

## BOOK REVIEW

Pliszka, S.R. (2002):  
NEUROSCIENCE FOR THE MENTAL HEALTH CLINICIAN  
New York: Guilford, 280 pp.  
\$35.00 USD

This is an exciting time for the mental health profession. The advances in neuroscience appear to be unfolding at an expedient rate. The increasing sophistication of identifying neurotransmitters and receptor sites have paved the way for pharmacological treatment to pinpoint specific deficits. It is for this reason that many have come to regard the past ten years as the “decade of the brain” [1] (p. 323).

With the development of integrative techniques in genetics and brain imaging, mental health professionals have broadened their perspectives on mental illness and the general functioning of human beings.

This has had a profound affect on theories of emotional and behavioral disorders as well as the manner in which they are treated. Pliszka’s book on *Neuroscience for the Mental Health Clinician* was solo-authored. Pliszka is a psychiatrist who is the Chief of Child and Adolescent Psychiatry at the University of Texas Health and Science Centers in Antonio. The author teaches neurobiology at the medical school and maintains an active clinical practice in which he has drawn from while preparing this text. The book was written primarily for a broad spectrum of practicing mental health professionals interested in understanding how advances in neurobiology will ultimately lead to innovative treatments and social policies. The text provides a history explaining the development of eugenics, which is primarily defined as the identification of specific genes that determine traits or disorders.

This book is well written and crafted in an engaging style that captures the reader’s attention, despite the technical content. The book is divided into two sections, fourteen chapters in all. The initial section reviews neuroanatomy and neurochemistry and provides a solid overview. The second section applies the information outlined in the first to the study of specific mental illnesses and disorders. There is also an epilogue that discusses the implication of these findings for the future of the mental health profession and social policies in mental illness.

Overall, the book does an excellent job of covering as much as possible on an extremely broad and intricate topic. This is particularly in light of the rapidly expanding field. A new breakthrough in this area could change everything. We are often on the verge of such breakthroughs, which makes the field of neuroscience somewhat elusive.

For a more detailed breakdown of the book’s contents, a thoughtful introduction discusses some of the history of the study of genetics and how it applies to mental illness. There are subsequent chapters on neuroanatomy, educating the reader on a number of brain parts and their functions. Neuroanatomy is also discussed in detail with regard to basic functioning and body chemistry. This leads into a more descriptive chapter on neurotransmitters, highlighting the location of receptor sites and their function, as well as the notion of how dysfunction in these areas might contribute to mental illness. I found this chapter particularly

important since so much of the contemporary research and theory on pharmacotherapy is based on these principles. This chapter focuses on important aspects of neurotransmitters such as GABA (gamma aminobutyric acid), acetylcholine, and norepinephrine.

Chapter four produces a very interesting introduction into the various neurotransmitters, including the dopamine system, serotonin, peptides, and growth factors. The chapter indicates where some of the major neurotransmitter systems are located and how the various systems operate. It is a very important chapter in light of the recent research in neuropsychiatry and psychopharmacology.

Subsequent chapters focus on motor behavior and how individuals respond to rewarding stimuli.

Chapter six discusses meaning and emotion with additional language, attention, and higher executive functioning.

Despite the author's efforts in scaling down the content, this book is still quite weighty with material and is tedious reading in places. The text is also full of illustrations, which help to break up some of the scientific jargon with some nice color plates of the brain.

Chapter eight provides the reader with an introduction to clinical issues, which become a bit more interesting. It provides a nice overview of mental disorders along with basic principles of genetics. Interestingly, included are also chapters on genetics and aggression, antisocial behavior, and substance abuse, which is of interest to contemporary mental health professionals working in various aspects of society.

In this section, the author stresses that there is no single gene or biological cause explaining aggression and antisocial behavior.

The chapter does a nice job of highlighting early environmental events that affect the brain and the role of such compounds as 5-hydroxyindoleacetic acid (5-HIAA) and its relation to aggressive behavior.

There is also a discussion of how linkage studies are currently a way to determine whether mutations of 5-HT<sub>2C</sub> or 5-HT<sub>1A</sub> receptors are linked to violent and antisocial behaviors. This particular chapter also covers serotonin in the studies of aggressive children and noradrenergic and autonomic nervous system in antisocial behaviors.

A discussion follows on various markers on chromosomes that dictate the high or low propensity toward alcohol dependence. This has been another area of great interest in the last ten years, particularly with respect to substance abuse treatment.

Chapter eleven addresses the issue of mood and anxiety disorders, covering unipolar and bipolar depression, as well as all of the subcategories of the anxiety disorders. There is also a section on neuroimaging as well as schizophrenia and pervasive developmental disorders, and the role of genetics and neuroimaging in schizophrenia.

The final chapter is dedicated to cognitive disorders involving language, learning and memory, including dementia.

A very thoughtful epilogue is offered in which the author concludes with the discussion of ethical and cultural issues as well as psychiatric genetics.

While it has been stated elsewhere that most mental illnesses are not linked to any one gene, but a number of genes dispersed throughout the system [2], this notion is underscored by the author. More so is the issue of eugenics and the moral impact that it might have on the field as well as the politics and health care informed consent in the free world.

Overall, this is an excellent book that is highly recommended for all mental health professionals. It is also a great introductory text for teaching in psychiatric residency programs, particularly for residents who are interested in the study of genetics and mental illness.

## References

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1. Mintz, D. *Meaning and medication in the case of treatment resistant patients. American Journal of Psychiatry.* 2002; 56(3): 322-337.
  2. Dattilio, FM. Editorial: *Will therapeutic cloning offer hope for severe mental illness? Archives of Psychiatry and Psychotherapy.* 2002; 4 (2): 5-8.

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