An Introduction to Drugs and the Neuroscience of Behavior

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AN INTRODUCTION TO

Drugs AND THE
Neuroscience OF
Behavior
To Jennifer, Kendell and Daniel
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Adam has published numerous original studies on psychoactive drugs and conducts research projects funded by the National Institute of Mental Health, private foundations, and pharmaceutical companies. When he is not teaching or doing research, Adam spends time with his family, fixes up their house (which he thinks has a lot of potential), and works on his golf game (which may have less potential, but is enjoyable nonetheless).
1 Introduction to Psychopharmacology  1
2 The Nervous System  29
3 Neurotransmission  63
4 Properties of Drugs  101
5 Drugs of Abuse  129
6 Psychostimulants  159
7 Nicotine and Caffeine  191
8 Alcohol  225
9 GHB, Inhalants, and Anesthetics  255
10 Opioids  275
11 Cannabinoids  299
12 Psychedelic Drugs  319
13 Treatments for Depression and Bipolar Disorder  353
14 Treatments for Anxiety Disorders  381
15 Antipsychotic Drugs  407
1 Introduction to Psychopharmacology 1
   Psychopharmacology 2
   Why Read a Book on Psychopharmacology? 3
   Drugs: Administered Substances That Alter Physiological Functions 4
   Psychoactive Drugs: Described by Manner of Use 5
   Generic Names, Trade Names, and Street Names for Drugs 6
   Drug Effects: Determined by Dose 7
   Pharmacology: Pharmacodynamics, Pharmacokinetics, and Pharmacogenetics 10
   Psychoactive Drugs: Objective and Subjective Effects 11
   Study Designs and the Assessment of Psychoactive Drugs 12
   Experimental Validity: Addressing the Quality and Impact of an Experiment 15
   Animals and Advancing Medical Research 17
      A Lack of Feasible Alternatives 18
      High Predictive Value for Drug Effects in Humans 18
      Assessing Drugs in Carefully Controlled Laboratory Environments 18
   The Regulation of Animal Research 19
      Animal Rights Activism Seeks to Minimize or Eliminate Animal Research 21
   Researchers Consider Many Ethical Issues When Conducting Human Research 22
   FROM ACTIONS TO EFFECTS
   Therapeutic Drug Development 25
   CHAPTER SUMMARY 27
   KEY TERMS 28

2 The Nervous System 29
   Is There More to the Story of Phineas Gage? 30
   Cells in the Nervous System 31
Neuron Communication in the Nervous System 31
Glial Cells: Facilitating Nervous System Functions 33

The Nervous System: Control of Behavior and Physiological Functions 35
The Peripheral Nervous System: Controlling and Responding to Physiological Processes in the Body 36
The Central Nervous System: Controlling Behavior 39

Blood Flow in the Brain 48
Cerebrospinal Fluid 49
The Blood–Brain Barrier 51

The Nervous System: Rapid Development After Fertilization 52
Genes and the Development and Physiological Processes of Cells 55

box 2.1 Genetically Modified Organisms 56
FROM ACTIONS TO EFFECTS
Glial Scars and Recovery from Brain Injury 58

CHAPTER SUMMARY 60
KEY TERMS 60

3 Neurotransmission 63

Drugs for Alzheimer’s Disease Alter Acetylcholine Neurotransmission 64

Electrical Events Within a Neuron and the Release of Neurotransmitters 65

box 3.1 Electrophysiology and Microdialysis 66

Nerve Impulses: Electrical Potential Changes in Neurons 66

Resting Potential 67
Action Potential 71
Refractory Periods 71

Propagation of Action Potentials Down Axons 72

Neurotransmitters: Signaling Molecules for Neuronal Communication 74

Neurotransmitter Synthesis 74
Neurotransmitter Storage 75
Calcium Influx and Neurotransmitter Release 75
Neurotransmitters Bind to Receptors 75
Termination of Neurotransmission 75

Neurotransmission: Neurotransmitter Binding to Receptors 76

Receptors: Ionotrophic or Metabotropic 76

Different Types of Neurotransmitters and Communication 80

Glutamate and GABA Are the Most Abundant Neurotransmitters 81
Monoamine Neurotransmitters: Dopamine, Norepinephrine, Epinephrine, and Serotonin 84
Dopamine 85
Norepinephrine and Epinephrine 87
Serotonin 88

Acetylcholine 89

Neuropeptides: A Large Class of Neurotransmitters 92

Nitric Oxide: A Unique Neurotransmitter 92

Other Types of Chemical Transmission in the Nervous System 93
Neurotrophins 93
Hormones 93

FROM ACTIONS TO EFFECTS
Treating Alzheimer’s Disease 96

CHAPTER SUMMARY 99
KEY TERMS 99

4 Properties of Drugs 101

Do Environmental Stimuli Contribute to Heroin Tolerance? 102
Pharmacokinetic Properties and Drug Passage Through the Body 103
Absorption 103
Distribution 106
Metabolism 108
Elimination 109

Pharmacodynamics: Describing the Actions of Drugs 111

box 4.1 Radioligand Binding for Measuring Receptor Affinity 114

Psychoactive Drugs and Receptors 115

box 4.2 The [35S]GTPγS Binding Assay Assesses G-Protein Activation 118

Neurotoxins and Damage to the Nervous System 122

Physiological Adaptations to Chronic Drug Use 123

FROM ACTIONS TO EFFECTS
Heroin Tolerance and Environmental Factors 125

CHAPTER SUMMARY 126
KEY TERMS 127

5 Drugs of Abuse 129

James Olds’s Important Discovery 130
Regulatory Agencies and Drug Classification 131
Clinical Definitions and the Diagnosis of Drug Addiction 134
Theoretical Models and the Features of Drug Addiction 136
Disease Model of Drug Addiction 136
Associative Learning Principles Used in Addiction Models 137
Drive, Opponent-Process Theory, and Incentive-Salience Models of Drug Addiction 139

box 5.1 Self-Administration 140

Drugs of Abuse and Reward Circuitry 142
Drug Abuse and Changes to Learning and Memory Systems 147
Neurobiology and the Stages of Drug Addiction 150
Psychological and Pharmacological Therapies for Treating Drug Dependence 151

FROM ACTIONS TO EFFECTS
Food Addiction 156
CHAPTER SUMMARY 157
KEY TERMS 158

6 Psychostimulants 159

Fleischl and the Neurologist 160

Psychostimulants: A Large Variety of Substances 161
Psychostimulants: Herbal Remedies, Prescription Drugs, and Substances of Abuse 162
Ephedra 162
Amphetamines 162
Methylphenidate 164
Cathinones 164
Cocaine 165

Instrumental and Recreational Purposes of Psychostimulants 166
Amphetamines 167
Methylphenidate 167
Cathinones 167
Cocaine 168

Psychostimulant Administration 170
Routes and Forms of Psychostimulant Administration 170

Psychostimulants and Monoamine Neurotransmitters 173
Amphetamines 173
Methylphenidate and Cathinones 173
Cocaine 175
Cocaine- and Amphetamine-Regulated Transcript 175

Pharmacological Effects of Psychostimulants 177
Physiological Effects 177
Behavioral Effects 178
Subjective Effects 179
7 Nicotine and Caffeine 191

Is Nicotine Not Addictive? 192

Nicotine: Key Psychoactive Ingredient in Tobacco 192

Discovery of Tobacco 196

Pharmacokinetic Properties and Tobacco Use 198

Nicotine Absorption Through Lung and Oral Tissues 198

Liver Enzyme Differences and the Metabolism of Nicotine 199

Nicotine and Nervous System Functioning 200

Nicotine’s Potent Pharmacological Effects 204

Nicotine’s Effects on Cardiovascular Function and Appetite 205

Nicotine Affects Movement and Cognitive Functioning 206

box 7.1 Conditioned Taste Aversion 208

Nicotine’s Positive and Negative Subjective Effects 209

The Serious Adverse Effects of Tobacco Use 210

Nicotine and Psychological Dependence 211

Environmental, Genetic, and Receptor Differences Between Light and Heavy Tobacco Users 212

FROM ACTIONS TO EFFECTS

Why People Smoke and How They Quit 214

Caffeine 215

Caffeine and Related Compounds in Plants 215

Caffeine Has an Ancient History 217

Caffeine Absorption, Duration, and Interaction with Other Psychoactive Drugs 218

Caffeine: Antagonist for Adenosine Receptors 219

Caffeine: Mild Psychostimulant Effects 220

Tolerance and Dependence During Sustained Caffeine Use 220

FROM ACTIONS TO EFFECTS

Why People Consume Caffeinated Products 221
CHAPTER SUMMARY 222
KEY TERMS 223

8 Alcohol 225
“Halfway to Concord” and “Taking Hippocrates’ Grand Elixir” 226
Alcohol: The Most Commonly Used Depressant Substance 226
Alcohol Production Through Fermentation and Distillation 227
The History of Alcohol Consumption 230
Pharmacokinetic Factors and Alcohol’s Effects 231
Alcohol and Central Nervous System Functioning 233
Alcohol and GABA<sub>A</sub> Receptors 233
Glutamate NMDA Receptors and Alcohol’s Pharmacological Effects 235
Alcohol: Inhibited Neurotransmission 235
Alcohol and Serotonin Receptors 235
Alcohol and the Endocannabinoid System 236
Pharmacological Effects of Alcohol 237
Types of Drinking and Number of Drinks Consumed 237
Acute Alcohol Consumption and Cardiovascular and Respiratory Functioning 238
Alcohol’s Depressive Effects on Behavior and Cognitive Functioning 239
Alcohol and Positive Subjective Effects 242
Severe Adverse Effects of High BAC 243
Chronic Heavy Alcohol Consumption and Adverse Cardiovascular and CNS Effects 244
Alcohol: Tolerance and Sensitization 246
Alcohol Addiction and Withdrawal 247
Psychosocial Interventions, Therapeutic Drugs, and Alcohol Use Disorders 248

FROM ACTIONS TO EFFECTS
Hangover 252

CHAPTER SUMMARY 254
KEY TERMS 254

9 GHB, Inhalants, and Anesthetics 255
Did Ancient Greek Oracles Come from Chemical Inhalants? 256
Gamma-Hydroxybutyrate 256
Uses for GHB 257
GHB: Natural and Synthetic 259
GHB Pharmacological Action 260
GHB’s Depressant Pharmacological Effects 262
GHB Overdose and Risk for Addiction 263

**box 9.1 Electroencephalography** 264

**Inhalants** 266
- History of Inhalants 268
- Inhalants: Rapid Absorption and Elimination 269
- Actions of Inhalable Solvents 269
- Inhalants: Pharmacological Effects and Interference with Oxygen Intake 270

FROM ACTIONS TO EFFECTS

**Stimulus Properties of GHB and Toluene** 272

CHAPTER SUMMARY 273

KEY TERMS 274

### 10 Opioids 275

**A “Treatment” for Morphine Addiction?** 276

- Opioids: Natural and Synthetic 277
- History of Opium Use 279
- Pharmacokinetic Properties and Opioid Abuse 280
- Opioid Drug Interactions with the Endogenous Opioid System 282
- Opioid Drugs: Classification by Receptor Action 284
- Opioid System Interactions with Reward, Pain, and Stress Systems 286

- **Opioid Reinforcing and Analgesic Effects** 289
  - Opioid Receptor Agonists and Reinforcing Effects 289

**box 10.1 Conditioned Place Preference** 292

- Opioid Analgesic Effects 294
- Opioid Drugs and Other Therapeutic Effects 294
- Opioid Drugs and Respiratory Function 295
- User Tolerance and Dependence with Chronic Opioid Administration 295

FROM ACTIONS TO EFFECTS

**Pharmacological Approaches for Treating Opioid Addiction** 296

CHAPTER SUMMARY 298

KEY TERMS 298

### 11 Cannabinoids 299

**Should Medical Marijuana Be Legal?** 300

- Historical Use of Cannabis 302
- Methods of Cannabis Preparation 304
## Table of Contents

Cannabinoid Compounds and the Endocannabinoid System 306
Cannabinoids and CB₁ and CB₂ Receptors 307
Physiological Effects of Cannabinoids 309
Behavioral Effects of Cannabinoids 310
Subjective Effects of Cannabinoids 311
Cannabinoid Tolerance and Dependence 313
Cannabis and Risk of Lung Disease 315
**FROM ACTIONS TO EFFECTS**
Medical Marijuana 316
CHAPTER SUMMARY 318
KEY TERMS 318

### 12 Psychedelic Drugs 319

**Did Hofmann Take a “Trip”?** 320

**Hallucinogens** 321
- Origins of LSD and Other Hallucinogens 322
- LSD Ingestion and Effects 324
- LSD and the Serotonin Neurotransmitter System 324

**LSD’s Mild Physiological Effects and Profound Hallucinogenic Effects** 326
- Hallucinogens and Flashbacks 328

**Mixed Stimulant–Psychedelic Drugs** 329
- MDMA Therapeutic and Recreational Use 329
- MDMA Metabolism and the Length of Psychedelic Drug Effects 330
- MDMA and Serotonin and Dopamine Neurotransmission 332
- MDMA’s Psychedelic and Psychostimulant Effects 334

**box 12.1 Social Interaction Tests** 337
- MDMA’s Psychostimulant Actions 338
- MDMA Use in Psychotherapy 339
- Tolerance and Dependence During Chronic MDMA Use 341

**Recreational Use of Dissociative Anesthetics** 341
- Development of Phencyclidine, Ketamine, and Dizocilpine 342
- Absorption and Elimination of Phencyclidine 342
- Phencyclidine’s Dopamine and Serotonin Neurotransmission 343
- Dissociative Anesthetics and Glutamate Neurotransmission 344
- The Anesthetic and Psychedelic Effects of Dissociative Anesthetics 346
- Dissociative Anesthetics and Schizophrenia-Like Effects 347
- Tolerance, Dependence, and the Use of Dissociative Anesthetics 348

**Other Psychedelic Drugs** 348
**FROM ACTIONS TO EFFECTS**
**Synesthesia** 350
13 Treatments for Depression and Bipolar Disorder 353
Did Reserpine Revolutionize the Study of Antidepressant Medications? 354
Mental Disorders 355
Depression 355
The Prevalence of Clinical Depression 356
Neuroimaging Techniques and Functioning Differences in Depression 358
Antidepressant Drugs and Depression 359
box 13.1 Animal Behavioral Models for Identifying Antidepressant Drugs 360
Limitations in Antidepressant Drug Effectiveness and Development 367
Antidepressant Drugs and Monoamine Neurotransmitter Systems 368
Bipolar Disorder 371
Neurobiology of Bipolar Disorder 372
Bipolar Disorder, Mood Stabilizers, and Other Drugs 373
FROM ACTIONS TO EFFECTS
Pharmacogenetic Factors and Treatment Response in Depression 377
CHAPTER SUMMARY 378
KEY TERMS 379

14 Treatments for Anxiety Disorders 381
Was Miltown Too Good to Be True? 382
DSM Definitions of Anxiety Disorders 382
The Amygdala’s Role in Anxiety 385
Anxious Feelings, the Amygdala, and the Sympathetic Nervous System 387
Stress and the HPA Axis 388
Anxiolytic and Antidepressant Drugs and the Treatment of Anxiety 391
Barbiturates 391
Benzodiazepines 394
Anticonvulsant Drugs for Treating Anxiety 399
Antidepressant Drugs and the Treatment of Anxiety Disorders 400
FROM ACTIONS TO EFFECTS
How Do Antidepressant Drugs Reduce Anxiety? 401
box 14.1 Animal Models for Screening Anxiety Treatments 402
CHAPTER SUMMARY 406
KEY TERMS 406
15 **Antipsychotic Drugs** 407

Kraepelin’s Influence in Distinguishing Neurological from Mental Disorders 408

Schizophrenia 408

**box 15.1** Prepulse Inhibition 410

Schizophrenia’s Complex Neurobiological Profile 412

A Brief History of Schizophrenia and Its Treatment 414

Antipsychotic Drugs and the Treatment of Schizophrenia 415

Typical and Atypical Antipsychotic Drugs 417

Typical Antipsychotic Drugs: The First Effective Medications for Schizophrenia 418

Atypical Antipsychotic Drugs: First-Line Treatments for Schizophrenia 420

Third-Generation Antipsychotic Drugs 423

Administration Forms for Antipsychotic Drugs 423

**box 15.2** Conditioned Avoidance and Catalepsy Measures Distinguish Atypical from Typical Antipsychotic Drugs 424

FROM ACTIONS TO EFFECTS

Antipsychotic Drug Actions and Dopamine Neurotransmission in Schizophrenia 425

CHAPTER SUMMARY 428

KEY TERMS 428

REFERENCES 429

GLINDEX 461
Since my undergraduate years in psychology, I’ve been fascinated by how psychoactive substances produce behavioral effects. This interest led to a career in psychopharmacology research that included many graduate and postdoctoral years studying lab rats in Skinner boxes and mazes. Once I began teaching undergraduates at a university, I found that my students were also curious about how drugs altered behavior. Students wondered not only about the physiological impacts of college drug use but also about how medicines can treat psychological disorders such as depression and schizophrenia. But of particular interest were the effects of psychoactive drugs on the brain. This introductory textbook developed from my efforts to address these interests.

*An Introduction to Drugs and the Neuroscience of Behavior* offers an introduction to the field of psychopharmacology from the perspective of how drug actions in the brain affect psychological processes. The text approaches this rapidly advancing field by providing an introduction to major topics in psychopharmacology. I kept in mind that students have different backgrounds in neuroscience. Therefore, Chapter 2 provides an introductory overview of the nervous system, and Chapter 3 provides a basic coverage of neurotransmission.

Chapter 4 provides an overview of pharmacology principles, covering important drug properties that are necessary for understanding psychoactive drug actions and effects. By mastering these chapters on the nervous system and pharmacology, students will possess a sufficient background to comprehend subsequent chapters on psychoactive drugs.

In addition to the major drug classes in psychopharmacology, this book addresses newer drugs and recent trends in drug use. For example, the current edition includes information on bath salts, energy drinks, modern tobacco products such as tobacco orbs, medicinal marijuana, synthetic marijuana, and antidepressant drug use for treating anxiety.

**How the Materials Are Organized**

During the development of this textbook, I carefully attended to how this material is delivered to an undergraduate audience. My approach consists of a careful, step-by-step presentation of information supplemented by illustrations,
figures, boxes, and several unique pedagogical features. These features include the following.

**From Actions to Effects**

Each chapter ends with a section called “From Actions to Effects.” These sections cover a topic that brings together information presented in the chapter, providing a way to assemble multiple topics for addressing a single concept. In particular, these topics focus on a concept that requires understanding a drug’s actions to account for its effects. These sections aid in the conceptual understanding of chapter material.

**Stop & Check**

Stop & Check questions conclude each section in each chapter. These questions allow students to self-assess their understanding of main points covered in the previous section.

**Review!**

Chapters include important reminders of facts or concepts covered in previous chapters. This helps integrate the diverse material covered in this text.

**Research Techniques and Methods**

Chapters include boxes that cover a research technique or method used in psychopharmacology research. These boxes model good working science and provide an easy reference when students come across research findings derived from each technique. These studies are also important in fostering critical thinking habits in students.

**Key Terms**

Each chapter ends with a list of key terms from the chapter. A definition is provided for each key term in a combined glossary and index at the end of the book. Visit www.cengagebrain.com to access the free companion Web site for this text, which includes a glossary, flash cards, quizzes, and more.

**Supplementary Materials**

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