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Meditation and Positive Psychology

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Abstract and Keywords

Mental health, once defined in terms of absence of illness, has gradually become understood in a more holistic way, which includes the positive qualities that help people flourish. This evolving definition of mental health has led to an exploration of other traditions and practices, including mindfulness meditation, which for thousands of years have been devoted to developing an expanded vision of human potential. One result was the introduction of the practice of mindfulness into Western scientific study. However, the original intentions of mindfulness meditation, to catalyze our potential for healing and development, have been largely ignored by the scientific community. Yet a small number of researchers and theorists have explored and continue to explore the positive effects of mindfulness practice. The chapter focuses on this pioneering work.

Keywords: mindfulness, Buddhism, flourishing, intention, meditation, positive psychology

Mindfulness and Positive Psychology

Mental health, once defined in terms of the absence of illness (Ryff & Singer, 1998), has gradually become understood in a more holistic way, which also includes the positive qualities that help people flourish (e.g., Allport, 1961; Maslow, 1968; Seligman & Csikszentmihalyi, 2000). This evolving definition of mental health led to an exploration of other traditions, such as the Eastern, which for thousands of years have been devoted to developing an expanded vision of human potential (Shapiro, 1980).

One result was the introduction of the Eastern practice of mindfulness into Western scientific study. In the 1970s research on meditation began in earnest and has since increased exponentially (Murphy, Donovan, & Taylor, 1997; Walsh & Shapiro, 2006). The transplantation of meditation occurred, however, within a traditional behavioral framework—emphasizing symptom reduction and alleviation—with little attention to development, enhancement, growth, and cultivation of positive psychological qualities and experiences (Shapiro & Walsh, 2003). As a result, one of the principal original goals of meditation, to uncover the positive and to catalyze our internal potential for healing and development, has been largely ignored (Alexander, Druker, & Langer, 1990; Shapiro & Walsh, 1984; Walsh & Shapiro, 2006). Yet a small number of researchers and theorists have explored and continue to explore the positive effects of meditation. This chapter focuses on such pioneering work.

Theoretical Foundations: What Is Mindfulness?

Mindfulness is often referred to as a consciousness discipline. It is a way of training the mind, heart, and body to be fully present with life. Although often associated with meditation, mindfulness is much more than a meditation technique. Mindfulness is fundamentally a way of being; it is a way of inhabiting our bodies, our minds, and our moment-by-moment experience with openness and receptivity. It is a deep awareness—a knowing and experiencing of life as it arises and passes away in each moment.

According to Shapiro and Carlson (2009), mindfulness can be defined as “the awareness that arises through intentionally attending in an open, kind and discerning way” (p. 4). Mindfulness can be understood as both an inherent and ever present awareness (mindful awareness), and a series of specific practices designed to enhance mindful attention and awareness (mindful practice).

Three Core Elements of Mindfulness

Mindfulness comprises three core elements: intention, attention, and attitude (Shapiro & Carlson, 2009). Intention involves knowing why we are doing what we are doing: our ultimate aim, our vision, and our aspiration. Attention involves attending fully to the present moment instead of allowing ourselves to become preoccupied with the past or future. Attitude, or how we pay attention, enables us to stay open, kind, and curious. These three elements are not separate—they are interwoven, each informing and nurturing the others. Mindfulness is this moment-to-moment process.

Intention

The first core component of mindfulness is intention. Intention is simply knowing why we are doing what we are doing. When we have identified our intentions and are able to connect with them, our intentions help motivate us, reminding us of what is truly important. Discerning our intentions involves inquiring into our deepest hopes, desires, and aspirations. Explicitly reflecting on our intentions helps us bring unconscious values to awareness and decide whether they are really the values we want to pursue. Intention, in the context of mindfulness, is not the same as (and does not include) striving or grasping for certain outcomes or goals. Rather, as meditation teacher and psychotherapist Jack Kornfield puts it, “Intention is a direction not a destination” (personal communication, 2012).

Attention

The second fundamental component of mindfulness is attention. Mindfulness is about seeing clearly, and if we want to see clearly, we must be able to pay attention to what is here, now, in this present moment. Paying attention involves observing and experiencing our moment-to-moment experience. And yet this is not so easy. Recent research demonstrates that our mind wanders approximately 47% of the time (Killingsworth & Gilbert, 2010). The human mind is often referred to as a “monkey mind,” swinging from thought to thought as a monkey swings from limb to limb. Mindfulness is a tool that helps us tame and train the mind so that attention becomes stable and focused, despite our mind’s inclination to wander. Therefore, attention is the component of mindfulness that facilitates a focused and clear seeing of what arises in our field of experience.

Often, as we try to pay attention, our attention becomes tense and contracted. This is because we mistakenly think we have to be stressed or vigilant to focus our attention in a rigorous way. However, the meditation traditions teach us of a different kind of attention, a “relaxed alertness” that involves clarity and precision without stress or vigilance (Wallace & Bodhi, 2006). This relaxed alertness is the kind of attention that is essential to mindfulness. Mindful attention is also deep and penetrating; as Bhikkhu Bodhi notes: “... whereas a mind without mindfulness ‘floats’ on the surface of its object the way a gourd floats on water, mindfulness sinks into its object the way a stone placed on the surface of water sinks to the bottom” (Wallace & Bodhi, 2006, p. 7).

Attitude

Attitude, how we pay attention, is essential to mindfulness. For example, attention can have a cold, critical quality, or an openhearted, curious, and compassionate quality. Attending without bringing the attitudinal qualities of curiosity, openness, acceptance, and kindness into the practice may result in an attention that is condemning or shaming of inner (or outer) experience. This may well have consequences contrary to the intentions of the practice; for example, we may end up cultivating patterns of criticism and striving instead of equanimity, openness, and acceptance.

Thus, the attitudes of mindfulness include a general sense of openness, kindness, curiosity, and acceptance. These attitudes of mindfulness do not alter our experience, but simply inform the quality of the awareness of the experience. For example, if while we are practicing mindfulness impatience arises, we note the impatience with acceptance and kindness. We do not attempt to substitute these qualities for the impatience, or use them to make the impatience disappear. The attitudes are not an attempt to make things be a certain way, but an attempt to relate to whatever is in a certain way. By intentionally bringing the attitudes of mindfulness to our awareness of our own experience, we

Meditation and Positive Psychology

relinquish the habit of striving for pleasant experiences or of pushing aversive experiences away. Instead, we attend to and welcome whatever is here.

It may be useful to think of mindfulness as a presence of heart as well as mind. In fact the Japanese kanji for mindfulness is composed of two symbols, the top meaning presence and the bottom translated as “heart” or “mind.” Mindfulness involves bringing heartfulness to each moment—bringing our full aliveness and care to all of our experiences.

Formal and Informal Practice

What we practice becomes stronger. When we practice mindfulness, we strengthen our capacity to be present moment by moment in a curious, accepting, and kind way. Mindful practice can be categorized into formal and informal practice; each kind of practice supports the other. The formal practice will support the ability to practice mindfulness in day-to-day life, and the informal practice is meant to generalize to everyday life what is learned during the formal practice.

Formal practices are geared toward cultivating mindfulness skills in focused and systematic ways, and emphasize the specific and purposeful training of attention with openness, acceptance, and curiosity. In mindful meditation, practitioners allow a state of “fluid attention” to emerge, rather than focusing on any specific object or sensation (Irving, Dobkin, & Park, 2009). Thoughts, emotions, and body sensations that arise during this practice are accepted as they are, without being judged or manipulated.

Informal practice involves intentionally bringing an open, accepting, and discerning attention to whatever we are engaged in, for example, reading, driving, or eating. As Kabat-Zinn (2005) notes, the beauty of the informal practice is that all it requires is a rotation in consciousness. This rotation in consciousness, although subtle, is significant. And its implications for health care professionals and clinical work are profound.

Original Intentions of Mindfulness Meditation

Abraham Maslow (1968) stated, “what we call ‘normal’ in psychology is really a psychopathology of the average, so undramatic and so widely spread that we don’t even notice it ordinarily” (Maslow, 1968, p. 16). Wisdom traditions have been suggesting this for over 2,500 years, teaching that our “normal” minds are untrained and often unconscious, which inhibits us from reaching our fullest potential. The intention behind mindfulness practice is to “wake up” from a suboptimal state of consciousness, to wake up to our true nature.

Meditation and Positive Psychology

Walsh (1983), a pioneer in the field of meditation research, identified the ultimate aims of meditation practice as “the development of deep insight into the nature of mental processes, consciousness, identity, and reality, and the development of optimal states of psychological well-being and consciousness” (p. 19). From a psychological growth perspective, it is essential to learn ways to free ourselves from the artificial and unnecessary limits we impose on our own minds, as well as to learn to expand our worldviews and consciousnesses. Mindfulness practice provides road maps to help recognize and let go of old structures and evolve toward new ways of seeing and being as we experience deep insights into the nature of mind and the path toward optimal health and freedom from suffering.

The intention behind mindfulness practice is to help develop and train the mind toward optimal states of empathy, joy, compassion, awareness, and insight, with the ultimate intention of total liberation. And yet research exploring the effects of mindfulness to attain these goals has been scarce. With few exceptions, research has not measured the deeper levels of meditation’s original intent, but instead has focused on traditional psychological variables (e.g., reducing anxiety, depression). Eleanor Rosch (1999) succinctly put it, “Yes, research on the meditation traditions can provide data to crunch with the old mind set. But they have much more to offer, a new way of looking” (p. 224).

Mindfulness Research

Over the past three decades, there has been considerable research examining the psychological and physiological effects of mindfulness-based interventions (Murphy et al., 1997; Walsh & Shapiro, 2006). Moreover, mindfulness-based therapies are being utilized in a variety of health care settings (Baer, 2003; Shapiro & Carlson, 2009). Research demonstrates that meditation is an effective intervention for cardiovascular disease (Schneider et al., 2005; Zamarra, Schneider, Besseghini, Robinson, & Salerno, 1996); chronic pain (Kabat-Zinn, 1982), anxiety and panic disorder (Edwards, 1991; Jazaieri et al., 2012; Miller, Fletcher, & Kabat-Zinn, 1995), substance abuse (Gelderloos, Walton, Orme-Johnson, & Alexander, 1991), dermatological disorders (Kabat-Zinn et al., 1998), prevention of relapse of major depressive disorder (MDD), and reduction of anxiety and depressive symptoms in nonclinical populations (Shapiro, Schwartz, & Bonner, 1998; for reviews see Jazaieri & Shapiro, 2010; Shapiro & Jazaieri, 2014).

As noted, few researchers have examined mindfulness meditation’s original purpose as a self-liberation strategy to enhance positive psychological qualities. Despite this, a small number of pioneering studies have addressed the effects of mindfulness practice on positive psychological health. The work described subsequently provides a valuable foundation upon which to build future research. Below, we review specific studies, starting with the microlevel (physiological) and moving to the macrolevel (transpersonal; for a review see Murphy et al., 1997).

Positive Physiological Findings

As Ryff and Singer (1998) aptly point out, “human wellness is at once about the mind and the body and their interconnections” (p. 2). Although the implications of the physiological correlates of meditation are as yet unclear, it seems likely that some of the changes represent “physiological substrates of flourishing” (Ryff & Singer, 1998, p. 2).

Immune Function.

Improvements in immune system functioning or reversal of immune suppression may be an important marker of such physiological substrates of health and well-being. For example, a study by Davidson et al. (2003) found a greater increase in influenza antibodies among participants in an 8-week Mindfulness-Based Stress Reduction (MBSR) program than in waiting-list controls. Similarly, in cancer patients, MBSR had a number of effects on immune parameters that are consistent with a shift to a more normal profile (Carlson, Speca, Patel, & Goodey, 2004).

Recent research investigating the effects of mindfulness practice on telomerase activity further enhances our understanding of the relationship between mindfulness and immune function (Schutte & Malouff, 2014). Telomerase is an enzyme that impacts telomere length, which is associated with cell regeneration and improved longevity (Epel et al., 2009; Lin et al., 2012; Willeit et al., 2011). A study by Jacobs et al. (2011) evaluated the effects of a 3-month meditation retreat on telomerase activity, utilizing a randomized control trial design with 60 participants. Retreat participants were found to have significantly higher levels of telomerase activity postretreat when compared with the wait-list control group. Retreat participants further reported a greater sense of purpose in life, increased perceived control, and decreased neuroticism, factors that may have mediated the effect of meditation practice on telomerase activity (Jacobs et al., 2011).

Neuroplasticity.

Another indication of physiological flourishing comes from research suggesting that meditation practice may enhance the left-to-right ratio of activation of the prefrontal cortex, which has been linked to positive emotions and mental health (Davidson et al., 2003). Participants in an 8-week MBSR program demonstrated increases in left frontal electroencephalographic (EEG) activation as compared to a control group (Davidson et al., 2003). These findings lend physiological evidence of the ability of meditation to actually change the structure of the brain and support preliminary research demonstrating that advanced meditators display unique degrees of lateralization of prefrontal cortical activity (a neural indicator of positive affect) and a unique high gamma EEG profile when cultivating compassion (Davidson et al., 2003; Lutz et al., 2004).

Further data providing structural evidence that meditation experience affects plasticity come from a recent study examining the effects of mindfulness meditation practice on changes in the brain’s physical structure (Lazar et al., 2005). Magnetic resonance

Meditation and Positive Psychology

imaging was used to assess cortical thickness in 20 participants with extensive mindfulness practice. Brain regions associated with attention, interoception, and sensory processing were thicker in meditation participants than matched controls, including the prefrontal cortex and right anterior insula.

In a similar study, Hölzel and colleagues (2011) analyzed changes in gray matter density when comparing 16 meditation-naïve participants in an 8-week MBSR course to 17 participants in a wait-list control group. Analyses indicated significant pre to post changes in regions of the brain responsible for learning and memory processes, emotion regulation, self-referential processing, and perspective taking. Comparisons revealed increased gray matter concentration in the hippocampus, posterior cingulate cortex, cerebellum, and temporoparietal junction (Hölzel et al., 2011). These data provide preliminary evidence that meditation contributes to the development of the physiological structures that support intelligence, empathy, cognitive flexibility, and other important indicators of psychological health.

Stress reactivity and recovery.

Goleman and Schwartz (1976) compared 30 experienced meditators' and 30 control subjects' responses to laboratory stressors. Participants either meditated or relaxed with eyes closed or with eyes open, then watched a stressor film. Stress response was assessed by phasic skin conductance, heart rate, self-report, and personality scales. Meditators demonstrated heightened initial reactivity, but their heart rate and phasic skin conductance responses habituated more quickly to the stressor impacts and they experienced less subjective anxiety in comparison to the nonmeditators.

MacLean et al. (1997) extended the research in stress reactivity and recovery. They conducted a prospective random assignment study to examine the effects of transcendental meditation (TM) on responses to laboratory stressors by four hormones: cortisol, growth hormone, thyroid-stimulating hormone (TSH), and testosterone. Healthy men were tested before and after 4 months of learning TM. The results indicated that basal cortisol level and average cortisol across the stress session decreased from pretest to posttest in the TM group but not in the control group. Cortisol responsiveness to stressors, however, increased in the TM group compared to controls. The baselines (stress responsiveness) for TSH and growth hormone as well as testosterone changed in opposite directions for the two groups. The results support previous data suggesting that "repeated practice of TM reverses effects of chronic stress" (MacLean et al., 1997, p. 277). Though further research is required, these findings provide preliminary support for the hypothesis that meditation impacts physiological pathways that are modulated by stress.

Positive Psychological Findings

Memory and intelligence.

Meditation appears to result in improvements in intelligence, school grades, learning ability, and short-term and long-term recall (see Cranson et al., 1991; Dillbeck, Assimakis, & Raimondi, 1986; Lewis, 1978). For example, one study examined the effects of TM on performance on the Culture Fair Intelligence Test (CFIT) and reaction time (RT) as compared to a control group (Cranson et al., 1991). Even when controlling for age, education level, level of interest in meditation, parents' education level, and annual income, the TM group improved significantly on both measures as compared to the control group. The results suggest that TM is a "promising educational tool for enhancing a learner's ability to learn" (Cranson et al., 1991, p. 1105).

Hall (1999) randomly assigned 56 undergraduates to two study groups: one group included meditation and the other did not. The meditation group was instructed in a simple meditation process that consisted of natural breathing techniques, attention focusing techniques, and relaxation exercises. The meditation process was practiced for a duration of 10 minutes at the start and conclusion of a 1-hour study session. The intervention included a 1-hour session of meditation instruction twice a week for the academic semester. The meditation group was instructed to meditate before and after studying and before examinations. The nonmeditation study group met for 1 hour a week to study and was not introduced to meditation. Significantly higher grades were found in the experimental group as compared to the control group.

A recent study by Mrazek, Franklin, Phillips, Bairrd, and Schooler (2013) utilized a randomized controlled investigation to assess the effect of a 2-week mindfulness training on working memory capacity (WMC), mind wandering, and reading comprehension scores on the verbal reasoning section of the Graduate Record Exam (GRE). When compared to a nutrition class, mindfulness training produced statistically significant improvements on the operation span task (OSPAN), a measure of WMC, and fewer self-reported and probe-caught instances of mind wandering. Moreover, posttest results on the GRE reflected an average improvement of 16 percentile points, further indicating that mindfulness training has a positive effect on key underlying processes that impact performance on measures of cognitive ability (Mrazek et al., 2013).

There is also evidence that improvements in memory and academic performance associated with meditation apply across the life span. Chang and Heibert (1989), in a review of relaxation procedures with children, reported that teaching meditation to children in public schools increased academic performance. In another study of elderly adults who were taught meditation, there were significant improvements in cognitive flexibility as compared to a control group (Alexander, Langer, Newman, Chandler, & Davies, 1989).

Psychological flexibility.

Mindfulness offers an opportunity to respond to the situational demands of each new moment in a way that is congruent with our deepest needs, interests, and values (Brown & Ryan, 2003; Ryan & Deci, 2000). The skillful responding that results from a clear seeing of each moment as it arises could also be understood as psychological flexibility, one of the fundamental markers of psychological health (Kashdan & Rottenberg, 2010). As Kashdan and Rottenberg (2010) argue, “Although there is substantial research on the value of particular [regulatory] strategies, the ability to modify responses to best match the situation is intuitively of greater importance. Indeed, one might question whether any regulatory strategy provides universal benefits, as opposed to contingent benefits that hinge on the situation and the values and goals we import” (p. 866). Psychological flexibility is a multifaceted construct necessitating robust executive functioning, openness to experience, affect regulation, and attentional control, among other positive psychological skills and traits. Though little research has investigated the relationship between mindfulness and psychological flexibility as a coherent construct, a converging body of evidence suggests that mindfulness supports increased flexibility in the form of improved executive functioning (Creswell, Way, Eisenberger, & Lieberman, 2007; DeYoung, Peterson, & Higgins, 2005; Ochsner & Gross, 2008), openness to the full range of experience (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Labouvie-Vief, 2003; Wilson & Murrell, 2004), and the capacity to transcend conditioned responses and default states (Brown & Ryan, 2003; Kashdan, 2009; Ryan & Deci, 2000).

Creativity.

Creativity is a complex construct consisting of various traits and capacities, including perceptual skill, ideational fluency, openness to experience, and emotional flexibility, all of which are theoretically fostered by mindfulness practice. Preliminary research confirms that mindfulness practice can cultivate creativity.

An emerging field of research that touches on one aspect of the relationship between mindfulness and creativity focuses on the influence of trait and state mindfulness on the effects of social comparison (Langer, Pirson, & Delizonna, 2010). This field of research also follows earlier research demonstrating that intrinsic motivation affects both “the momentary focus of attention [and] long-term dedication to creative endeavors” (Feldman, Csikszentmihalyi, & Gardner, 1994). In a study that emphasized the relationship between mindfulness and social comparisons, Langer et al. (2010) demonstrated that (1) downward and upward social comparisons were correlated with negative self-assessments of artistic ability and (2) mindfulness training as well as trait mindfulness buffered against the effects of social comparisons, reducing the effect of downward social comparison to null, and reducing the effect of upward social comparison by a statistically significant margin. In the case of this study, it was not the attitudinal quality of nonjudgment that was proposed as the mechanism by which mindfulness mitigates the effects of social comparison, but rather the capacity to perceive the

Meditation and Positive Psychology

contextual nature of all social comparisons, and assess with flexibility the criteria by which such comparisons are made (Langer, Pirson, & Delizonna, 2010).

A further field of research that sheds light on the relationship between mindfulness and creativity focuses on creativity defined as insight problem solving. In a study designed to evaluate the impact of mindfulness on insight problem solving, Ostafin and Kassman (2012) hypothesized that mindfulness training as well as trait mindfulness would have no effect on noninsight problem solving, a process that primarily relies on logic and following predetermined steps, but would enhance insight problem solving, a process that depends on the capacity to transcend automatic and habituated cognitive patterns. Both hypotheses were confirmed in a series of experiments that subjected participants first to a battery of self-assessments and then to a battery of problem-solving exercises, precipitated either by a control audio track or by a guided meditation. As hypothesized, even limited exposure to mindfulness practice enhanced the capacity to solve problems that required the subject to transcend informational boundaries (Ostafin & Kassman, 2012).

Cowger and Torrance (1982) studied 24 college undergraduates who were taught Zen meditation and 10 who were taught relaxation. The meditators attained statistically significant gains in creativity as defined by heightened consciousness of problems, perceived change, invention, sensory experience, expression of emotion/feeling, humor, and fantasy.

A series of studies by So and Orme-Johnson (2001) examined the effects of TM on cognition. One hundred and fifty-four Chinese high school students were randomized into a TM group or a napping group (i.e., students were invited to lie down and rest or sleep). The TM technique and napping were practiced for approximately 20 minutes twice a day. At 6-month follow-up, the TM group demonstrated significantly increased practical intelligence, field independence, creativity, and speed of information processing, as well as significantly decreased anxiety compared to the control group. The results suggest that TM's effects extend beyond those of ordinary rest.

The findings of the above study were replicated in a sample of 118 junior high Chinese students who were randomly assigned to a TM group, a contemplative meditation group (involving reflection of specific insights and topics), or a no-treatment control group. All students practiced their respective meditation techniques for 20 minutes twice a day. At 6-month follow-up, the TM group showed improvement on creativity compared to the two other groups. Both the TM and contemplation group improved on information processing time as compared to the control group.

Attention/concentration.

Research supporting the impact of mindfulness on attention and presence has found greater cortical thickness in areas of the brain associated with sustained attention and awareness in practitioners experienced in mindful meditation, compared to nonmeditating participants (Lazar et al., 2005). Moreover, by measuring response times

Meditation and Positive Psychology

on the Attention Network Test (ANT) after 8 weeks of mindfulness meditation training for novices, and a month-long retreat for more experienced meditators, Jha, Krompinger, and Baime (2007) found improvements in overall attention. Specifically, those who participated in the 8-week training were more able to direct focused attention when required, and those who attended the 1-month retreat showed an increased ability to retain their focus when faced with distractions.

A study by McCollum and Gehart (2010) also found that graduate students trained in mindfulness meditation as a component of their coursework were better able to distinguish between what Segal, Williams, and Teasdale (2002) refer to as the *doing* and the *being* modes of mind. The doing mode focuses on planning and resolving discrepancies between our idea of how things should be versus how they actually are. In contrast, the being mode centers on simply being present with whatever is occurring in the moment, without feeling a need to change it. McCollum and Gehart (2010) point out that both modes are essential. Through the cultivation of attention and presence, mindfulness not only facilitates a being mode of mind, but also the ability to engage in the doing mode when the moment requires, as well as to shift attentional focus.

Research has also shown that mindfulness meditation can enhance control over how attention is distributed. For example, if too much attention is focused on one stimulus, another stimulus might be missed. Mindfulness training can help us to allocate our attention more efficiently, leading to greater clarity in information processing (see e.g., Slagter et al., 2007).

To examine the effects of meditation on attention, Valentine and Sweet (1999) conducted an elegant study, which incorporated type of meditation (concentration vs. mindfulness), length of practice (long-term meditators > 24 months, short-term meditators < 24 months), and expectancy effects (expected vs. unexpected stimuli). Participants consisted of 24 controls, five short-term concentrative meditators, four short-term mindfulness meditators, six long-term concentrative meditators, and four long-term mindfulness meditators. A measure of sustained attention was employed with all participants. The meditation group was tested following their usual meditation practice. Results demonstrated that meditators' attention and accuracy were greater than the controls. Furthermore, long-term meditators demonstrated greater attention processes than short-term meditators.

There were no differences in performance between concentrative and mindfulness meditators when the stimulus was expected. However, when the stimulus was unexpected, mindfulness meditators were superior to concentrative meditators. These differences may be due to the fact that in concentration meditation, attention is focused on an expected stimulus. Therefore attention is impaired when the stimulus is unexpected. Conversely, in mindfulness meditation, attention is evenly distributed and therefore no stimulus or set of stimuli becomes more salient than others.

Interpersonal relationships.

Practices for cultivation of love, compassion, empathetic joy, and equanimity have a long tradition in the meditative disciplines (Walsh, 1999). Most notable are the Brahma Vihara practices, which involve four distinct meditation practices focusing, respectively, on the cultivation of lovingkindness, compassion, empathetic joy, and equanimity (Salzberg, 2002).

Lovingkindness (*metta*) involves a range of thoughts and visualizations, and it directly evokes only select positive emotions (i.e., love, contentment, and compassion) and carries some potential to evoke negative emotions. Lovingkindness meditation may well cultivate a broadened attention in addition to positive emotions. In a study observing the effects of a 9-week intervention of lovingkindness meditation at work, it was found to increase a variety of personal resources, including mindful attention, self-acceptance, positive relations with others, and good physical health. These gains in personal resources were consequential and enabled people to become more satisfied with their lives and to experience fewer symptoms of depression (Johnson et al., 2011).

A study by Carson et al. (2004) incorporated the meditative practice of lovingkindness into a mindfulness-based intervention for couples. Forty-four couples who were in well-adjusted relationships and had been married an average of 11 years were randomly assigned to a waiting-list control or the meditation intervention. The program consisted of eight 2.5-hour sessions and a 6-hour retreat. In addition to components modeled on the MBSR program (Kabat-Zinn, 1990), a number of elements related to enhancing the relationship were added, including lovingkindness meditation, partner yoga exercises, focused application of mindfulness to relationship issues, and group discussions. Results demonstrated that the couples in the meditation intervention significantly improved relationship satisfaction as well as relatedness to and acceptance of the partner. In addition, individuals reported significant increases in optimism, engagement in exciting self-expanding activities, spirituality, and relaxation. Interestingly, increases in engagement in exciting self-expanding activities significantly mediated improvements in relationship quality (Carson, Carson, Gil, & Baucom, 2006).

Wachs and Cordova (2007) also assessed the relationship between mindfulness and emotional repertoires in intimate relationships. In their sample of married couples, higher trait mindfulness was related to better marital quality. In addition, skills in identifying and communicating emotions as well as the ability to regulate the expression of anger mediated the relationship between mindfulness and marital quality. That is, greater mindfulness skills allowed the couples to better communicate and control the expression of their emotions, which led to happier marriages.

Relapse prevention.

To date, several mindfulness-based treatments have been created to address relapse prevention. Mindfulness-based cognitive therapy (MBCT; Teasdale et al., 2000) is a group treatment designed to reduce relapse or recurrence of MDD. In a recent meta-analysis of 593 participants across six randomized controlled trials (RCTs), MBCT significantly reduced the risk of relapse/recurrence compared to treatment as usual (TAU) or placebo controls by 34% (Piet & Hougaard, 2011). Interestingly, risk reduction was 43% for participants with three or more major depressive episodes.

Another innovative use of mindfulness for prevention is mindfulness-based relapse prevention (MBRP; Witkiewitz, Marlatt, & Walker, 2005), a synthesis of relapse prevention and mindfulness meditation (MBSR and MBCT) for addictive behaviors. The aim of MBRP is to help prevent relapse of substance abuse through developing awareness and acceptance of thoughts, feelings, and sensations and to utilize mindfulness in the face of high-risk situations. Bowen and colleagues (2009) conducted the first RCT of MBRP compared to TAU. Participants included 168 adults with a variety of substance use disorders who had completed inpatient or outpatient treatment. Participants in the MBRP condition reported lower rates of substance use throughout the program and up to 4 months following MBRP. In addition, compared to TAU, MBRP participants reported reductions in craving and increases in acceptance and acting with awareness.

Happiness and positive affect.

Smith, Compton, and West (1995) investigated the impact of adding meditation to Fordyce's (1983) Personal Happiness Enhancement Program (PHEP). Thirty-six subjects were randomly assigned to an experimental group or a no-treatment control group. Experimental subjects were divided into two groups, both of which received instruction on the PHEP, but one experimental group was also taught meditation exercises that resembled Benson's Relaxation Response (Benson, 1975). Groups met for 12 sessions, 1.5 hour each, over a 6-week period. The meditation-plus-PHEP group significantly improved on measures of happiness, state-trait anxiety, and depression as compared to the PHEP-only group and the control group. Frequent meditators also report significantly higher level of positive affect, significantly fewer stressors and illness symptoms, and lower levels of anxiety, hostility, depression, and dysphoria (Beauchamp-Turner & Levinson, 1992).

In a study by Choi, Karremans, and Barendregt (2012) outside observers judged the happiness of meditators and nonmeditators based on a 15-second clip of their behavior. Results indicated that experienced meditators looked happier compared to controls. In a separate study, the outside observers compared participants before and after a 9-day meditation retreat; results indicated that novice meditators were rated by outside observers to look happier following the 9-day retreat. A 9-week compassion meditation program that utilizes mindfulness meditation as the foundation has also been associated with increasing happiness compared to a waitlist control condition (Jazaieri et al., 2014).

Optimism.

It has been well-documented in the literature that optimism is related to greater well-being (e.g., Carver, Scheier, & Segerstrom, 2010). A recent study evaluated the effectiveness of a 10-day silent vipassana (mindfulness) meditation course on substance use and positive psychosocial outcomes in an incarcerated population (Bowen et al., 2006). Participants completed assessments 1 week before the start of the course, 1 week after the course, and 3 months following release from jail. Results indicated that participants in the meditation course, as compared to those in a TAU control condition, showed significant increases in optimism as measured by The Life Orientation Test (LOT; Scheier & Carver, 1985) 3 months after release. In addition, compared to the control condition, meditation participants demonstrated reductions in alcohol, marijuana, and crack cocaine use, as well as decreases in alcohol-related problems and psychiatric symptoms 3 months after release from jail.

Experimentally, brief mindfulness inductions have been associated with increases in optimism and positive judgments when compared to control conditions (Kiken & Shook, 2011). Another study found that meditation experience (measured both by hours spent meditating as well as by state mindfulness) was associated with greater optimism in participants (Gootjes & Rassin, 2014).

Empathy.

All schools of meditation have emphasized concern for the condition of others and an intention to “promote an empathy with created things that leads toward oneness with them” (Murphy et al., 1997, p. 82). Recent research suggests that in general, meditation practice does indeed lead to greater levels of empathy.

In a randomized controlled study, Shapiro et al. (1998) examined the effects of a mindfulness meditation-based program on 78 medical and premedical students. Results indicated increased levels of empathy and decreased levels of anxiety and depression in the meditation group as compared to the waiting-list control group. Furthermore, the results were found during the students’ examination period, which is a stressful time, and thus reinforce the hypothesis that mindfulness training helps one cope with stress. The findings were replicated when participants in the waiting-list control group received the mindfulness intervention.

The findings of this study are supported by another study examining the effects of MBSR on counseling psychology students’ empathy. Counseling students who participated in an 8-week MBSR course demonstrated significant pre-post increases in empathic concern for others as compared to a matched control group (Shapiro et al., 2006). In another MBSR study, Birnie, Speca, and Carlson (2010) found that some aspects of empathy (increase in perspective taking and decreases in personal distress) changed following the program; however, empathic concern did not change.

Meditation and Positive Psychology

Compassion mediation has also been shown to increase empathic accuracy (Mascaro et al., 2013). It should be noted that studies examining the effects of mindfulness and meditation programs on empathy have also provided mixed results. For example, Beddoe and Murphy (2004) examined stress and empathy in nursing students and found that following MBSR although stress decreased, empathy did not change. Similarly, Galantino and colleagues (2005) did not find significant changes in empathy following a mindfulness intervention for health care professionals. A more recent randomized control study evaluated the effects of compassion meditation (CM) on neuroendocrine, innate immune, and behavioral responses to psychosocial stress (Pace et al., 2009). Plasma concentrations of interleukin (IL)-6 and cortisol, as well as total distress scores on the Profile of Mood States (POMS), were measured in response to the Trier social stress test (TSST). Though no main effect of group was found when comparing the CM group to the wait-list control, significant decreases in stress response were found within the CM group; increased meditation practice was correlated with decreased TSST induced stress response (Pace et al., 2009).

Additional RCTs with large, generalizable samples examining the effects of mindfulness programs on empathy are needed to better understand how mindfulness influences empathy.

Self-compassion.

Self-compassion is defined as being kind and understanding toward yourself in instances of pain or failure rather than being harshly self-critical, perceiving your experiences as part of the larger human experience rather than seeing them as isolating, and holding painful thoughts and feelings in balanced awareness rather than overidentifying with them (Neff, Kirkpatrick, & Rude, 2007). Studies have found that mindfulness meditation-based interventions significantly increases self-compassion (Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro, Brown, & Biegel, 2007). In the first study, health care professionals were randomly assigned to an MBSR intervention or a waiting-list control group. Participants in the intervention group demonstrated significant increases in self-compassion as compared to the control group (Shapiro et al., 2005). The second study was a matched controlled design examining the effects of MBSR for counseling psychology students. Results support the findings of the health care professional study, with participants in the MBSR intervention demonstrating higher levels of self-compassion compared to the control group (Shapiro et al., 2006).

Another study found that self-compassion is significantly predictive of other positive psychological variables including wisdom, personal initiative, curiosity and exploration, happiness, optimism, and positive affect (Neff et al., 2007). Furthermore, self-compassion remained a significant predictor of psychological health after controlling for shared variance with positive affect and personality. Therefore, self-compassion seems to be an important positive psychological variable that merits further research. In one study examining MBSR, participants reported greater self-compassion following the program and changes in self-compassion were predicted by changes in mindfulness. Self-compassion also revealed strong associations with psychological functioning (Birnie, Speca, & Carlson, 2010). In an RCT of a 9-week compassion meditation program, participants reported increased compassion for themselves as well as reductions in the fear of giving compassion to themselves (Jazaieri et al., 2013).

Self-actualization.

Meditation has been described as a “technique to actualize and integrate the personality of human kind to those fulfilled states of personal integration” (Ferguson, 1981, p. 68). Important positive characteristics demonstrating self-actualization include “increased acceptance of self, of others and of nature ... superior perception of reality” (Maslow, 1968, p. 26). These characteristics parallel some of the fundamental objectives of meditation. It is not surprising, therefore, that the most widely measured positive psychological outcome in the meditation literature is self-actualization (Alexander et al., 1991).

Alexander and colleagues (1991) performed a meta-analysis of studies examining the effects of TM and other meditation and relaxation interventions on self-actualization. The analysis included 42 independent treatment outcome studies (18 TM, 18 other meditation studies, and six relaxation studies). The authors found significant improvements in self-actualization across all of the studies. Extending Brown and Ryan’s (2003) finding of a

Meditation and Positive Psychology

positive association between mindfulness and self-actualization, a recent cross-sectional self-report study of 204 students found that mindfulness and self-actualization are positively related (Beitel et al., 2014).

Moral maturity.

Few questions in psychology are of greater social and global significance than how to foster moral maturity, but unfortunately traditional interventions, such as instruction in moral thinking, usually produce only modest gains. Meditative traditions emphasize the importance of moral development and regard moral maturity as both an essential foundation and product of practice. Meditation is said to enhance ethical motivation and behavior via several mechanisms. These include sensitizing awareness to the costs of unethical acts (such as guilt in yourself and pain produced in others), reducing problematic motives and emotions (such as greed and anger), strengthening morality-supporting emotions (such as love and compassion), cultivating altruism, and identification with others via transpersonal experience (Walsh, 1999). Initial research support comes from reports of TM practitioners whose increased scores on scales of moral development correlate with duration of practice (Nidich, Ryncarz, Abrams, Orme-Johnson, & Wallace, 1983).

Shapiro, Jazaieri, and Goldin (2012) argue and provide preliminary empirical evidence that the cultivation of states of discernment and awareness even in the absence of explicit training in ethics (e.g., within the context of MBSR) can affect moral reasoning and decision making in an implicit way. An experimental study suggests that dispositional mindfulness modulates the automatic transference of disgust into moral judgment (Sato & Sugiura, 2014). Empirical research on this topic is in its infancy—further research on this topic deserves high priority.

Spirituality.

In the study by Carson and colleagues (2006) noted previously, the couples who received the mindfulness meditation relationship enhancement intervention reported significant increases in spirituality compared to the control group. This supports earlier findings that MBSR intervention significantly increased spiritual experience in medical students as compared to waiting-list controls (Shapiro et al., 1998). These results were replicated when the control group received the same mindfulness intervention. Furthermore, Astin (1997) demonstrated significant increases in spiritual experience in a randomized controlled study comparing a mindfulness meditation intervention to a control group of undergraduate students.

Greeson and colleagues (2011) examined 279 adults following MBSR and found that changes in both spirituality and mindfulness were significantly related to improvement in mental health. Other studies (e.g., Birnie et al., 2010; Carmody et al., 2008) have found that MBSR is associated with increasing aspects of spirituality and this has been found to be true in clinical populations such as cancer patients following MBSR (e.g., Labelle et al., 2015).

Meditation and Positive Psychology

Mindfulness appears to enhance physiological, psychological, and transpersonal well-being. Specific enhancements observed include physiological rest, happiness, acceptance, sense of coherence, stress hardiness, empathy, and self-actualization. Thus, mindfulness may help human beings identify and actualize their potential strengths.

The results of past research are qualified by their limitations in methodology. We suggest the following criteria to ensure rigorous design: (1) an adequate sample size of subjects should be randomized into experimental and control groups; (2) the type of meditation technique taught should be made explicit (e.g., mindfulness or concentrative); (3) the frequency and duration of meditation practice should be recorded (e.g., meditation journals); (4) outcome variables should be included that are well established and consistent with the original intentions of meditation; (5) follow-up should include long-term as well as short-term assessment; and (6) researchers should include long-term meditators as well as beginning meditators. Also, when matching control subjects to long-term meditators in retrospective studies, in addition to age, gender, and education, it would be important to consider matching subjects on the dimension of an alternative attentional practice (e.g., playing a musical instrument). With such improvements, the inferences that we could make from results would be substantially strengthened.

Future Directions

There are multiple directions for future research. Rigorous and sensitive designs are needed that assess the multifaceted nature of health, including both the negative *and* the positive. We briefly outline five directions for future research in meditation and positive psychology.

First, in our research designs, we must examine dependent variables that more closely parallel the original goals and objectives of meditation (e.g., self-actualization, cultivation of empathy, meaning, purpose). Second, we should explore the physiological states elicited during positive psychological experiences, including meditation practice, to further augment the emerging concept of the “physiological substrates of flourishing” (Ryff & Singer, 1998; for initial work in this area, see Davidson et al., 2003). Third, it is crucial to determine the most effective way to teach meditation in clinical, educational, and community settings by comparing differing lengths of meditation intervention, as well as different formats for the intervention (e.g., group vs. individual). Along these lines we must ask, “What works best for whom?” For example, are there specific types of meditation that fit better with specific individuals or specific goals? Different “types of meditation may have very different effects on the practitioner and thus may have different clinical applications” (Bogart, 1991, p. 385). It is crucial to consider what therapeutic goals (e.g., stress management, self-exploration, or transformative transpersonal experiences) are being sought when determining which type of meditation is most appropriate. Bogart (1991) suggests that concentration methods may allow the

Meditation and Positive Psychology

participant to feel inner balance, calm, and the ability to transcend the continuous flow of cognitions and emotions, whereas opening-up meditation may encourage insights into maladaptive cognitive, emotional, and behavioral patterns.

A fourth direction for future research involves operationalizing experience levels of participants. Researchers must assess both length of practice and have some index of depth of practice (e.g., teacher ratings). Fifth, we should ask, “What are the processes through which meditation brings about positive psychological changes?” The explanatory mechanisms of meditation are elusive and more attention needs to be given to them (for initial work in this area, see Baer, 2003; Shapiro, Carlson, Astin, & Freedman, 2006).

Conclusions

During the past four decades, research in meditation has developed a strong foundation, demonstrating significant psychological, physiological, and therapeutic effects. The field of positive psychology offers new opportunities and methodologies to examine the original intentions of meditation. In fact, meditation can be considered an applied positive psychology practice that has wide application for promoting positive health in medicine, business, and education.

The aim of positive psychology, according to Seligman and Csikszentmihalyi (2000), “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). This aim of cultivating positive qualities, including wisdom, compassion, and generosity, is at the heart of the original intentions of meditation. Meditation offers paths to exceptional states of mental well-being and attentional control that have been systematically developed and practiced for 2,500 years. In this way, meditation may help positive psychology examine and reevaluate the current definition of “normal” and expand Western psychology’s concept of mental health. Future research into the positive effects of meditation will help illuminate the richness and complexity of this age-old practice.

Questions for the Field

1. What is the role of Intention and Context in contemplative practices? How do intention and context impact the way we teach and the outcomes of these practices?
2. What is the most effective way to teach meditation to children and young adults in educational settings so that these positive psychological effects may be experienced earlier in life?
3. What are the mechanisms through which meditation brings about positive psychological change?

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