

## Book Review – *Clinical Handbook of Biofeedback: A Step-by-Step Guide for Training and Practice with Mindfulness*

by Inna Z. Khazan. Wiley-Blackwell, Malden, MA, 2013, 354 pages, ISBN: 978-1119993711.

**Citation:** Davis, J. (2015). [Review of the book *Clinical Handbook of Biofeedback: A Step-by-Step Guide for Training and Practice with Mindfulness*, by I. Z. Khazan]. *NeuroRegulation*, 2(1), 50–51. [doi.org/10.15540/nr.2.1.50](https://doi.org/10.15540/nr.2.1.50)

**\*Address correspondence to:** Dr. John Davis, Psychologist, Brain Injury Community Re-Entry (Niagara), 12–261 Martindale Road, St. Catharines, Ontario, L2W 1A1, Canada. Email: [jdavis@bicr.org](mailto:jdavis@bicr.org)

**Edited by:** Nancy Wigton, PhD, Grand Canyon University, Arizona, USA

**Copyright:** © 2015. Davis. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC-BY).

**Reviewed by:** Genomary Krigbaum, PsyD, Marian University, College of Osteopathic Medicine, Indiana, USA

Inna Khazan has written a book on biofeedback that does three things very well. First, it provides clear and accessible descriptions of applied psychophysiology methods. Second, it reviews the research base that supports these methods and makes them credible treatments for a range of significant health problems. Third, it creatively integrates biofeedback with the practice of mindfulness meditation, a major component of the newest generation of cognitive-behavior therapy (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

As Khazan writes in her introductory chapter, “Mindfulness allows people to become truly aware of the present moment, to tell the difference between what they can and cannot change, and then focus their attention on the things they *can* change” (p. xiii, original italics). Applying mindfulness in biofeedback, as in psychotherapy, transforms what symptoms mean and overcomes treatment impasses.

Chapters are excellently researched and provide salient reference citations. Khazan’s writing is direct and clear. Tables, illustrations, and formatting make the text readable and accessible as a practical reference. The chapters are organized into four sections: Foundations, Assessment, Biofeedback Modalities, and Biofeedback Applications.

The Foundations section begins with a basic introduction to mindfulness, research supporting its effects, and directions for integrating mindfulness with biofeedback. As the title advertises, methods are presented in a concise step-by-step fashion. A number of meditation scripts are offered in appendices. This first section concludes with two brief chapters. One briefly reviews general issues in

biofeedback, such as goals, modalities, and important training parameters (e.g., rapport, rationale, self-monitoring, and homework). The other describes large-scale multi-modality devices, and small-scale devices, and provides vendor information.

Assessment is presented in four chapters. The first of these outlines an interview structure for collecting information about the presenting problem and relevant background history. Psychophysiological stress assessment is described next, including sensor placement, specific steps for each phase of assessment, and guidelines for interpreting results. Khazan then outlines rationale and methods for completing a relaxation profile. This type of assessment profile induces relaxation with several methods in turn and determines which produces the best physiological response. Last, Khazan reviews the often-overlooked stage of treatment planning. She does this by integrating methods of stress assessment interpretation from a previous chapter with illustrations of common psychophysiological profiles. Levels of research evidence (Moss & Gunkelman, 2002) are outlined, and used to classify biofeedback methods for representative disorders. For example, surface EMG biofeedback for adult tension headache is reported as having sufficient evidence to reach Moss and Gunkelman’s Level 5 (“efficacious and specific”), whereas heart rate variability training for PTSD achieves only Level 2 (“possibly efficacious”). Thus, Khazan provides methods for data collection, interpretation, and integration with empirically supported biofeedback techniques. This then enables client-therapist collaboration for evidence-based decision-making.

Khazan's third section reviews Biofeedback Modalities: breathing, heart rate variability, surface electromyography, temperature, and skin conductance. Chapters concisely present the physiology of each system. Step-by-step protocols are outlined for assessment and treatment, together with methods for including mindfulness. In many cases, sample therapist scripts are offered. Specific assessment and treatment variations are described for particular client presentations. Checklists and trouble-shooting guides are also included. Appendices present useful client logs for self-monitoring symptoms and skill practice.

The final section, Biofeedback Applications, addresses representative disorders for which biofeedback may be an effective treatment. These are anxiety, asthma, migraine headache, tension-type headache, essential hypertension, irritable bowel syndrome, Raynaud's phenomenon, temporomandibular joint disorders, and chronic pain. Emerging directions for the use of biofeedback are presented for major depressive disorder, heart disease, diabetes, arthritis, and insomnia. The organization of these chapters includes sections on symptoms, physiology, etiology, assessment, conventional treatment, and biofeedback. Presentation of biofeedback protocols is succinct and well organized. Brief scripts and client recording tools are included.

Khazan's book is informative, practical, and readable. It should be on the shelf of every serious biofeedback practitioner. The author perceptively notes that the book may also be of value to psychotherapists who wish to consider how biofeedback can be included in their existing practice in order to provide more holistic care. That is, the book does a service to build bridges between practitioners who treat maladies of the body and those who treat disorders of the mind.

Despite the book's absence of neurofeedback coverage, it should be read by neurofeedback practitioners for several reasons. Most importantly, it presents mindfulness skills and how they can be integrated with biofeedback to further develop self-awareness and self-regulation, consequently strengthening the effects of biofeedback. This point can be easily and directly extrapolated to the practice of neurofeedback. Formats for assessment

and tools for symptom monitoring will also be welcomed by neurofeedback practitioners. Khazan's book should also be read by neurofeedback practitioners because it provides ideas for planning and conducting treatment that can improve outcomes.

In sum, Khazan's integration of mindfulness with biofeedback is easily extended to neurofeedback. Integrated with neurofeedback, these methods are likely to bear much fruit. For clients, they will facilitate the more ready acquisition of self-awareness and self-regulation skills, enable compassionate detachment from experiences beyond one's control, and accelerate the application of newly learned skills to effectively change what can be controlled. Khazan's book is an excellent introduction to biofeedback for new students of the field, as well as to seasoned therapists from a range of mental health disciplines who are interested in strengthening their practice by treating both the mind and the body. Scientists will welcome Khazan's book for the testable hypotheses it suggests.

For established practitioners of both biofeedback and neurofeedback, Khazan's innovative integration of mindfulness will be greatly appreciated because it articulately presents methods to augment self-awareness and self-regulation that will result in better clinical outcomes.

John Davis, PhD  
Brain Injury Community Re-Entry (Niagara)  
St. Catharines, Ontario, Canada  
Email: [jdavis@bicr.org](mailto:jdavis@bicr.org)

## References

- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1–25. <http://dx.doi.org/10.1016/j.brat.2005.06.006>
- Moss, D., & Gunkelman, J. (2002). Task Force Report on Methodology and Empirically Supported Treatments: Introduction. *Applied Psychophysiology and Biofeedback*, 27(4), 271–272. <http://dx.doi.org/10.1023/A:1021009301517>

**Received:** February 4, 2015  
**Accepted:** February 28, 2015  
**Published:** April 14, 2015