

How do different types of meditation practices match up—and how do they serve different goals, from relaxation to spiritual enhancement? In the wealth of research on meditation, what kinds of negative effects have been uncovered? What is lost when meditation is extracted from its spiritual context? Dr. Joan H. Hageman provides an informed guide to different meditation techniques and the large body of research that reveals the great variety of pros and cons to regular practice. From awareness and enhanced concentration to reduced anxiety and better attitudes, the shared goals remain the same—to achieve an enhanced state of balance and change one's consciousness.

Not All Meditation Is the Same

A Brief Overview of Perspectives, Techniques, and Outcomes

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A common misconception is that all meditation practices are the same. I have found through my research that they are not, even though the end result may be similar in the sense of achieving a more subjective sense of well-being. In terms of describing what meditation is and what it does, there are many different perspectives that range along a continuum from the sacred to the secular in the scientific literature. This chapter will briefly capture the most prominent perspectives, techniques, and outcomes. There are many others, but there is not space to include them here.

WHAT IS MEDITATION?

From a strict psychophysiological lens, meditation is defined as the intentional self-regulation of attention that is used for self-inquiry, whereas Andrzej Kokoszka (1990) suggests that meditation may also involve self-experience, self-realization, and/or a way to achieve the discovery of ultimate truth according to some religious traditions (as cited by Perez-De-Albeniz and Holmes, 2000). The *Random House Dictionary* (1996, p. 843) defines it as a “devout religious contemplation or spiritual introspection.” Among other perspectives, meditation is also defined and described from both operational and philosophical perspectives.

Neuroscience focuses on the brain functions that are involved in meditation, such as the frontal cortex, amygdala, thalamus, parietal lobe, temporal lobe, and other brain functions. It appears that the human is neurologically hard-wired to evoke certain perceptions and sensations during such acts as chanting, dance, meditation, prayer, religious ritual and contemplation, and yoga (Alper, 2001). There is also the tendency to interpret these perceptions and sensations cross-culturally as indicative of a divine, sacred, or transcendental reality. Recent discoveries in neuroscience seem to contradict the notion of such sacredness by suggesting that these experiences are simply the effects of electrochemical impulses interpreted by the brain. Matthew Alper (2001) agrees with this stance. He proposes that spiritual consciousness first emerges in the human child’s preoperational development stage, and draws attention to his observations that during meditation: (a) the amygdala, which has the function to alert one when a threat is sensed, becomes deactivated; (b) blood flow is decreased to the parietal lobe of the brain, which has the function of orienting one to space and marking the distinction between self and the external world; (c) the temporal lobe, which has the function of marking the passage of time, is quieted; (d) the frontal lobe becomes activated; and, (e) the interaction of

these brain functions collectively serve to focus the individual's attention and thereby convey a sense of absolute reality that is greater than the reality of everyday life. Alper contends that these experiences are strictly the product of human cognition. In contrast, Andrew B. Newberg (2002), from a neurotheology perspective, proposes that neuroscience has its limitations in answering epistemological and ontological questions.

From another perspective, some consider that meditation is related to daydreaming and hypnosis (Fromm, 1975) or autogenic training, cardiovascular and neurovascular feedback, prayer, and relaxation techniques (Kokoszka, 1994). Philip Snaith (1998), in opposition to this idea, argues that meditation is different from these techniques or practices because it emphasizes the maintenance of alertness and the expansion of self-awareness from the respective philosophical cognitions, and increases the sense of integration and cohesiveness. From these brief definitions, one can easily glean that there is a diversity of opinion on what meditation is. Likewise, there is disagreement in terms of categorizing the varied techniques of meditation.

MEDITATION TECHNIQUES

Although there are many different techniques for meditation, Deane H. Shapiro (1982) classifies three primary broad groupings of attentional strategies: (a) *mindfulness*, focuses on the field or background perception and experience, and might be described as a wide-angle lens attention; (b) *concentrative*, focuses on the field or background perception and experience, and might be described as zoom-lens attention; and, (c) *integrated*, which involves a shift between the field and object of attention.

In contrast, Eugene d'Aquili and Andrew B. Newberg (1993) suggest that there are only two basic categories of meditative practice: *passive* and *active*. By their definitions, passive meditation is an attempt to reach a subjective state

characterized by a sense of no space, no time, and no thought, whereas active meditation is designed to lead to a subjective experience of absorption with the object of focus (as cited by Newberg and Iversen, 2002).

Furthermore, there may be a profound effect on brain functions via the specific characteristics of a meditative practice in how mediation is performed (i.e., verbal, visual, movement), and how it is experienced. For example, brain neuroplasticity and affective style, in addition to immune responses, are positively effected with mindfulness meditation (Davidson, 2004; Davidson et al., 2003).

In terms of behavioral descriptors in how meditation is experienced, John L. Craven (1989) identifies five components: (a) altered state of awareness, (b) concentration, (c) maintenance of self-observing attitude, (d) relaxation, and (e) suspension of logical thought processes. This author and colleagues (Hageman, 2007a; 2007b) clarify that attentional strategies effect how emotion is presented in the stream of consciousness during meditation. As such, meditation may be practiced while in silence, sitting, reclining, dancing, walking, and/or doing various exercises that aim to break down the habitual automatic mental categories, serving to regain the primary nature of perceptions and events and to focus attention *on the process* rather than the desired outcome. Various meditative practices include breathing techniques, prescribed behaviors, bodily postures, and/or specific exercises that are unique to the practice, which are oriented toward the respective beliefs focused on enhanced awareness, harmony, balance, and/or enlightenment. There is some overlap of these techniques from practice to practice, but typically there are definitive techniques to each practice.

In the Chinese Qigong meditation, for example, the person concentrates on the energy in the body, starting at the lower abdomen, and through visualization circulates the *Qi* energy

through various parts of the body until the energy is dispersed. This process is combined with an instructor's suggestions that are repetitive, positive, and reinforcing along with the individual's own suggestions, which usually culminate in an individual's strong belief that their own individual energy can be manipulated at will. Kouksundo (also known as Sundo Taoism), as another example, also focuses on breathing and the dispersion of energy throughout the body, but its breathing technique (*tancheon*) is different in that it begins much lower in the abdomen just above the pelvic bone, and its exercises are similar to some positions in martial arts that are more oriented toward stretching and balance. Other practices focus on the breath via the nostrils combined with mantras and chanting, whereas some practices focus on silence or a form of hyperventilation combined with cognitive strategies (Hageman, Krippner, and Wickramasekera, 2006).

The Eastern Orthodox Church focuses on the Hesychastic Prayer for meditation, which has a superficial resemblance to Buddhism and various Hindu meditations. The Hesychastic Prayer may be done along with the chanting of the Purity of Heart prayer and other mantras. The Jewish meditation's goal is to achieve *Devekut*, which is the attempt to bind oneself to God: the Jewish counterpart to enlightenment. These meditations may be performed at any time for three minutes or more and may be described as moments of mindfulness. The Sufi tradition may use either silent meditation, mantras, or dance. Indic tantra meditation may involve active meditation, sometimes in addition to tantric sexual expression. There are also various forms of yoga meditations (e.g., concentration, mindfulness, raising of kundalini energy, visualization). Buddhism meditation may involve concentration, insight, mindfulness, and visualization. Zen philosophy involves a specific form of meditation called *zazen* (seated meditation) that is basically the

study of one's self. The basic goal of zen meditation is to achieve *satori*, which is individual enlightenment, for which concentration, insight, and mindfulness techniques may be used. Clearly, there are many different meditation techniques; moreover, their outcomes are just as diverse.

MEDITATION AND ITS OUTCOMES

Just as there are different forms of meditation, there are differences in the perspectives toward understanding one's self related to the meditative practice. For example, Buddhist ideology views the self as illusory, and asserts that human development proceeds through a series of developmental stages. Buddhist psychology holds that an individual's clinging to personal experience is the deepest psychopathological problem, which propagates the formation and overattachment to the self. In contrast, psychoanalytic object relations theory in Western psychology (Greenberg and Mitchell, 1983) holds that psychopathology is the inability to establish a cohesive integrated self. Both object relations theory and Buddhist thought agree that the human goes through developmental stages. There are also differences in how cultures view the individual's role in society (e.g., collectivism, individualism) that impact the esoteric meanings applied to specific meditation practices.

Traditionally, meditation has been practiced within a religious context; however, especially in the West, many techniques of meditation have been extracted from the context of philosophical and spiritual ideologies and applied to promote individual well-being. In this respect, a preponderance of literature in the scientific journals and research efforts about meditation is based on meditation's personal health enhancing aspects without the esoteric underpinnings (e.g., Epstein, 1990; Shapiro, 1994). From the Western psychological perspective, the process of meditation suspends the habitual logical verbal construction

and thus frees individuals of their usual defenses. This allows an individual's consciousness to move in new directions (Bogart, 1991). Nonetheless, there are varying reports across cultures on the benefits and adverse effects of meditation.

Even though much of the following research was not based upon a true experimental research design, some findings suggest that meditation: (a) prompts an integration of subjective experiences, increases acceptance and tolerance of affect, and increases self-awareness (Craven, 1989); (b) optimizes the process of memory (Atwood and Maltin, 1991); (c) increases vigor (Kutz, Leserman, Dorrington, Morrison, Borysenko, and Benson, 1985); (d) increases happiness and joy, positive thinking, self-confidence, effectiveness, and problem solving skills (Shapiro, 1992); (e) enhances acceptance and compassion and tolerance to self and others (Dua and Swinden, 1992); and, (f) increases relaxation, resilience, and the ability to control feelings (Scheler, 1992).

Other research suggests additional benefits to meditation: (a) it helps an individual to understand that there are not necessarily quick solutions to problems or concerns (Atwood and Maltin, 1991); (b) positive effects are created by specific techniques such as physical postures, attentional focus, style, and breathing (Colby, 1991); and, (c) it produces an integrated response with peripheral circulatory and metabolic changes in the central nervous system (Jevning, Wallace, and Beidebach, 1992) that involves such effects as alpha, beta, and theta brain wave coherences (Telles and Desraju, 1993), brain stem evoked responses (Liu, Rong-Quing, Guo-Zhang, and Chi-Mang, 1990), and metabolic effects (Harte, Eifert, and Smith, 1995). The metabolic effects also include the meditator's ability to change metabolic rate at will (Benson, Malhotra, Goldman, Jacobs, and Hopkins, 1990). Measures of cerebral blood flow depict differential activity in associated cortices known to participate in imagery and in meditation (Lou, Kjaer, Friberg, Wildsciodtz, Holm, and Nowak, 1999).

As mentioned above, though not inclusive, much research has addressed the beneficial aspects of meditation; however, not all individuals experience positive side effects. In fact, Shapiro (1992) found that 62.9 percent of the participants in one of his research projects reported adverse effects either during or after meditation. He found additionally that 7.4 percent experienced profound adverse effects, and that the length of practice ranging from sixteen to 105 months did not serve to change the quality and frequency of adverse side effects (e.g., being more judgmental; boredom; confusion and disorientation; decreased motivation in life; depression; feeling addicted to meditation; feeling spaced out and exhibiting impaired reality testing; increased negativity; pain; paradoxical increases in tension; relaxation-induced anxiety and/or panic).

Craven (1989) also found additional side effects (e.g., anxiety-provoking phenomena; destructive behavior; elation; feelings of guilt; grandiosity; mild dissociation; psychosis-like symptoms; suicidal feelings; uncomfortable kinesthetic sensations). Ilan Kutz and colleagues (Kutz, Leserman et al., 1985) found that some participants experienced a sense of defenselessness, which produced unpleasant affective experiences (e.g., anger, apprehension, despair, sobbing, hidden memories) and themes from the past (e.g., abandonment, incest, rejection). It is not uncommon for some meditators, who claim to have “found the answers,” to be actively engaged in a subtle maneuver of avoiding the solution to personal issues. From this perspective, Shapiro (1992) recommends some caution when the idea is presented that adverse effects are only part of the path and that it takes years of practice to resolve the adverse effects. He argues that this line of reasoning is reminiscent of the misuse in the classical psychoanalytic dictum that “insight causes cure.” Hence, if one is not cured, then one needs more insight.

From personality theory perspectives, it is unclear whether certain personality types are more likely to try meditation or whether the effect of meditation increases the awareness of covert feelings, certain personality traits (e.g., extraversion, introversion, hypnotic susceptibility, neuroticism), and symptomology (Morse, 1984). Most research on meditation and personality has focused on neuroticism (negative affect) and anxiety.

Although different meditation techniques may be associated with different outcomes, the length of regular meditative practice may not be as definitive a critical agent to explain anxiety reduction as some other effects. There may also be a *ceiling effect* regarding the length of practice and anxiety reduction. There are contrasting findings in which some researchers found that a decrease in anxiety was associated with length of practice (Delmonte, 1981a), whereas other research did not confirm it (Zuroff and Schwarta, 1978) or indicated that length of practice was not a consistent measurement for positive change (Peters, Benson, and Porter, 1977).

On a more positive contrast, Jonathan C. Smith (1978) found that individuals who display the greatest reduction in trait anxiety and maintain a meditative practice tend to be: (a) reserved, detached, and aloof (i.e., sizothymic); or, (b) charmed by imagination, completely absorbed, demonstrating a facility to dissociate and/or engage in autonomous self-absorbed relaxation, and imaginatively enthralled by inner action (i.e., autia). This conclusion was presented in terms of Raymond B. Cattell's (1957) personality factors that involve the levels of social withdrawal (sizothymia) and high absorption in idea (autia) dimensions. These findings are consistent with the notion that individuals who regularly practice meditation and are high on hypnotizability would be more likely to show substantial reduction in anxiety (Heide, Wadlington, and Lundy, 1980). Moreover, individuals who are attracted to meditation

may be relatively introverted and may become less introverted with length of practice. It is further theorized that extroverts may be less inclined to be involved in a meditative practice, but there does not appear to be any substantiative documentation to give support to the notion that a meditative practice may change the extroversion-introversion personality dimension.

Michael M. Delmonte (1980, 1981b, 1985) pointed out that the attrition from meditation practice could be predicted by negative self-concepts and high levels of symptomology (e.g., high levels of anxiety; neuroticism; psychological malaise); however, individuals who adhere to a meditative practice for intrinsic reasons (e.g., are relatively psychologically healthy; do not use meditation to solve serious problems of living) are likely to experience reduced anxiety, reduced depression, and increased self-actualization. Delmonte (1981b) also suggested that hypnotic responsiveness increases with the length of practice, and that the individual's expectancy of positive benefit is related to the frequency of practice and the reported benefits of meditative practice. Although Irving Kirsch and David Henry (1979) found that expectancy of benefit was significantly related to reduced anxiety, David C. Zuroff and J. Conrad Schwarz (1978) did not confirm this relationship and concluded that the effects of meditation might be more readily apparent in self-report measures than it is in behavioral or physiological measures. This author suggests that "faking good" may be more prominent in the self-report than in other measures, but that there may also be some inherent desynchrony among the measures of anxiety and arousal (e.g., physiological, cognitive, behavioral, biochemical).

Regardless of the conflicting reports of whether anxiety reduction is due to meditation or is the result of a quasi-placebo effect, increased awareness is a common theme in most psychotherapies and in *all* spiritual practices. Meditation also allows practitioners

to step out of their own conceptual limitations, which is a process indicative of insight and creativity and the converse of neuroticism (Greguire, 1990). Although some may view meditation as the split between the experiencing ego and the observing ego as described by Sigmund Freud (1930/1961) or as a regression in the service of the ego (Atwood and Maltin, 1991) to explain its effects, meditation may be most helpful to those individuals who have achieved an adequate level of personality organization and who have also addressed certain fundamental ego-based issues (e.g., intimacy, livelihood, self-esteem, sexuality).

Even so, there are different types of meditation that may have short- and long-term benefits including the relaxation response, but meditation is neither free of side effects nor of contraindications. This author suggests that the removal of meditation techniques from their theoretical and belief contexts of differing epistemologies may serve to dilute their ultimate benefits to the practitioner. Although meditation may bring positive benefits to the individual for multiple reasons, it cannot be ignored that the expectancy benefits are foundational to the epistemologies of the meditative practice. Both the Eastern and the Western practices of meditation, from their religious or their spiritual epistemological stances, tout specific benefits to the individual in terms of adherence to a way of life, enlightenment, happiness and well-being, and ontology. Moreover, psychopathology is a cultural determinant and the use of absorption, dissociative proclivity, or hypnotic responsiveness in a meditative practice also carries cultural guidelines as to what is pathology and what is not.

The practice of meditation from a religio-spiritual lens always includes some concept of divinity and the individual's place in the world. The biomedical, the psychobiomedical, and the neurological view of meditation to some extent strip the meditative practice from its origins, which may add to the dilution and

potential adverse effects of the meditative practice. In addition, the misuse of meditation within a religio-spiritual dynamic may serve to inhibit the positive effects and/or increase the negative aftereffects of meditation.

In conclusion, the controversy between the two perspectives of the brain's role in consciousness as either (a) an organ that serves to release, permit, or transmit consciousness or (b) a physical producer of consciousness, is long standing, which has been elaborated by William James (1898/1960). From a cross-cultural lens, this author (Hageman, 2006) agrees that neuroscience has its limitations in fully explaining the purpose and outcomes of meditation. The neurological mechanisms that allow for ritual behaviors, such as those involved in meditation, are very important in the clarification of a body-mind interaction, and the potential for the human to self-heal, among other benefits. Though this controversy will most likely continue for some time, most meditators who practice from a religio-spiritual orientation consider the issue resolved. Nevertheless, it is important for science to distinguish the role of belief in health and well-being in the effort to fully delineate the impact of meditation.

For the layman practitioner, the various meditation techniques offer ways to gain access to higher levels of personal understanding as well as relaxation methods to help calm the mind and the body. In this author's opinion, higher states of consciousness that may be achieved through a meditative practice offer the potential for the individual to open the self to a connection to the divine, no matter how the individual might define his or her own sense of the divine and reality. Meditation is not a "cure-all," but it does offer another way to enhance one's well-being physically, mentally, and spiritually.

The fact that there are so many types of meditations is encouraging because individuals and cultures are different. The person who tends to be highly imaginative might more easily use active

meditation techniques, because they can more quickly acclimate to the process of imagery, and achieve a state of consciousness different than their ordinary one. The person who is trained to use a technique to calm the mind might find the process of imagery distracting and thus have a more difficult time calming the mind. The person who is adept at both creative imagery and calming of the mind can more easily benefit from a technique that combines both approaches. One word of caution: any technique (e.g., meditation, hypnosis, prayer, visualization, chanting, drumming, dancing) that is used to achieve a clarity of thought and purpose by *changing* the individual's state of consciousness will tend to uncover the inconsistencies in a person's emotional and mental status. For most, the uncovering of these inconsistencies is temporarily uncomfortable and unsettling. For others, the inconsistencies may be so overwhelming that help from a friend, counselor, medical professional, or spiritual advisor may be warranted. In either event, the primary goal of meditation is to achieve a better balance within the interaction of the body, the mind, and the spirit.