Preface

The book is part of a series on Current Topics in Behavioral Neurosciences, which has as its focus anxiety and its treatment. We have brought together a distinguished cadre of authors with the aim of covering a broad array of topics related to anxiety disorders, ranging from clinical diagnosis, epidemiology, preclinical neuroscience, and animal models to established and innovative therapeutic approaches. The book aims at bridging these disciplines to provide an update of literature relevant to understanding anxiety, its consequences, and its management. Following is a brief overview of the chapters and their content, meant to serve as a guide to navigating the book.

The first section covers clinical aspects of anxiety disorders. Joe Bienvenu and colleagues provide an incisive overview of diagnostic considerations in the anxiety disorders in which they emphasize the strengths and shortcomings of our current nosologic systems. This is followed by a review and update of the epidemiology of anxiety disorders by Ron Kessler and colleagues, which provides an authoritative survey of anxiety disorder incidence, prevalence, and risk factors. This is complemented by a comprehensive review of the literature on disorders that co-occur with anxiety disorders by Kathleen Merikangas and Sonja Alsemgeest Swanson. Their review highlights the tremendous comorbidity that occurs not only within the anxiety disorders, but also with other mental and physical health conditions.

The second section is devoted to clinical neuroscience topics that are germane to anxiety disorders. Katharina Domschke and Jürgen Deckert provide a summary of genetic findings in the anxiety disorders. Newton Sabino Canertas and colleagues describe neuroanatomical structures and circuits relevant to anxiety and anxiety disorders. This section is concluded by José Miguel Pêgo and colleagues with a critical overview of the neuroendocrinology of anxiety and stress, tying this together with findings in anxiety and stress disorders.

The third section focuses on animal models. Dallas Treit and colleagues provide an overview on preclinical tests of anxiety-related behavior and discuss the validity of these tests and their sensitivity to pharmacological intervention. This is followed by a review by Laura Jacobson and John Cryan on genetic animal models of anxiety, a discussion of the strengths and weaknesses of such models, and their
The fourth section is devoted to translational science that can inform our understanding of anxiety disorders. Victoria Risbrough discusses behavioral correlates of anxiety disorders with a special emphasis on work that has used emotion-(usually fear-) potentiated startle to test the integrity of particular anxiety-relevant circuits in humans. Marlies van Duinen and colleagues provide a review of the so-called challenge studies in anxiety, in which subjects are exposed to substances (e.g., pharmacological agents) intended to evoke anxiety as a test of their specific properties. Their particular emphasis in this chapter is on challenges to and responses of the respiratory system which, arguably, have been best studied in the anxiety disorders, particularly panic disorder. Amit Etkin subsequently provides a comprehensive review of the functional neuroimaging literature in anxiety disorders. He examines the similarities and differences across anxiety disorders that have emerged from this literature, much of it using functional magnetic resonance imaging (fMRI). Finally, in a tour de force of the merits of translational research, Dennis Choi and colleagues provide a rationale for the pharmacological enhancement of behavior therapy for anxiety disorders.

The fifth section covers the preclinical pharmacology of systems that are relevant to anxiety, as well as some of the molecular targets for potential anxiolytics with novel mechanism of action. Claire Durant and colleagues set the scene with a review of the clinical neurochemistry of anxiety disorders, emphasizing the different neurochemical systems that are targeted by currently used and newly developed anxiolytic drugs. This is followed by an authoritative overview by John Atack on GABAergic approaches, delineating the potential of GABA-A subunit-specific compounds to treat anxiety disorders. Anton Bespalov and colleagues then discuss the importance of antidepressant drugs in the treatment of anxiety disorders, especially the conundrum that preclinical animal models often fail to detect anxiolytic-like effects of antidepressants despite their clinical utility. Their interesting proposal is to also consider cognitive components of anxiety-related behavior and to expand the armamentarium of preclinical models relevant to anxiety to more readily detect the efficacy of antidepressant drugs. Will Spooren and colleagues subsequently review the emerging field of compounds acting at the different metabotropic glutamate receptors as an innovative avenue for the development of novel anxiolytic drugs, followed by a summary by Thomas Steckler on the status of neuropeptidergic approaches to the treatment of anxiety disorders, especially focusing on clinical proof-of-concept studies with small-molecule, nonpeptidergic antagonists of the CRF1, NK1 and 3, and CCK2 receptors, but also on the atrial natriuretic and oxytocin systems. This section concludes with a state-of-the-art overview by Fabricio Moreira and Carsten Wotjak on cannabinoids and anxiety, and modulation of the endogenous cannabinoid system as yet another promising therapeutic approach in the quest for novel, more efficacious and better tolerated anxiolytic drugs.

The sixth and final section of the book reviews the clinical pharmacology of anxiety disorders. This section is organized such that each chapter provides an authoritative review of the literature on the pharmacological management of the
most common anxiety disorders. David Baldwin and colleagues review the phar-
macotherapy of generalized anxiety disorder (GAD) and then Jeffrey Lightfoot and
colleagues do the same for panic disorder. Keith Ganasen and Dan Stein summarize
the evidence base for the pharmacotherapy of social phobia (also known as social
anxiety disorder), highlighting areas where knowledge is strong and where it is
especially sparse. Lakshmi Ravindran and Murray Stein review the evidence for
pharmacological treatment of posttraumatic stress disorder (PTSD), a topic that has
been especially controversial and in the news of late, given recent military conflicts
around the world and the increased awareness of their impact on health of combat-
tants and civilians alike. Blair Simpson closes this section with a summary of the
pharmacotherapy of obsessive compulsive disorder (OCD), a particularly chronic
and difficult-to-treat anxiety disorder for which new treatments are sorely needed,
but have been slow in coming.

These chapters, individually and in their aggregate, provide a broad summary
and synthesis of behavioral neuroscience findings in anxiety and a detailed update
on its treatment. As we look forward to the future – as many of the authors have
done in their chapters – we are particularly excited about recent advances in the
translational neuroscience of anxiety which promise to lead to the development of
more potent therapies for the patients who need them.

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