

Book Review of

Neuropsychological Interventions: Clinical Research And Practice
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by

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Rehabilitation has often been regarded as the missing link of the cognitive neurosciences. It has been traditionally championed by a small, albeit talented, group of individuals and aims to bridge the gap between neurological impairment and normal function. Recognition that cognitive deficits are often more relevant to recovery and rehabilitation success than to physical deficits has also led to the growth and successful development of neuropsychological rehabilitation as a distinct and definable specialization. In 1989, Sohlberg and Mateer's landmark introductory text helped locate this form of rehabilitation alongside more established rehabilitation approaches, and more than a decade later the specialization appears to have come of age, with several new books and at least two journals devoted to the subject.

This makes any new volume in this area a particularly interesting read, not least since it provides a welcome snapshot of this burgeoning field. Eslinger's book delivers a concise, readable overview, with the first five chapters devoted entirely to methodology and the second section, containing eight chapters, examining the application of rehabilitation to each of the main traditional categories of neuropsychological impairment (such as attention, memory and language).

This makes for an interesting juxtaposition. Particularly when reading through the later chapters, it becomes apparent that the gap between theory and practice can vary considerably between areas. Comparing the chapters on language rehabilitation and visuoperceptual impairments provides a particularly striking example. These are arguably two of the most developed areas in the cognitive neurosciences, and whilst Hinckley's language chapter begins with discussion of an overarching 'theory of therapies' and proceeds to outline various approaches from the social to the neurological, Anderson is forced to admit that 'it is difficult to find a well-articulated model for visuoperceptual rehabilitation' (p. 171). This is not to criticize Anderson, who goes some way to correcting this omission by presenting his own model of visuoperceptual rehabilitation. However, it does serve to remind us of Caramazza and Hillis' (1993) assertion that models of cognitive processing and their pathologies are necessary but not sufficient for practical rehabilitation.

From reading Eslinger's book, it becomes apparent that neuropsychological rehabilitation is perhaps still in need of a metatheory of rehabilitation, outlining how different levels of explanation (social, psychological, neural, etc.) can be combined to successfully target therapy or assess its effects. Grattan and Ghahramanlou's chapter on the rehabilitation of neurologically based social disturbances gives an excellent overview of work in this area, although it is notable that almost all the therapies they review (largely psychotherapeutic) could equally well be applied to social impairments that have not arisen as a result of acquired brain injury. Although not a criticism in

itself, this does illustrate what seems to be a gap in the literature for a guiding principle to help determine the level at which an individual's impairment should be best approached.

Many of the psychological interventions outlined in this chapter, and in the chapter by Flaherty-Craig and colleagues on emotion processing impairments (including family recruitment and psychosocial education), would seem to be valuable in almost all cases of brain injury. Indeed, Brequist and Malec argue strongly for a multidisciplinary approach in their chapter on assessment and treatment planning. Nevertheless, a solid theoretical understanding of how to coordinate these various therapies for maximum patient benefit (or, more likely in this day and age, the most cost-effective patient benefit) still seems some way off.

Particularly noteworthy is Whyte's chapter on the pharmacological treatment of cognitive impairments. This is becoming an area of increasing interest for neuropsychologists, and the chapter outlines some solid foundations for assessing the efficacy of drug treatment, including experimental design and analysis. This is in pleasant contrast to the sometimes ad hoc approach to pharmacotherapy and efficacy assessment seen in psychiatry. The focus is very much on traditional pharmaceutical interventions, particularly with the neurostimulants, such as methylphenidate. It is perhaps worth bearing in mind that much work has recently been published on the cognition-enhancing effects of Ginkgo biloba, ginseng and even well-timed glucose intake in healthy participants, and there have been some early promising results on the use of such substances by brain-injured individuals. It would have been nice to have seen some mention of these, as Whyte's methodology could be put to good use in conducting much-needed further research on their potential effects.

Manly, Ward and Robertson make the interesting suggestion, in their chapter on the rehabilitation of attention, that the use of computer games might be a valuable way of improving skills that rely on sustained or selective attention whilst being intrinsically motivating. These effects are reflected in the non-clinical literature by the recent reports that regular computer game players seem to have greater attentional resources and that relatively short-term game-playing can improve attentional performance. The games involved in this study were commercially available and were not specifically designed for their cognitive benefit. With the increasing ubiquity of computer-based entertainment and the possibility that games designed specifically for their cognitive effect might be even more effective, this would also seem to be a valuable line of future research.

One aspect not touched upon in Eslinger's book is neuropsychological intervention in any of the psychiatric illnesses, particularly schizophrenia. Perhaps this is unsurprising, given the traditional (albeit increasingly redundant) distinction between psychiatry and neurology, the latter of which neuropsychology has most identified with. However, it is notable that there are both demonstrable neurocognitive deficits in schizophrenia and a vibrant research community that is actively and successfully involved in the neuropsychological rehabilitation of affected individuals (Kurtz, 2003). The cross-fertilization between the psychiatric and acquired injury schools of rehabilitation seems all the more urgent as it is becoming increasingly clear that neurocognitive deficits show highly consistent relationships to functional outcome in schizophrenia.

Eslinger, a leading cognitive neuroscientist, has certainly compiled a thought-provoking and timely volume, and if we are to take it as a snapshot of current thinking in this area of rehabilitation, this reflects well both on the book and on the field of neuropsychological intervention. Despite some understandable variation in the quality of the chapters, the book manages to compile a great deal of information into a well-structured tome and provides a much-needed consensus about what might constitute best practice. It is particularly praiseworthy for focusing on methodology in its early chapters, something which will benefit not only rehabilitation specialists and researchers but also busy clinicians, for whom the application and assessment of rehabilitation is only part of their

responsibilities. It will also serve as an excellent overview for anyone wishing to introduce themselves to (or refresh themselves in) what is fast becoming an essential area for clinical neuropsychology, and for other professionals interested in understanding and managing the consequences of brain damage.

References

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