

## The Use of Meditation in Corrections

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I was pleased to see that the *International Journal of Offender Therapy and Comparative Criminology* published a review of the effects of different meditation practices in corrections settings (Himmelstein, 2010). Several key findings on meditation in corrections were not included in the review, which I would like to summarize here.

*Studies not reviewed.* The review covered only 6 of the 17 studies on the Transcendental Meditation (TM) technique in corrections (35% of the evidence; Hawkins, Orme-Johnson, & Durchholz, 2005). Among the omissions were four randomized longitudinal studies with a total of 226 subjects and 25 studies on substance use. The four randomized trials ranged in length from 2 weeks to 10 months and found significant decreases in TM subjects compared to controls on self-report psychological measures of depression, neuroticism, sleep disturbance, suspicion, hostility, aggression, and assault (Hawkins et al., 2005). Noteworthy is that the randomized studies also found significant improvements on “hard” archival behavioral measures, such as reduced prison rule infractions and increased participation in educational and recreational programs during 10 months of practicing the TM technique, as well as reduced neurochemical stress markers after 4½ months. Himmelstein did review the three studies showing that TM practice reduces recidivism by up to 43.5% fewer new convictions 15 years after release from prison compared to matched controls.

*Neuroendocrine mechanism.* Also missing from the review was mention of a seminal paper by Walton and Levitsky (2003) on neuroendocrine mechanisms. Briefly, whereas reduced serotonin levels have been associated with impulsive (unpremeditated) aggression and attempted suicide, TM practice has been shown to increase serotonin metabolites. A wide range of evidence indicates that regular practice of the TM technique balances the autonomic nervous system, reducing chronic baseline activation levels of the sympathetic nervous system and improving reactivity to stress. States or behaviors associated with aggression, such as hostility and alcohol consumption, have also been correlated with elevated cortisol secretion, and TM practice has acute and long-term effects of reducing cortisol and increasing the ratio of dehydroepiandrosterone sulfate (DHEA-S) to cortisol, a sensitive measure of balance in the system.

*Psychological mechanism.* Another important area of meditation research missed by the review includes studies testing the hypothesis that offenders are as if “frozen” in an immature state of ego development and that practice of the TM technique unfreezes development (Alexander & Orme-Johnson, 2003). To test this hypothesis, 271 maximum-security prisoners were studied over a 15.7-month period for longitudinal changes in

self-development and psychopathology due to the TM technique and other prison programs (counseling, drug rehabilitation, or participation in Muslim or Christian groups). Controlling for pretest scores, overlap of membership, and 19 demographic and criminal history factors, TM members compared to controls increased significantly in Loevinger's ego development scale, an objective test of global personality development. The results indicate the development of a more mature, responsible, self-monitoring, self-respecting, and communicative personality. TM subjects also showed reductions in aggression, schizophrenic symptoms, and trait-anxiety (Alexander & Orme-Johnson, 2003).

*Different types of meditation.* There are basic differences among meditation techniques with regard to the sensory, cognitive, and physical processes they require, their neurophysiological effects, and their behavioral outcomes. Travis and Shear (in press) have classified meditation techniques into three distinct types of practices according to their electroencephalographic (EEG) signatures. These three types of meditation are focused attention, open monitoring, and automatic self-transcending. Focused attention or concentration techniques are characterized by EEG in the beta2 (20-30 Hz) and gamma (30-50 Hz) frequency bands, which are associated with the voluntary sustained control of attention to keep it focused on the object of meditation, such as a specific thought or sensory focus. Open monitoring or mindfulness-based meditation techniques (the other type besides the TM technique reviewed by Himelstein) are characterized by frontal theta (5-8 Hz) EEG and perhaps occipital gamma, in association with dispassionate nonevaluative monitoring of ongoing experience (Travis & Shear, in press). Frontal theta occurs when the brain is inhibiting sensory input in order to carry out internal mental processes, as it does when there is a need to block out distractions while focusing inward, as during mental arithmetic (Sauseng & Klimesch, 2008). The heart of mindfulness techniques is to learn to monitor ongoing experience in and outside of meditation to develop a nonjudgmental attitude and healthier, more adaptive attitudes and behavioral reactions.

In contrast, the purpose of the TM technique is to transcend any mental activity during meditation, and there are no specific practices to be done outside of meditation, only to act naturally. Controlled and randomized studies have shown that the TM practice increases alpha coherence and synchrony both within and outside of meditation (Travis et al., 2009), and this, along with the concomitant reduction in stress physiology mentioned above, appears to account for its effects, not any change in attitude or cognitive style.

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