## CONTENTS

<table>
<thead>
<tr>
<th>Preface</th>
<th>xiii</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER ONE</td>
<td>Drug Use: An Introduction</td>
</tr>
<tr>
<td>Why Do People Use and Abuse Drugs?</td>
<td>3</td>
</tr>
<tr>
<td>How Widespread Is Drug Abuse?</td>
<td>5</td>
</tr>
<tr>
<td>Who Is a Drug Abuser?</td>
<td>5</td>
</tr>
<tr>
<td>Definitions of Commonly Used Terms</td>
<td>7</td>
</tr>
<tr>
<td>DRUGS</td>
<td>9</td>
</tr>
<tr>
<td>PSYCHOACTIVE DRUGS</td>
<td>9</td>
</tr>
<tr>
<td>MEDICINE</td>
<td>9</td>
</tr>
<tr>
<td>NONPRESCRIPTION DRUGS</td>
<td>9</td>
</tr>
<tr>
<td>PRESCRIPTION DRUGS</td>
<td>9</td>
</tr>
<tr>
<td>DRUG ABUSE</td>
<td>12</td>
</tr>
<tr>
<td>ILLEGAL DRUG USE</td>
<td>12</td>
</tr>
<tr>
<td>Frequency of Drug Use</td>
<td>12</td>
</tr>
<tr>
<td>THE STATISTICS OF DRUG USE</td>
<td>12</td>
</tr>
<tr>
<td>THE ROLE OF THE MASS MEDIA AND DRUG ADVERTISING</td>
<td>14</td>
</tr>
<tr>
<td>The Evolution of Social Structure and the Proliferation of Subcultures</td>
<td>16</td>
</tr>
<tr>
<td>ADOLESCENT SUBCULTURE</td>
<td>16</td>
</tr>
<tr>
<td>DRUGS WITHIN THE PEER GROUP SETTING</td>
<td>19</td>
</tr>
<tr>
<td>IS THERE ONLY ONE YOUTH CULTURE?</td>
<td>21</td>
</tr>
<tr>
<td>DRUG ABUSE AMONG ADULTS</td>
<td>21</td>
</tr>
<tr>
<td>The Behavioral Aspects of Drug Use</td>
<td>26</td>
</tr>
<tr>
<td>CHAPTER TWO</td>
<td>Theoretical Explanations</td>
</tr>
<tr>
<td>Social Structure Theories</td>
<td>29</td>
</tr>
<tr>
<td>SOCIAL DISORGANIZATION AND STRAIN</td>
<td>29</td>
</tr>
<tr>
<td>SUBCULTURE THEORY: SOCIAL AND CULTURAL SUPPORT</td>
<td>32</td>
</tr>
<tr>
<td>Social Process Theories</td>
<td>33</td>
</tr>
<tr>
<td>SOCIAL LEARNING</td>
<td>33</td>
</tr>
<tr>
<td>CONTROL</td>
<td>35</td>
</tr>
<tr>
<td>LABELING</td>
<td>37</td>
</tr>
<tr>
<td>CHAPTER THREE</td>
<td>The Body and Drugs: Structure and Controls</td>
</tr>
<tr>
<td>Homeostasis and Controls</td>
<td>41</td>
</tr>
<tr>
<td>Structure of the Nervous System</td>
<td>42</td>
</tr>
<tr>
<td>THE NEURON—BASIC STRUCTURAL UNIT OF THE NERVOUS SYSTEM</td>
<td>42</td>
</tr>
<tr>
<td>NEUROTRANSMITTERS</td>
<td>43</td>
</tr>
<tr>
<td>DRUG EFFECTS AT THE NEURON LEVEL</td>
<td>48</td>
</tr>
<tr>
<td>Major Divisions of the Nervous System</td>
<td>49</td>
</tr>
<tr>
<td>THE CENTRAL NERVOUS SYSTEM</td>
<td>49</td>
</tr>
<tr>
<td>THE AUTONOMIC NERVOUS SYSTEM</td>
<td>52</td>
</tr>
</tbody>
</table>
CHAPTER FOUR
How and Where Drugs Work: Tolerance and Dependency 54
How Do Drugs Work? 55
Drug Effects: Psychological Considerations 56
THE PLACEBO 56
Other Factors That Influence Drug Effects 58
Tolerance to Drugs 58
THE REBOUND EFFECT 59
REVERSE TOLERANCE 59
CROSS-TOLERANCE 59
Dependence on Drugs 59
PHYSICAL DEPENDENCE 59
CROSS-DEPENDENCE 60
PSYCHOLOGICAL DEPENDENCE (HABITUATION) 60
The Meaning of Addiction 60
DEVELOPMENT OF DRUG DEPENDENCE 61
Dosage Forms of Drugs 64
Methods of Taking Drugs 65
ORAL INGESTION 65
SUPPOSITORIES 66
INHALATION 66
INJECTION 66
IMPLANTABLE DRUG-DELIVERY SYSTEMS 66
Dose, Time, and Drug Effects 67
THE DOSE-RESPONSE (DOSE EFFECT) RELATIONSHIP 67
THE TIME RESPONSE FACTOR 67
Main Effects and Side Effects of Drugs 67

CHAPTER FIVE
Pharmacodynamics: The Mechanism of Drug Action 68
Distribution of Drugs in the Body 69
BIOLOGICAL BARRIERS TO DRUGS 70
Drug Receptors 71
Inactivation and Removal of Drugs from the Body 72
Dose-Response Relationships: Potency and Effective Dose 73
CUMULATIVE RESPONSE OR DOSE-RESPONSE CURVES 74
POTENCY VersUS TOXICITY 75
MARGIN OF SAFETY 76
THERAPEUTIC INDEX 77
BIOTRANSFORMATION 78
ALLERGENIC MECHANISMS 79
Drug Testing: Development of New Drugs 80
ANIMAL TESTS 80
HUMAN TESTS 81
PERMISSION TO MARKET 82
SPECIAL MARKETING LAWS 83

CHAPTER SIX
The Classification of Drugs and Drug Interactions 84
Drug Classification 85
Effects of Major Psychoactive Drugs 86
SEDATIVES AND HYPNOTICS 87
STIMULANTS 89
PSYCHEDELICS AND HALLUCINOGENS 89
OPIATES 89
VOLATILE SOLVENTS 91
NONNARCOTIC ANALGESICS 91
ANTIDEPRESSANTS 91
MAJOR TRANQUILIZERS 91
ORAL CONTRACEPTIVES 91
Drug Interaction 91
ADDITIVE EFFECTS 92
DRUG INHIBITION EFFECTS 92
POTENTIATION EFFECTS 92
CHAPTER SEVEN
The Hallucinogens 98
Hallucinogens That May Influence Adrenergic Neurotransmitters 101
MESCALINE (PEYOTE) 101
MDA (3,4-METHYLENEDIOXY-AMPHETAMINE)—THE LOVE DRUG 105
MDMA (ECSTASY) 105
DOM OR STP (DIMETHOXY-METHYLAMPHETAMINE) 106
DESIGNER DRUGS 107
Hallucinogens That May Influence Acetylcholine: The Anticholinergics 107
THE DEADLY NIGHTSHADE: ATROPA BELLADONNA 107
THE MANDRAKE: MANDRAGORA OFFICINARUM 108
HENBANE: HYOSCYAMUS NIGER 108
JIMSONWEED: DATURA STRAMONIUM 109
The Serotonic-Influencing (Indole) Hallucinogens 110
PSILOCYBIN 110
DIMETHYLTRYPTAMINE (DMT) 112
BUFOTENIN 112
AMANITA MUSCARIA (THE FLY AGARIC) 112
THE MORNING GLORIES (OLOLIUQUI) 113
NUTMEG AND MACE 114
LYSERYGIC ACID DIETHYLAMIDE (LSD) 114

CHAPTER EIGHT
Marijuana 122
History of Marijuana 123
Frequency and Extent of Marijuana Use 129
Chemistry and Metabolism of Marijuana 130
Behavioral and Mental Effects 131
Physiological Effects 133
THE RESPIRATORY SYSTEM 133
THE CARDIOVASCULAR SYSTEM 133
THE REPRODUCTIVE SYSTEM 134
THE IMMUNE SYSTEM 134
TOLERANCE AND DEPENDENCE 135
DRIVING AND DRIVER PERFORMANCE 135
POSSIBLE THERAPEUTIC USES OF MARIJUANA 136

CHAPTER NINE
The Stimulants 138
Minor Stimulants: Coffee, Tea, and Chocolate 139
COFFEE 139
TEA 140
CHOCOLATE 140
PHYSIOLOGICAL EFFECTS OF THE ACTIVE SUBSTANCES IN COFFEE, TEA, AND COCOA 140
Strychnine 142
Amphetamines 143
HISTORY OF AMPHETAMINE ABUSE 143
LEGAL USES FOR AMPHETAMINES 145
AMPHETAMINES IN ATHLETICS 146
DISTRIBUTION AND MISUSE OF AMPHETAMINES 147
EFFECTS OF HIGH DOSES OF AMPHETAMINES 148
OTHER DRUGS USED WITH AMPHETAMINES 149
HOW AND WHERE DOES AMPHETAMINE WORK IN THE BODY? 150
Phenmetrazine (Preludin®) and Methylphenidate (Ritalin®) 151
Look-alike Drugs 151
Cocaine 151
HISTORY OF COCAINE 151
EFFECTS OF COCAINE 151
CHRONIC USE OF COCAINE 154
CUTTING AND SELLING COCAINE 155
FREEBASING COCAINE 156
CRACK OR FREEBASE COCAINE 156
COCA PASTE 156
MEDICAL USES OF COCAINE 157
CHAPTER TEN
Tobacco 158
History and Technology of Tobacco Use 159
Nicotine: Primary Drug of Dependence in Tobacco 163
Smoking and Health: Research Findings 165
MORBIDITY, MORTALITY, AND LIFE SPAN 165
EFFECTS OF SMOKING ON THE FETUS 171
IN VOLUNTARY SMOKING (SECONDHAND SMOKE) 172
Who Smokes and Why? 173
Lowering the Risks If You Must Smoke 174
Methods of Stopping Smoking 175

CHAPTER ELEVEN
Depressant Drugs 178
The Nonbarbiturates 179
BROMIDES 179
CHLORAL HYDRA TE 180
PARALDEHYDE 180
ETHCHLORVYNOL 180
GLUTETHIMIDE 180
METHYPYRYLON 180
Methaqualone 180
The Barbiturates 181
MECHANISMS OF ACTION AND METABOLISM 181
EFFECTS AND CLINICAL USES OF BARBITURATES 182
DRUG DEPENDENCE ON BARBITURATES 183
The Minor Tranquilizers 184
MEDICAL USES OF MINOR TRANQUILIZERS 185
EFFECTS OF MINOR TRANQUILIZERS ON THE BODY 186
DRUG DEPENDENCE ON MINOR TRANQUILIZERS 186
Treatment for Sedative-Hypnotic Drug Withdrawal 187
Phencyclidine (Phenylcyclohexylpiperidine, or PCP) 188
PHYSIOLOGICAL EFFECTS OF PCP 188
PSYCHOLOGICAL EFFECTS OF PCP 189
MEDICAL MANAGEMENT OF PCP INTOXICATION 189
The Major Tranquilizers 190
SIDE EFFECTS AND MEDICAL PROBLEMS OF THE ANTIPSYCHOTICS 192
MECHANISMS OF ACTION AND METABOLISM 192
Mood Modifiers: Smoothing Out Depression and Mania 192
THE ANTIDEPRESSANTS 192
LITHIUM SALTS 193
Abused Volatile Substances 193
METHODS OF ABUSE OF VOLATILE SUBSTANCES 195
PHYSIOLOGICAL EFFECTS OF VOLATILE SUBSTANCES 196

CHAPTER TWELVE
Alcohol 198
History of Alcohol 199
Nature of the Beast 203
Blood Alcohol Levels, Metabolism, and Tolerance 204
Physiological Effects of Alcohol 207
SHORT-TERM EFFECTS 207
THE HANGOVER 208
LONG-TERM EFFECTS 209
Alcoholism and Problem Drinking: Extent of the Problem 211
ATTITUDINAL TEST FOR DRINKING AND DRIVING 213
Definition of Alcoholism 214
Causes of Alcoholism 215
PHYSIOLOGICAL FACTORS 216
PSYCHOLOGICAL FACTORS 218
SOCIOLOGICAL FACTORS 218
Treatment of Alcoholism 219
REHABILITATION METHODS 219
DIAGNOSING ALCOHOLISM 219
ASPECTS OF TREATMENT METHODS 220
A Self-Quiz on Fact and Fancy about Alcohol 222
CHAPTER THIRTEEN
Opium and Its Derivatives 226
History of the Narcotics 227
Physiological Activity of Heroin and Morphine 232
Heroin Abuse 233
What Causes a Person to Become an Addict? 236
Other Narcotics 237
METHADONE 238
HYDROMORPHONE 238
MEPERIDINE 238
CODEINE 238
PENTAZOCINE 239
PROPOXYPHENE 239
PAREGORIC 239
DEXTROMETHORPHAN AND LEVOPROPOXYPHENE 239
FENTANYL 239
CHINA WHITE (MPTP) 239
Narcotic Antagonists 239
Clonidine (Catapres) 240
Endorphins: Endogenous Opioid Peptides 240

CHAPTER FOURTEEN
Drugs and Pain 242
Psychological Aspects of Pain 243
Physiological Aspects of Pain 245
WHAT IS PAIN? 245
HOW IS PAIN MEASURED? 247
Methods Used to Relieve Pain 248
PHYSIOTHERAPY 248
MANIPULATION 248
COUNTERIRRITATION 248
CHEMICAL AGENTS 249
NERVE BLOCKING AND SURGERY 250
ELECTRICAL STIMULATION 250
BEHAVIORAL MODIFICATION 250

CHAPTER FIFTEEN
The Contraceptive Drugs 252
Oral Contraceptives 253
TYPES OF ORAL CONTRACEPTIVES 254
HOW ESTROGENS AND PROGESTINS WORK AS CONTRACEPTIVES 255
RISKS INVOLVED IN TAKING ESTROGENS AND PROGESTINS 255
Progestin Injections 258
Medicated Intrauterine Devices 259
TYPES OF MEDICATED INTRAUTERINE DEVICE 259
HOW INTRAUTERINE DEVICES WORK 259
RISKS INVOLVED IN USING INTRAUTERINE DEVICES 260
Spermicidal Products 262
CHAPTER NINETEEN
Drugs and the Law 306
Basis for Drug Laws 307
Regulation of Self-Medication 308
THE "CHINESE PROBLEM" 308
THE GREAT AMERICAN FRAUD: PATENT MEDICINES 308
CONTROLS OVER OPIUM AND OTHER NARCOTICS 310
THE FOOD, DRUG, AND COSMETIC ACT 311
DRUG ABUSE CONTROL AMENDMENTS (DACA) OF 1965 313
COMPREHENSIVE DRUG ABUSE PREVENTION AND CONTROL ACT OF 1970 314
Drug Abuse Regulatory Agencies 315
DRUG ENFORCEMENT ADMINISTRATION (DEA) 315
SPECIAL ACTION OFFICE FOR DRUG ABUSE PREVENTION (SAODAP) 316
THE ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION (ADAMHA) 316
DRUG ABUSE OFFICE AND TREATMENT ACTS 316
ALCOHOL AND DRUG ABUSE EDUCATION AMENDMENTS 316
Regulation of Drug Abuse at the State Level 317
Constitutional Protections 317
The Effect of Laws on Drug Use 319
Costs of Drug Addiction to Society 321
The Future of Drug Laws 323

CHAPTER TWENTY
Treatment, Rehabilitation, and Prevention 324
Treatment and Rehabilitation of the Addict 327
Goals of Treatment 328
Detoxification and Abstinence Programs 329
Maintenance Programs 329
Opiate Antagonists 331
Clonidine 332
Therapeutic Communities 332
Treatment Effectiveness 332
Innovative Treatments 334
Drug-Abuse and Addiction Prevention Programs 337
Alternatives to Drugs: The Journey beyond Trips 339
DRUG-ABUSE PREVENTION STRATEGIES 340
THE ALTERED STATE OF CONSCIOUSNESS AND THE DRUG HIGH 344
USING THE MIND FOR NONDRUG HIGHS 345

APPENDIX A
Structures of Neurotransmitters and Representative Psychoactive Substances 349

APPENDIX B
Special Drug Problems of the Elderly 357

APPENDIX C
Common Weight Measurements for Drugs 361

APPENDIX D
Case Studies 362

GLOSSARY 402

REFERENCES 413

INDEX 426