mindfulness and counseling self-efficacy. Greeson and Cashwell (2009) found that counseling self-efficacy was significantly predicted by self-reported mindfulness among masters-level interns and doctoral counseling students. In that study, attention mediated the relationship between mindfulness and self-efficacy, suggesting that mindfulness may contribute to the development of beneficial attentional processes that aid psychotherapists in training (Greeson & Cashwell, 2009). Dreifuss (1990) interviewed six therapists who practiced one of three mindfulness meditation styles (Vipassana,

Zen, and Vajrayana) for more than five years to examine the influence of their meditation practice on their work as therapists. Findings suggested that long-term mindfulness meditation practice can positively impact therapists' ability to distinguish their own experience from their clients' experience, can enrich therapists' clarity in their work with clients, and may help develop therapists' self-insight. Other potential benefits of mindfulness include increased patience, intentionality, gratitude, and body awareness (Rothaupt & Morgan, 2007).

### Client Outcomes of Therapists Who Meditate

While the research reviewed above points rather clearly to the conclusion that mindfulness meditation offers numerous benefits to therapists and trainees, do these benefits translate to psychotherapy treatment outcomes? To date, only one study provides evidence. In a study conducted in Germany, randomly assigned counselor trainees who practiced Zen meditation for nine weeks reported higher self-awareness compared to nonmeditating counselor trainees (Grepmaier et al., 2007). What is more important is that after 9 weeks of treatment, clients of trainees who meditated displayed greater reductions in overall symptoms, faster rates of change, scored higher on measures of well-being, and perceived their treatment to be more effective than clients of nonmeditating trainees.

Despite these promising results, three other studies suggest that the relationship between counselor trainees' mindfulness and client outcomes is not so encouraging. Stanley et al. (2006) studied the relationship between trait mindfulness among 23 doctoral-level clinical psychology trainees in relation to treatment outcomes of 144 adult clients in a university community clinic that used manualized, empirically supported treatments. Contrary to expectation, therapist mindfulness was inversely correlated with client outcome. This is consistent with other findings that suggest an inverse relationship exists between therapists' mindfulness and client outcomes (Bruce, 2006; Vinca & Hayes, 2007). Still other research suggests that no relationship exists between therapist mindfulness and therapy outcome (Stratton, 2006).

One of the difficulties with this small body of research pertains to the accuracy of therapist self-reported mindfulness. It could be that more mindful people are likely to score lower on a self-report measure of mindfulness because they are aware of the degree to which they are mindless. Conversely, people who are less mindful may not realize it and therefore may be inclined to rate themselves higher on such measures. Also, it is noteworthy that in the one study with positive findings regarding outcome (Grepmaier et al., 2007), participants engaged in the practice of meditation rather than simply reporting their mindfulness. In the studies with negative or null findings, there was no indication if participants had ever engaged in actual meditation. Thus, it may be that meditation is a better predictor of outcome than self-reported mindfulness (see Grossman, 2008 for a comprehensive summary of limitations to mindfulness research).

### Further Implications

#### Empirically Supported Relationships

Many scholars have proposed that the development of skills and qualities in therapists who practice mindfulness meditation will

strengthen the therapeutic relationship (Germer et al., 2005; Hick & Bien, 2008; Shapiro & Carlson, 2009). Future research could profitably address how therapists' mindfulness contributes to critical relationship factors such as the formation and sustenance of the working alliance, countertransference management, and the provision of unconditional regard with difficult clients (Norcross, 2002). For example, one study (Wexler, 2006) found that both client and therapist perceptions of the working alliance were positively related to therapist self-reported mindfulness. In another study, however, the relationship between mindfulness and working alliance was not significant (Bruce, 2006). Again, it could be that meditation practice is a better predictor of the working alliance than self-reported mindfulness, although this awaits further study.

With regard to countertransference management, it is plausible that the nonreactivity and cognitive flexibility fostered by mindfulness should help therapists respond more freely and less defensively to their clients (Gelso & Hayes, 2007). To date, one study has investigated mindfulness and countertransference. Kholooci (2008) examined the relationship between self-reported mindfulness and therapists' awareness of countertransference. Kholooci found a significant inverse relationship between mindfulness and countertransference awareness such that the more mindful therapists perceived themselves to be, the less aware they were of their countertransference.

In conclusion, while the psychological and physical health benefits of mindfulness meditation are strongly supported by research, the ways in which therapists' mindfulness meditation practice and therapists' mindfulness translate to measureable outcomes in psychotherapy remain unclear. Future research is needed to examine the relations between therapists' mindfulness, therapists' regular mindfulness meditation practice, and common factors known to contribute to successful treatment outcome. Doing so will foster understanding of how mindfulness meditation may enhance communication and relationship building skills within the context of psychotherapy.

## Practice and Clinical Supervision

Germer et al. (2005) proposed that mindfulness can be integrated into psychotherapy through three means: therapist mindfulness (therapists' own practice of meditation to be more "mindful" and present with clients), mindfulness-informed psychotherapy (i.e., applying Buddhist psychology and mindfulness theory to clinical work), and mindfulness-based psychotherapy (teaching clients skills through the application of mindfulness practices). Davis (2010) has proposed that mindfulness meditation also would benefit clinical supervision by enhancing supervisors' presence to their supervisees and enabling them to be less reactive to supervisees' anxiety. Table 3 expands on Germer et al. (2005) and Davis (2010) and provides practical examples and means of integrating mindfulness into psychotherapy.

The old adage that people can guide another on a path only as far as they themselves have ventured also applies to therapists integrating mindfulness into psychotherapy and into clinical supervision (Davis, 2010). Introducing mindfulness approaches into psychotherapy necessitates engaging in a mindful practice ourselves as psychotherapists (Hick, 2008). It has been recently proposed that therapists who introduce mindfulness interventions with clients may find it helpful to explain mindfulness in terms of attention, avoiding jargon that may have unintended negative effects on clients (Carmody, 2009).

## Training Implications

Mindfulness as a metacognitive skill has been proposed as a necessary component of psychotherapy training (Bruce, Manber, Shapiro, & Constantino, 2010; Fauth, Gates, Vinca, Boles, & Hayes, 2007; Vinca, 2009). As research on therapists' mindfulness continues to emerge, should therapists' mindfulness demonstrate a meaningful relationship with measurable outcomes in the therapeutic relationship and treatment outcomes, psychotherapy train-

Table 3  
*Examples of Ways to Integrate Mindfulness in the Field of Psychotherapy*

Ways mindfulness can be integrated into psychotherapy	Professional avenues for integration	Practical examples
Therapist mindfulness	<ul style="list-style-type: none"> <li>• Therapists' personal meditation practice</li> <li>• Therapists' clinical work</li> <li>• Training programs</li> <li>• Clinical supervision</li> <li>• Continuing education</li> </ul>	"While others are speaking, practice letting go of your own thoughts, judgments, and analyzing, and return to listening receptively. Let your listening be wholehearted and attentive . . . speak slowly enough to stay connected to your body and heart." <sup>13</sup>
Mindfulness-informed psychotherapy	<ul style="list-style-type: none"> <li>• Therapists' clinical work</li> <li>• Training programs</li> <li>• Clinical supervision</li> <li>• Continuing education</li> </ul>	Apply the Buddhist principal of equanimity to a client issue, such as: "What happens when you let that need be there?" <sup>14</sup>
Mindfulness-based psychotherapy	<ul style="list-style-type: none"> <li>• Therapists' clinical work</li> <li>• Training Programs</li> <li>• Clinical supervision</li> <li>• Continuing education</li> <li>• Mindfulness-based group therapy</li> </ul>	Guide clients to: Close your eyes and with curiosity and non-judgment, allow whatever emerges in your awareness to be there, letting it come and go. Mentally label your experience, such as feeling, smelling, thinking, etc. as you sit for few minutes. <sup>15</sup>

<sup>13</sup> (Deep Listening & Authentically Speaking, Surrey, 2005, p. 110). <sup>14</sup> (Adapted from Welwood, 2002, p. 190). <sup>15</sup> (Adapted from Mindfulness, Morgan & Morgan, 2005).

ing could include mindfulness training. Given the push toward outcome-based education, training and credentialing as measured by training benchmarks and the acquisition of competencies (Kaslow et al., 2002), perhaps mindfulness could be measured in training programs as a necessary specific competency. Research support is needed to influence policy changes and changes in psychotherapy training program requirements. Given that mindfulness meditation is a means to develop mindfulness, both counselor education and continuing education programs could beneficially offer mindfulness meditation training.

### Important Next Steps in Research

Future research holds tremendous potential for uncovering more about the neurophysiological processes of meditation and the benefits of long-term practice on the brain. Research on neuroplasticity may help explain the relationship among length and quality of meditation practice, developmental stages of meditators, and psychotherapy outcomes. More research is needed to better understand how the benefits of meditation practice accumulate over time.

In addition, other means of increasing mindfulness, in addition to meditation, need to be explored. Given that current research does not indicate that therapists' self-reported mindfulness enhances client outcomes, better measures of mindfulness may need to be developed or different research designs that do not rely on self-report measures need to be used. Garland and Gaylord (2009) have proposed that the next generation of mindfulness research encompass four domains: 1) performance-based measures of mindfulness as opposed to self-reports of mindfulness, 2) scientific evaluation of notions espoused by Buddhist traditions, 3) neuroimaging technology to verify self-report data, and 4) changes in gene expression as a result of mindfulness. Research along any one or a combination of these lines is likely to enhance our understanding of mindfulness and its potential benefits to psychotherapy.

Given the empirical support for the benefits of mindfulness reviewed in this paper, research is needed on effective and practical means of teaching therapists mindfulness practices. While formal training is required to teach MBSR, theoretical literature focused on using a mindfulness-based curriculum and teaching mindfulness practices is beginning to emerge (e.g., McCown, Reibel, & Micozzi, 2010). Future research could include investigating realistic ways mindfulness practices and/or formal mindfulness meditation could be integrated into trainees' practicum and clinical supervision. Given that MBSR is a structured format that has been successfully used with therapist trainees (e.g., Shapiro et al., 2007), MBSR may be a simple way for therapists, regardless of theoretical orientation, to integrate mindfulness practices into trainees' practicum class or group supervision. Future research questions could include: Does therapists' practice of mindfulness meditation in clinical supervision with their supervisees affect the supervisory alliance, or relational skills of supervisees? Does practicing formal mindfulness meditation as a group in practicum or internship aid in group cohesion, self-care, relational skills, or measurable common factors that contribute to successful psychotherapy? Given the limited research thus far on empathy, compassion, decreased stress and reactivity, more research is needed on how mindfulness meditation practice affects these constructs and

measurable counseling skills in both trainees and therapists. For example, how does mindfulness meditation practice effect empathy and compassion for midcareer or late-career therapists who are already seasoned veterans?

Shapiro and Carlson (2009) have suggested that mindfulness meditation can also serve as a means of self-care to help combat burnout rates. Future research on not only how therapists' practice of mindfulness meditation helps facilitate trainee development and affects psychotherapy is needed, but the ways in which therapists' own practice of mindfulness meditation can help with burnout rates and other detrimental outcomes of work-related stress.

In addition, despite abundant theoretical work on ways to conceptually merge Buddhist and Western psychology to psychotherapy (e.g., Epstein, 2007, 1995), there is a lack of literature on what it looks like in session when a therapist employs Buddhist-oriented approaches (i.e., mindfulness-informed psychotherapy as termed by Germer, 2005) to specific clinical issues and diagnoses. Given the numerous and rich clinical applications of mindfulness-based approaches to specific clinical issues, more literature is needed on the ways mindfulness-informed psychotherapy differs from mindfulness-based psychotherapy in session with clients.

In conclusion, the momentum within research on mindfulness holds promise for a potential transformation in ways to facilitate trainee and therapists' development, and means to affect change mechanisms known to contribute to successful psychotherapy. The field of psychotherapy could benefit from future research examining cause and effect relationships and/or mediational models to better understand the seemingly fruitful benefits of mindfulness and mindfulness meditation practice.

### References

- Adele, M. H., & Feldman, G. (2004). Clarifying the construct of mindfulness in the context of emotion regulation and the process of change in therapy. *Clinical Psychology, 11*, 255-262. doi:10.1093/clipsy.bph080
- Aiken, G. A. (2006). The potential effect of mindfulness meditation on the cultivation of empathy in psychotherapy: A qualitative inquiry. *Dissertation Abstracts International, Section B: Sciences and Engineering, 67*, 2212.
- Anderson, D. T. (2005). Empathy, psychotherapy integration, and meditation: A Buddhist contribution to the common factors movement. *Journal of Humanistic Psychology, 45*, 483-502. doi:10.1177/0022167805280264
- Baer, R. A. (2006). *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications*. Burlington, MA: Elsevier.
- Barnes, S., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy, 33*, 482-500. doi:10.1111/j.1752-0606.2007.00033.x
- Bateman, A., & Fonagy, P. (2004). Mentalization-based treatment of bpd. *Journal of Personality Disorders, 18*, 36-51. doi:10.1521/pedi.18.1.36.32772
- Bateman, A., & Fonagy, P. (2006). Mentalizing and borderline personality disorder. In L. G. Allen & P. Fonagy (Eds.), *Handbook of mentalization-based treatment* (pp. 185-200). Hoboken, NJ: Wiley, Ltd.
- Benjamin, J. (1990). An outline of intersubjectivity: The development of recognition. *Psychoanalytic Psychology, 7*, 33-46. doi:10.1037/h0085258
- Birnbaum, L. (2008). The use of mindfulness training to create an "Accompanying Place" for social work students. *Social Work Education, 27*, 837-852. doi:10.1080/02615470701538330
- Bishop, S. R., Lau, M. A., Shapiro, S. L., Carlson, L., Anderson, N. D.,

- Carmody, J., . . . Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology, 11*, 230–241. doi:10.1093/clipsy.bph077
- Block-Lerner, J., Adair, C., Plumb, J. C., Rhatigan, D. L., & Orsillo, S. M. (2007). The case for mindfulness-based approaches in the cultivation of empathy: Does nonjudgemental, present-moment awareness increase capacity for perspective-taking and empathetic concern? *Journal of Marital and Family Therapy, 33*, 505–516. doi:10.1111/j.1752-0606.2007.00034.x
- Bodhi, B. (2000). *A comprehensive manual of Adhidhamma*. Seattle: BPS Pariyatti.
- Brach, T. (2003). *Radical Acceptance: Embracing your life with the heart of a Buddha*. New York: Bantam Books/Dell.
- Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry, 18*, 211–237. doi:10.1080/10478400701598298
- Bruce, A., Young, L., Turner, L., Vander Wal, R., & Linden, W. (2002). Meditation-based stress reduction: Holistic practice in nursing education. In L. E. Young & V. E. Hayes (Eds.), *Transforming health promotion practice: Concepts, issues, and applications* (pp. 241–252). Victoria, British Columbia: Davis.
- Bruce, N. (2006). *Mindfulness: Core psychotherapy process? The relationship between therapist mindfulness and therapist effectiveness* (Unpublished doctoral dissertation). PGSP-Stanford Consortium, Palo Alto, CA.
- Bruce, N. G., Manber, R., Shapiro, S. L., & Constantino, M. J. (2010). Psychotherapist mindfulness and the psychotherapy process. *Psychotherapy Theory Research Practice Training, 47*, 83–97. doi:10.1037/a0018842
- Cahn, B. R., & Polich, J. (2006). Meditation states and traits: Eeg, erp, and neuroimaging studies. *Psychological Bulletin, 132*, 180–211. doi:10.1037/0033-2909.132.2.180
- Cahn, B. R., & Polich, J. (2009). Meditation (Vipassana) and the P3a event-related brain potential. *International Journal of Psychophysiology, 72*, 51–60. doi:10.1016/j.ijpsycho.2008.03.013
- Carmody, J. (2009). Evolving conceptions of mindfulness in clinical settings. *Journal of Cognitive Psychotherapy: An International Quarterly, 23*, 270–280. doi:10.1891/0889-8391.23.3.270
- Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine, 31*, 23–33. doi:10.1007/s10865-007-9130-7
- Carson, J. W., Carson, K. M., Gil, K. M., & Baucom, D. H. (2006). Mindfulness-based relationship enhancement (MBRE) in couples. In R. A. Baer (Ed.), *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications* (pp. 309–331). Burlington, MA: Elsevier.
- Chambers, R., Gullone, E., & Allen, N. B. (2009). Mindful emotion regulation: An integrative review. *Clinical Psychology Review, 29*, 560–572. doi:10.1016/j.cpr.2009.06.005
- Chambers, R., Lo, B. C. Y., & Allen, N. B. (2008). The impact of intensive mindfulness training on attentional control, cognitive style, and affect. *Cognitive Therapy and Research, 32*, 303–322. doi:10.1007/s10608-007-9119-0
- Coffey, K. A., & Hartman, M. (2008). Mechanisms of action in the inverse relationship between mindfulness and psychological distress. *Complementary Health Practice Review, 13*, 79–91. doi:10.1177/1533210108316307
- Cohen, J. S., & Miller, L. (2009). Interpersonal mindfulness training for well-being: A pilot study with psychology graduate students. *Teachers College Record, 111*, 2760–2774. Retrieved from <http://www.tcrecord.org>
- Corcoran, K. M., Farb, N., Anderson, A., & Segal, Z. V. (2010). Mindfulness and emotion regulation: Outcomes and possible mediating mechanisms. In A. M. Kring & D. M. Sloan (Eds.), *Emotion regulation and psychopathology: A transdiagnostic approach to etiology and treatment* (pp. 339–355). New York: Guilford Press.
- Davidson, R. J. (2000). Affective styles, psychopathology, and resilience: Brain mechanisms and plasticity. *American Psychologist, 55*, 1196–1214.
- Davidson, R. J., Jackson, D. C., & Kalin, N. H. (2000). Emotion, plasticity, context, and regulation: Perspectives from affective neuroscience. *Psychological Bulletin, 126*, 890–909.
- Davidson, R. J., Kabat Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., & Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 66*, 149–152. doi:10.1097/01.psy.0000116716.19848.65
- Davis, D. M. (2010). Mindfulness and supervision: What psychotherapists need to know. *Psychotherapy Bulletin, 45*, 9–17.
- Dekeyser, M., Raes, F., Leijssen, M., Leyson, S., & Dewulf, D. (2008). Mindfulness skills and interpersonal behavior. *Personality and Individual Differences, 44*, 1235–1245. doi:10.1016/j.paid.2007.11.018
- Didonna, F. (2009b). Mindfulness and obsessive-compulsive disorder: Developing a way to trust and validate one's internal experience. In F. Didonna (Ed.), (2009). *Clinical handbook of mindfulness* (pp. 189–219). New York: Springer.
- Didonna, F. (Ed.). (2009a). *Clinical handbook of mindfulness*. New York: Springer.
- Dreifuss, A. (1990). A phenomenological inquiry of six psychotherapists who practice Buddhist meditation. *Dissertation Abstracts International: Section B: Science and Engineering, 51*, 2617.
- Epstein, M. (1995). *Thoughts without a thinker*. New York: Basic Books.
- Epstein, M. (2007). *Psychotherapy without the self: A Buddhist perspective*. New Haven: Yale University Press.
- Erisman, S. M., & Roemer, L. (2010). A preliminary investigation of the effects of experimentally induced mindfulness on emotional responding to film clips. *Emotion, 10*, 72–82. doi:10.1037/a0017162
- Farb, N. A. S., Anderson, A. K., Mayberg, H., Bean, J., McKeon, D., & Segal, Z. V. (2010). Minding one's emotions: Mindfulness training alters the neural expression of sadness. *Emotion, 10*, 25–33. doi:10.1037/a0017151.supp
- Farb, N. A. S., Segal, Z. C., Mayberg, H., Bean, J., McKeon, D., Fatima, Z., & Anderson, A. K. (2007). Attending to the present: Mindfulness meditation reveals distinct neural modes of self-reference. *Social Cognitive and Affective Neuroscience, 2*, 313–322. doi:10.1093/scan/nsm030
- Fauth, J., Gates, S., Vinca, M. A., Boles, S., & Hayes, J. A. (2007). Big ideas for psychotherapy training. *Psychotherapy: Theory, Research, Practice, Training, 44*, 384–391. doi:10.1037/0033-3204.44.4.384
- Fonagy, P., & Bateman, A. (2008). The development of borderline personality disorder—A mentalizing model. *Journal of Personality Disorders, 22*, 4–21. doi:10.1521/pedi.2008.22.1.4
- Fulton, P. R. (2005). Mindfulness as clinical training. In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 55–72). New York: Guilford Press.
- Garland, E., & Gaylord, S. (2009). Envisioning a future contemplative science of mindfulness: Fruitful methods and new content for the next wave of research. *Complementary Health Practice Review, 14*, 3–9. doi:10.1177/1533210109333718
- Gelso, C. J., & Hayes, J. A. (2007). *Countertransference and the therapist's inner experience: Perils and possibilities*. Mahwah, NJ: Erlbaum.
- Germer, C. K. (2005). Mindfulness: What is it? What does it matter? In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 3–27). New York: Guilford Press.
- Germer, C. K., Siegel, R. D., & Fulton, P. R. (2005). *Mindfulness and psychotherapy*. New York: Guilford Press.
- Goldin, P. R., & Gross, J. J. (2010). Effects of mindfulness-based stress

- reduction (MBSR) on emotion regulation in social anxiety disorder. *Emotion*, *10*, 83–91. doi:10.1037/a0018441
- Greason, P. B., & Cashwell, C. S. (2009). Mindfulness and counseling self-efficacy: The mediating role of attention and empathy. *Psychotherapists Education and Supervision*, *49*(1), 2–19.
- Grepmaier, L., Mietterlehner, F., Loew, T., Bachler, E., Rother, W., & Nickel, N. (2007). Promoting mindfulness in psychotherapists in training influences the treatment results of their patients: A randomized, double-blind, controlled study. *Psychotherapy and Psychosomatics*, *76*, 332–338. doi:10.1159/000107560
- Grossman, P. (2008). On measuring mindfulness in psychosomatic and psychological research. *Journal of Psychosomatic Research*, *64*, 405–408. doi:10.1016/j.jpsychores.2008.02.001
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, *57*, 35–43. doi:10.1016/S0022-3999(03)00573-7
- Gunaratana, H. (2002). *Mindfulness in plain English*. Somerville, MA: Wisdom Publications.
- Hanh, T. N. (1987). *Interbeing: Fourteen guidelines for engaged Buddhism* (3rd ed.). Berkeley: Parallax Press.
- Hick, S. F. (2008). Cultivating therapeutic relationships: The role of mindfulness. In S. F. Hick & T. Bien (Eds.), *Mindfulness and the therapeutic relationship* (pp. 3–18). New York: Guilford Press.
- Hick, S. F., & Bien, T. (2008). *Mindfulness and the therapeutic relationship*. New York: Guilford Press.
- Hill, C. E., & Castonguay, L. G. (Eds.). (2007). *Insight in psychotherapy*. Washington, DC: American Psychological Association.
- Hoffman, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, *78*, 169–183. doi:10.1037/a0018555
- Hölzel, B. K., Ott, U., Gard, T., Hempel, H., Weygandt, M., Morgen, K., & Vaitl, D. (2008). Investigation of mindfulness meditation practitioners with voxel-based morphometry. *Social Cognitive and Affective Neuroscience*, *3*, 55–61. doi:10.1093/scan/nsm038
- Jha, A. P., Stanley, E. A., Kiyonaga, A., Wong, L., & Gelfand, I. (2010). Examining the protective effects of mindfulness training on working memory capacity and affective experience. *Emotion*, *10*, 54–64. doi:10.1037/a0018438
- Kabat-Zinn, J. (1990). *Full Catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York: Dell.
- Kaslow, N. J., Borden, K. A., Collins, F. L., Forrest, L., Illfelder-Kaye, J., Nelson, P. D., & Rallo, J. S. (2002). Competencies conference: Future directions in education and credentialing in professional psychology. *Journal of Clinical Psychology*, *60*, 699–712. doi:10.1002/jclp.20016
- Kholooci, H. (2008). An examination of the relationship between countertransference and mindfulness and its potential role in limiting therapist abuse. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *68*, 6312.
- Kingsbury, E. (2009). The relationship between empathy and mindfulness: Understanding the role of self-compassion. *Dissertation Abstracts International: Section B: Science and Engineering*, *70*, 3175.
- Kostanski, M., & Hased, C. (2008). Mindfulness as a concept and a process. *Australian Psychologist*, *43*, 15–21. doi:10.1080/00050060701593942
- Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., & Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport: For Rapid Communication of Neuroscience Research*, *16*, 1893–1897. doi:10.1097/01.wnr.0000186598.66243.19
- Leary, M. R., & Tate, E. B. (2007). The multi-faceted nature of mindfulness. *Psychological Inquiry*, *18*, 251–255.
- Lesh, T. V. (1970). Zen meditation and the development of empathy in counselors. *The Journal of Humanistic Psychology*, *10*, 39–74. doi:10.1177/002216787001000105
- Lutz, A., Dunne, J. D., & Davidson, R. J. (2007). Meditation and the neuroscience of consciousness: An introduction. In P. D. Zelazo, M. Moscovitch, & E. Thompson (Eds.), *The Cambridge handbook of consciousness* (pp. 499–551). New York: Cambridge University Press.
- Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. (2008). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, *12*, 163–169. doi:10.1016/j.tics.2008.01.005
- Lutz, A., Slagter, H. A., Rawlings, N. B., Francis, A. D., Greischar, L. L., & Davidson, R. J. (2009). Mental training enhances attentional stability: Neural and behavioral evidence. *The Journal of Neuroscience*, *29*, 13418–13427. doi:10.1523/JNEUROSCI.1614-09.2009
- Lysack, M. (2005). Relational mindfulness and dialogic space in family therapy. In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 141–158). New York: Guilford Press.
- Martin, J. R. (1997). Mindfulness: A proposed common factor. *Journal of Psychotherapy Integration*, *7*, 291–312. doi:10.1023/B:JOPI.0000010885.18025.bc
- Masicampo, E. J., & Baumeister, R. F. (2007). Relating mindfulness and self-regulatory processes. *Psychological Inquiry*, *18*, 255–258.
- McCown, D., Reibel, D., & Micozzi, M. S. (2010). *Teaching mindfulness: A practical guide for clinicians and educators*. New York: Springer.
- McKim, R. D. (2008). Rumination as a mediator of the effects of mindfulness: Mindfulness-based stress reduction (MBSR) with a heterogeneous community sample experiencing anxiety, depression, and/or chronic pain. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *68*, 7673.
- Moore, A., & Malinowski, P. (2009). Meditation, mindfulness and cognitive flexibility. *Consciousness and Cognition*, *18*, 176–186. doi:10.1016/j.concog.2008.12.008
- Morgan, S. P. (2005). Depression: Turning toward life. In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 130–151). New York: Guilford Press.
- Morgan, W. D., & Morgan, S. T. (2005). Cultivating attention and empathy. In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 73–90). New York: Guilford Press.
- Newsome, S., Christopher, J. C., Dahlen, P., & Christopher, S. (2006). Teaching counselors self-care through mindfulness practices. *Teachers College Record*, *108*, 1881–1990.
- Norcross, J. C. (2002). *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. New York: Oxford University Press.
- Ortner, C. N. M., Kilner, S. J., & Zelazo, P. D. (2007). Mindfulness meditation and reduced emotional interference on a cognitive task. *Motivation and Emotion*, *31*, 271–283. doi:10.1007/s11031-007-9076-7
- Ostafin, B. D., Chawla, N., Bowen, S., Dillworth, T. M., Witkiewitz, K., & Marlatt, G. A. (2006). Intensive mindfulness training and the reduction of psychological distress: A preliminary study. *Cognitive and Behavioral Practice*, *13*, 191–197. doi:10.1016/j.cbpra.2005.12.001
- Ramel, W., Goldin, P. R., Carmona, P. E., & McQuaid, J. R. (2004). The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy and Research*, *28*, 433–455. doi:10.1023/B:COTR.0000045557.15923.96
- Rosenzweig, S., Reibel, D. K., Grccson, J. M., Brainard, G. C., & Hojat, M. (2003). Mindfulness-based stress reduction lowers psychological distress in medical students. *Teaching and Learning in Medicine*, *15*, 88–92. doi:10.1207/S15328015TLM1502\_03
- Rothaupt, J. W., & Morgan, M. M. (2007). Counselors' and counselor educators' practice of mindfulness: A qualitative inquiry. *Counseling & Values*, *52*, 40–54.
- Rybak, C. J., & Russell-Chapin, L. A. (1998). The teaching well: Experience, education and counseling. *International Journal for the Advancement of Counseling*, *20*, 131–139.

- Schure, M. B., Christopher, J., & Christopher, S. (2008). Mind-body medicine and the art of self care: Teaching mindfulness to counseling students through yoga, meditation and qigong. *Journal of Counseling and Development, 86*, 47–56.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management, 12*, 164–176. doi:10.1037/1072-5245.12.2.164
- Shapiro, S. L., Brown, K. W., & Biegel, G. M. (2007). Teaching self-care to caregivers: Effects of mindfulness-based stress reduction on the mental health of therapists in training. *Training and Education in Professional Psychology, 1*, 105–115. doi:10.1037/1931-3918.1.2.105
- Shapiro, S. L., & Carlson, L. E. (2009). *The art and science of mindfulness: Integrating mindfulness into psychology and the helping professions*. Washington, DC: American Psychological Association.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology, 62*, 373–386. doi:10.1002/jclp.20237
- Shapiro, S. L., & Izett, C. D. (2008). Meditation: A universal tool for cultivating empathy. In S. F. Hick & T. Bien (Eds.), *Mindfulness and the therapeutic relationship* (pp. 161–175). New York: Guilford Press.
- Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine, 21*, 581–599. doi:10.1023/A:1018700829825
- Siegel, D. J. (2007a). Mindfulness training and neural integration: Differentiation of distinct streams of awareness and the cultivation of well-being. *Social Cognitive and Affective Neuroscience, 2*, 259–263. doi:10.1093/scan/nsm034
- Siegel, D. J. (2007b). *The mindful brain: Reflection and attunement in the cultivation of well-being*. New York: Norton.
- Siegel, D. J. (2009). Mindful awareness, mindsight, and neural integration. *The Humanistic Psychologist, 37*, 137–158.
- Stanley, S., Reitzel, L. R., Wingate, L. R., Cukrowicz, K. C., Lima, E. N., & Joiner, T. E. (2006). Mindfulness: A primrose path for therapists using manualized treatments? *Journal of Cognitive Psychotherapy, 20*, 327–335. doi:10.1891/jcop.20.3.327
- Stern, D. M. (2004). *The present moment in psychotherapy and everyday life*. New York: W. & W. Norton & Company.
- Stratton, P. (2006). Therapist mindfulness as a predictor of client outcomes. *Dissertation Abstracts International: Section B: Science and Engineering, 66*, 6296.
- Surrey, J. L. (2005). Relational psychotherapy, relational mindfulness. In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 91–110). New York: Guilford Press.
- Tang, Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., . . . Posner, M. I. (2007). Short-term meditation training improves attention and self-regulation. *PNAS Proceedings of the National Academy of Sciences, USA of the United States of America, 104*, 17152–17156. doi:10.1073/pnas.0707678104
- Thompson, E. (2001). Empathy and consciousness. In E. Thompson (Ed.), *Between ourselves: Second-person issues in the study of consciousness* (pp. 1–32). Thorverton, U.K.: Imprint Academic.
- Valentine, E. R., & Sweet, P. L. G. (1999). Meditation and attention: A comparison of the effects of concentrative and mindfulness meditation on sustained attention. *Mental Health Religion & Culture, 2*, 59–70. doi:10.1080/13674679908406332
- Vestergaard-Poulsen, P., van Beek, M., Skewes, J., Bjarkam, C. R., Stuberup, M., Bertelsen, J., & Roepstorff, A. (2009). Long-term meditation is associated with increased gray matter density in the brain stem. *Neuroreport: For Rapid Communication of Neuroscience Research, 20*, 170–174. doi:10.1097/WNR.0b013e328320012a
- Vinca, M. A. (2009). *Mindfulness and psychotherapy: A mixed methods investigation* (Unpublished doctoral dissertation). Pennsylvania State University, University Park, PA.
- Vinca, M. A., & Hayes, J. A. (2007, June). *Therapist mindfulness as predictive of empathy, presence and session depth*. Presentation at the annual meeting of the Society for Psychotherapy Research, Madison, WI.
- Wachs, K., & Cordova, J. V. (2007). Mindful relating: Exploring mindfulness and emotion repertoires in intimate relationships. *Journal of Marital and Family Therapy, 33*, 464–481. doi:10.1111/j.1752-0606.2007.00032.x
- Waelde, L. C., Uddo, M., Marquett, R., Ropelato, M., Freightman, S., Pardo, A., & Salazar, J. (2008). A pilot study of meditation for mental health workers following hurricane Katrina. *Journal of Traumatic Stress, 21*, 497–500. doi:10.1002/jts.20365
- Wallace, B. A. (2001). Intersubjectivity in Indo-Tibetan Buddhism. *Journal of Consciousness Studies, 8*, 209–230.
- Wallin, D. J. (2007). *Attachment in psychotherapy*. New York: Guilford Press.
- Walsh, R., & Shapiro, S. L. (2006). The meeting of meditative disciplines and western psychology: A mutually enriching dialogue. *American Psychologist, 61*, 227–239. doi:10.1037/0003-066X.61.3.227
- Wang, S. J. (2007). Mindfulness meditation: Its personal and professional impact on psychotherapists. *Dissertation Abstracts International: Section B: Science and Engineering, 67*, 4122.
- Way, B. M., Creswell, J. D., Eisenberger, N. L., & Lieberman, M. D. (2010). Dispositional mindfulness and depressive symptomatology: Correlations with limbic and self-referential neural activity during rest. *Emotion, 10*, 12–24. doi:10.1037/a0018312
- Welwood, J. (2000). *Toward a psychology of awakening: Buddhism, psychotherapy, and the path of personal and spiritual transformation*. Boston: Shambhala Publications.
- Wexler, J. (2006). The relationship between psychotherapist mindfulness and the therapeutic alliance. *Dissertation Abstracts International: Section B: Science and Engineering, 67*, 2848.
- Williams, J. M. G. (2010). Mindfulness and psychological process. *Emotion, 10*, 1–7. doi:10.1037/a0018360
- Young, S. (1997). *The science of enlightenment*. Boulder, CO: Sounds True.

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