

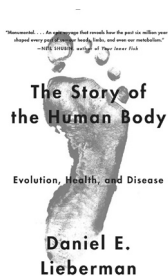
political forces at play in those recommendations. In many ways this book points out that the simplest to recommend, inexpensive, but often hard for the patient to engage in recommendations such as lifestyle modifications are often still where we should be focusing our efforts. The more we can educate the public about the complexity of back pain and the lack of easy and quick solutions the more we will be able to engage our patients in treatment, and this book adds to that education. *Watch Your Back* is a thoughtful and engaging book that makes a good read for anyone involved in the treatment of chronic back pain.

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The Story of the Human Body: Evolution, Health and Disease

Daniel E. Lieberman

New York, NY, Pantheon Books, 2013, 480 pp., \$27.95, hardcover,
New York, NY, Vintage Books, 2014, 480 pp., \$15.95, paperback



Daniel Lieberman is the chair of the Department of Human Evolutionary Biology at Harvard and is well acknowledged for his talent of transforming complex evolutionary topics into understandable and interesting vignettes. In *The Story of the Human Body*, Lieberman outlines how human

evolution has provided us many advantages but has also incurred certain disadvantages related to our cultural adjustments over the most recent few thousand years. Indeed, many of our chronic illnesses are related to these cultural alterations and have created what Lieberman calls “dysevolution,” where symptoms are treated to a much greater extent than the root cause of the problem. This is what reverberates with me as I talk with patients, residents, and medical students. Although it is cliché to say, “That’s just an average overweight American with diabetes and heart disease who needs ‘LisinoForminStatin,’” this book walks us back and helps us see the trajectory that brought us to this current state of human health. That approach, in turn, should help us to better align our future best practices, or I certainly hope it does!

The book unfolds in three sections, starting with “Apes and Humans.” In this section, Lieberman unfolds the distinctions of evolution that led to our being the only mammals who can run marathon distances in the heat, the only snoutless primates, and the most accomplished animals at projecting handmade weapons with speed and accuracy, among many other peculiarities. Although integral for developing the baseline knowledge that leads us to the next two sections, some people may find that the level of detail in the first 122 pages is mildly soporific.

The second section of the book, “Farming and the Industrial Revolution,” picks up the pace detailing how the cultural changes experienced by humans sped up selection of heritable traits in correlation with booming populations. Lieberman states, “More than 86% of the new mutations that have arisen probably have negative effects.” (p. 205) He goes on to detail failures in cultural evolution that still allow health care disparities, skyrocketing obesity rates, and many other worrisome outcomes of “dysevolution.” Lieberman poignantly goes on to state, “So far, the combined efforts of doctors, parents, public health professionals, educators, and others to reverse this growing problem have been mostly ineffectual.” (p. 211) Moving forward we must understand that “Of the various mismatch diseases we confront, some of the most worrying are those caused by too much of a formerly rare stimulus.” (p. 247)

In the final section, “The Present, the Future,” Lieberman takes us through nearly self-explanatory chapters that outline those rare stimuli: “The Vicious Cycle of Too Much,” “Disuse,” “The Hidden Dangers of Novelty and Discomfort,” and “Survival of the Fitter.” Many aspects of our current state of health care in relation to “mismatch” diseases lead to a sense of hopelessness. Lieberman powerfully depicts the situation: “... billions of people suffer from diseases of affluence, novelty, and disuse that used to be rare or unknown. We then treat the symptoms of these diseases because it is easier, more profitable, and more urgent than treating their causes, many of which we don’t understand anyway. In doing so, we perpetuate a pernicious feedback loop—dysevolution—between culture and biology.” (p. 366)

Is it possible that such sober reflection on the titanic collision of our biologic and cultural evolution can shed a powerful and distinct light on failures of modern health care? I believe so, and I think this book does a fine job

in doing such. I see this book supplementing a public health curriculum or simply stimulating thought in a book club for health care clinicians. Previously, I could have added a simple comment to a conversation on this topic such as, “You know, we didn’t evolve for (fill in the blank with modern cultural scenario).” Now, I know the perfect book to suggest for those with a deeper interest.

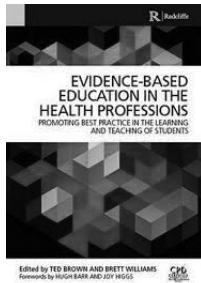
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Evidence-Based Education in the Health Professions

Ted Brown, Brett Williams, eds.

London, Radcliffe Publishing, 2015, 520 pp., \$86.95 paperback



The practice of medicine has come a long way, from shamanism and snake oil, to interventions based on a scientific understanding of pathophysiology, to evidence-based practice focused on patient-oriented outcomes. The transition is not (nor is likely ever to be) complete, but the shift

is monumental.

Education in general, and medical education in particular, has not yet made the transition to evidence-based methods. Educational methods tend to be expert- or consensus-driven, with evaluation of the methods based on subjective learner impressions or, less commonly, on change in performance on objective knowledge assessments (which may or may not be relevant to the actual application of knowledge). Accreditation requirements are consensus-based and imposed without evidence of benefit either to learning, student well-being, or patient outcomes. Clearly an evidence-based profession is deserving of an evidence-based education (EBE). It was with great anticipation of the arrival of an era of EBE that the subject of this review was received.

The 500+ page compilation of the work of 56 authors, organized into four parts, offers a fairly comprehensive review of the current state of EBE. Setting the context for the sections that follow, the volume begins with a review of evidence-based medicine (EBM), levels of evidence, types of studies, factors in health education, trends in higher education, and trends in health care. The majority of the contributors

hail from Australia and the United Kingdom (UK); while many of the principles presented may be universal in application, there is a bias toward medicine and education in the Commonwealth.

Each chapter begins with an overview and objectives and concludes with a summary, facilitating the readers’ ability to glean key points and to identify chapters containing topics of special personal interest. Chapters on finding evidence provide both places to turn (eg, a nice list of databases on page 54) and places to avoid (eg, predatory publishers). Chapters on how to generate evidence also include a good review of Boyer’s classification of scholarship types. One of my favorite chapters was on evidence-based educational assessment: is the test testing the right thing? The book ends with a section on application of EBE to a variety of disciplines. This tied the rest of the chapters together nicely, yielding a unified feel to the work: a whole, not a collection of parts.

While an impressive compilation, this book did not live up to this reviewer’s anticipation. This is through no fault of the authors or editors but is primarily the result of the limited evidence available in the field. The majority of the chapters were surprisingly light on discussion of evidence; instead, they were mainly focused on educational methods (ie, delivery mode [MOOC, video, WIKI] or theory of learning (eg, transformative learning). In many cases, the dismissive “evidence is emerging” was as close as it got. One author even commented “Lack of empirical rigor...does not translate into lack of support.” When evidence was presented, generally only the conclusions were given; there was no critical evaluation of experimental or statistical methods, limitations of the studies, and the other components that contribute to the lively discussions to which we’ve become accustomed in EBM. Chapter 22, on Case-Based Learning, was a notable exception: a concise systematic review of the evidence was presented. This chapter offers a model format for all chapters in the next edition.

EBE is “an educational approach in which current, high-quality scholarship of teaching and learning research evidence is integrated with pedagogical content knowledge...and teacher-learner interactions in making education decisions in order to maximize student learning outcomes.” The emphasis on student learning outcomes is important; historically, much educational research has focused on processes rather than outcomes.