SPECIAL ISSUE

Growing Interest in Meditation in the United States

Adam Burke, PhD, MPH, LAc, 1 and Autumn Gonzalez, BA2

¹San Francisco State University, Department of Health Education, Institute for Holistic Health Studies; ²San Francisco State University, Department of Psychology Keywords: meditation, complementary and alternative medicine (CAM), functional magnetic resonance imaging (fMRI), National Health Interview Survey (NHIS)

Meditation is a self-regulatory, mind-body process used to help engage attention and awareness, and to produce a state of inner quiescence. It has been used as a selftransformative practice for millennia, most notably in the Far East. Interest in meditation was evident in the United States in the late 19th century, and began to flourish during the early 1960s as Transcendental Meditation, Zen, and other traditions grew significantly in popularity. Over the ensuing decades a large body of scientific literature has also emerged. One factor contributing to this growth in publications is an increasingly sophisticated ability to measure brain activity using functional magnetic resonance imaging (fMRI) and advance EEG and MEG technologies. National surveys, including the National Health Interview Survey's (NHIS), also show clear evidence of growing consumer interest in meditation. The NHIS shows use of meditation to be in the top ten most commonly used complementary and alternative medicine (CAM) therapies. The most recent 2007 NHIS compared findings of meditation use with reported use in the 2002 survey. A statistically significant increase in mediation practice among adults in the previous 12 months was noted, up from 7.6% in 2002 to 9.4% in 2007.

Meditation is a self-regulatory, mind-body process used to help engage attention and awareness, and to produce a state of inner quiescence. It is ideally practiced daily over an extended period of time, with the goal of stabilizing and maintaining those changes. The intended benefits of the practice include improved physical and mental health, greater tranquility, deeper insight into the nature of existence, and transcendence or spiritual liberation. Meditation as a selftransformative process has been used for millennia, as evidenced by extensive treatises on the subject found in India, China, Tibet, and other major cultural centers. In the United States, popularization began around the beginning of the 20th century when ideas from the East started arriving on American shores. The Theosophical Society, founded in 1875 in New York City, endorsed many Eastern ideas as central to human transformation. Transcendentalist authors, such as Emerson and Thoreau, incorporated Eastern concepts of life into their writings. Swami Vivekananda addressed the 1893 World Parliament of Religions in Chicago discussing the benefits of meditation and Eastern thought to an exuberant audience. Another significant wave of popular interest began in the late 1950s and early 1960s as Transcendental Meditation, Zen, and other traditions began to grow in popularity.

Over the ensuing decades, a significant body of scientific literature has also been growing in this area of research. A search of PubMed produces over 2,000 studies using the keyword "meditation." A great deal of this research has focused on Transcendental Mediation beginning in the 1970s (Maharishi Vedic Education, 2001), and more recently on studies of Mindfulness Meditation (Bishop, 2002; Grossman, Niemann, Schmidt, & Walach, 2004; Zgierska et al., 2009). One factor contributing to a new surge in publications is an increasingly sophisticated ability to measure brain activity. Examples of this ability include a recent anatomical MRI study showing that participants in a mindfulness-based meditation training course had increased density of grey matter in the left hippocampus, the posterior cingulate cortex, the temporo-parietal junction, and the cerebellum regions associated with learning, memory, emotion regulation, and perspective processes (Hölzel et al., 2011). Another study of MRI and mindfulness reported increased connectivity between the auditory and visual networks, as well as regions of the brain associated with attention and selfreference (Kilpatrick et al., 2011). Over several decades, the preponderance of meditation studies have repeatedly substantiated the benefits of meditation for physical and mental health and well-being (Murphy, Donovan, & Taylor, 1997). Given the significant expansion of research on meditation, in 1996 the National Library of Medicine introduced the term "Meditation" into its MeSH database of key terms as another marker of its importance as a research subject.

National surveys also show a growing consumer interest. Two recent National Health Interview Surveys (NHIS) on complementary and alternative medicine (CAM) have shown meditation to be one of the top ten most commonly used CAM therapies. The NHIS employs a representative sample of U.S. households, with oversamples of both Blacks and

Hispanics. In-person interviews are conducted in multiple languages using computer-assisted personal interview (CAPI) technology. An NHIS alternative health supplement survey was conducted in 2002 and 2007 (Barnes, Powell-Griner, McFann, & Nahin, 2004; Barnes, Bloom, & Nahin, 2008). Approximately 30,000 adults participated in each study. In the 2007 survey, respondents were asked about lifetime use and recent use (previous 12 months) of 36 CAM therapies, 10 provider-based (e.g., acupuncture) and 26 selfcare oriented. The most common CAM therapies used by adults in 2007 were natural products (17.7%), deep breathing exercises (12.7%), meditation (9.4%), chiropractic or osteopathic manipulation (8.6%), massage (8.3%), and yoga (6.1%). The authors also compared findings from the 2002 and 2007 NHIS and noted that there had been a statistically significant increase in adults reporting use of meditation in the previous 12 months, up from 7.6% in 2002 to 9.4% in 2007. Common characteristics of CAM users included being female, aged 30-69, and having more education (Barnes et al., 2008).

References

- Barnes, P. M., Powell-Griner, E., McFann, K., & Nahin, R. L. (2004). Complementary and alternative medicine use among adults: United States, 2002. Hyattsville, MD: National Center for Health Statistics.
- Barnes, P. M., Bloom, B., & Nahin, R. L. (2008). Complementary and alternative medicine use among adults and children: United States, 2007. Hyattsville, MD: National Center for Health Statistics.
- Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic Medicine*, 64(1), 71–83.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57(1), 35–43.

- Hölzel, B. K., Carmody, J, Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., et al. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research*, 191(1), 36–43.
- Kilpatrick, L. A., Suyenobu, B. Y., Smith, S. R., Bueller, J. A., Goodman, T., Creswell, J. D., et al. (2011). Impact of mindfulness-based stress reduction training on intrinsic brain connectivity. *NeuroImage*, 56(1), 290–298.
- Maharishi Vedic Education. (2001). Annotated bibliography scientific research on the Maharishi Transcendental Meditation and TM-SIDHI program volumes 1–5 and recent research. Retrieved from: http://www.maharishi.org/tm/research/508_studies.html
- Murphy, M., Donovan, S., & Taylor, E. (1997). The physical and psychological effects of meditation: A review of contemporary research with a comprehensive bibliography, 1931–1996. Petaluma, CA: Institute of Noetic Sciences.
- Zgierska, A., Rabago, D., Chawla, N., Kushner, K., Koehler, R., & Marlatt, A. (2009). Mindfulness meditation for substance use disorders: A systematic review. *Substance Abuse*, 30(4), 266–294







Autumn Gonzalez

Correspondence: Adam Burke, PhD, MPH, LAc, Institute for Holistic Health Studies, Department of Health Education, San Francisco State University, San Francisco. California 94132. email: aburke@sfsu.edu.

Copyright of Biofeedback is the property of Allen Press Publishing Services Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

Copyright of Biofeedback is the property of Allen Press Publishing Services Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.