

Brief Contents

PART 1:

ORIGINS AND METHODS OF PSYCHOLOGY

CHAPTER

- 1 The Origins of Psychology—1
- 2 The Methods of Psychology—33

PART 2:

BIOLOGICAL FOUNDATIONS, PERCEPTION, AND SLEEP

CHAPTER

- 3 The Biology of Behavior—65
- 4 Sensation and Perception—121
- 5 Sleep, Dreaming, and
Consciousness—189

PART 3:

LEARNING, MEMORY, COGNITION, MOTIVATION, AND EMOTION

CHAPTER

- 6 Learning and Behavior—223
- 7 Memory—267
- 8 Motivation—313
- 9 Emotion and Stress—347
- 10 Cognition: Thinking
and Language—381

PART 4:

DEVELOPMENTAL PROCESSES AND INDIVIDUAL DIFFERENCES

CHAPTER

- 11 Development 1: Conception
Through Childhood—431
- 12 Development 2: Adolescence
to the End of Life—485
- 13 Intelligence—517
- 14 Personality: Theories and
Assessment—551

PART 5:

THE NATURE AND TREATMENT OF BEHAVIORAL DISORDERS

CHAPTER

- 15 Behavioral Disorders—593
- 16 Treatment of Behavioral
Disorders—645
- 17 Social Psychology—677

Glossary 745

Bibliography 775

Index 803

Table of Contents

Brief Table of Contents iii

Preface xiii

PART 1: ORIGINS AND METHODS OF PSYCHOLOGY

Chapter 1



The Origins of Psychology 1

- 1.1 The Study of Psychology 1
- 1.2 Definition of Psychology 2
 - 1.2a Psychology as a Science 2
 - 1.2b The Study of Behavior 4
 - 1.2c The Study of Humans and Other Animals 5
- 1.3 Psychology's History 7
 - 1.3a Structuralism 8
 - 1.3b Functionalism 9
 - 1.3c Psychoanalysis 10
 - 1.3d Behaviorism 11
 - 1.3e Gestalt Psychology 12
 - 1.3f Humanistic Psychology 13
- 1.4 Contemporary Psychology 13
 - 1.4a Fields of Specialization in Psychology 14
 - 1.4b Careers in Psychology 19
- 1.5 The Goals of Psychology 20

CHAPTER REVIEW 23

TERMS AND CONCEPTS 26

POP QUIZ 27

Chapter 2



The Methods of Psychology 33

- 2.1 The Scientific Method and Behavior 33
 - 2.1a The Purpose of Psychological Research 34
- 2.2 Research Methods 36
 - 2.2a Non-experimental Research Methods 38
 - 2.2b Experimental Research Methods 47
 - 2.2c Ethics in Psychological Experiments 50
 - 2.2d Ethical Guidelines for Research 51
- 2.3 Statistical Concepts for Research 53
 - 2.3a Descriptive Statistics 53
 - 2.3b Inferential Statistics 56
 - 2.3c Evaluating Opinions, Beliefs, and Scientific Evidence 57

CHAPTER REVIEW 58

TERMS AND CONCEPTS 61

POP QUIZ 62

PART 2: BIOLOGICAL FOUNDATIONS, PERCEPTION, AND SLEEP

Chapter 3



The Biology of Behavior 65

- 3.1 Overview of the Nervous System:
Organization and Function 65

3.2 Neurons: Basic Units of the Nervous System 67

3.2a Neuron Structure 67

3.2b Neural Transmission 69

3.2c Neuron Electrical Activity 69

3.2d Neurotransmitters and the Synapse 72

3.2f Neurotransmitters and Behavior 77

3.3 The Peripheral Nervous System 78

3.3a The Somatic Nervous System 78

3.3b The Autonomic Nervous System 79

3.4 The Central Nervous System —The Brain and Spinal Cord 79

3.4a The Spinal Cord 81

3.4b The Medulla 83

3.4c The Pons 83

3.4d The Cerebellum 84

3.4e The Reticular Formation 84

3.5 The Limbic System 85

3.5a The Amygdala 86

3.5b The Hippocampus 86

3.5c The Septum 86

3.5d The Hypothalamus 87

3.5e The Thalamus 88

3.6 The Basal Ganglia 88

3.7 The Cerebral Cortex 88

3.7a Localization of Cortical Functioning 90

3.7b Sex Differences in the Brain 93

3.7c Lateralization of Function 94

3.7d How the Brain Is Studied 98

3.8 The Endocrine System 101

3.8a The Pituitary Gland 103

3.8b The Thyroid Gland 103

3.8c The Adrenal Glands 103

3.8d The Gonads 104

3.9 Drugs and Behavior 104

3.9a Depressants: Sedatives, Opiates, and Alcohol 105

3.9b Stimulants: Caffeine, Nicotine, Amphetamines, and Cocaine 107

3.9c Hallucinogens: LSD and Ecstasy 110

3.9d Marijuana 111

CHAPTER REVIEW 112

TERMS AND CONCEPTS 116

POP QUIZ 118

Chapter 4



Sensation and Perception 121

4.1 Principles of Sensation and Perception 121

4.1a Transduction 121

4.1b What Do We Perceive? 122

4.1c Psychophysics 122

4.2 Vision 129

4.2a Light: The Stimulus for Vision 130

4.2b Structure and Function of the Eye 131

4.2c Color Vision 139

4.3 Audition 142

4.3a Sound: The Stimulus for Audition 142

4.3b Structure and Function of the Ear 145

4.3c Theories of Audition 147

4.3d Auditory Localization 148

4.3e Hearing Loss 149

4.4 Gustation and Olfaction 150

4.4a Gustation 151

4.4b Olfaction 152

4.5 The Skin Senses 154

4.5a Pressure 154

4.5b Temperature 155

4.5c Pain 156

4.6 Kinesthesia and Equilibrium 158

4.7 Synesthesia 160

4.8 Perceiving the World 160

4.8a Perceptual Organization 161

4.8b Spatial Perception 165

4.8c Visual Illusions 172

4.8d Perceptual Sets 177

CHAPTER REVIEW 179

TERMS AND CONCEPTS 183

POP QUIZ 185

Chapter 5



Sleep, Dreaming, and Consciousness 189

5.1 Biological Rhythms 189

5.1a Circadian Rhythms 189

5.2 The Science of Sleep and Dreaming 191

5.2a Stages of Sleep 191

5.2b The Sleep Cycle 195

5.2c Change in Sleep Patterns with Age 196

5.2d Brain Mechanisms of Sleep 196

5.2e The Function of Sleep 199

5.2f Theories of Sleep Function 201

5.2g Dreaming 202

5.3 Disorders of Sleep 204

5.3a Insomnia 204

5.3b Sleep Apnea 205

5.3c Narcolepsy 206

5.3d Nightmares 207

5.3e Sleepwalking 207

5.3f Sleep Talking 208

5.4 Hypnosis 209

5.4a Phenomena Associated with Hypnosis 209

5.4b Explaining Hypnosis 211

5.5 Consciousness 213

5.5a Neurobiology of Consciousness 213

Health, Psychology, and Life

Suggested Remedies for Insomnia 215

CHAPTER REVIEW 216

TERMS AND CONCEPTS 218

POP QUIZ 219

PART 3: LEARNING, MEMORY, COGNITION, MOTIVATION, AND EMOTION

Chapter 6



Learning and Behavior 223

6.1 Defining Learning 223

6.1a How Learning Takes Place 224

6.2 Pavlovian Conditioning 225

6.2a Pavlov's Discovery 225

6.2b Acquisition of Pavlovian Conditioning 229

6.2c Stimulus Contingency and Conditioning 229

6.2d CS-UCS Timing and Conditioning 230

6.2e Extinction and Reinstatement 233

6.2f Stimulus Generalization and Discrimination 234

6.2g Second-Order Conditioning 234

6.3 Operant Conditioning 234

6.3a Operant Conditioning in a Skinner Box 236

6.3b Reinforcement 238

6.3c Reinforcing the Initial Operant Response 244

6.3d Punishment and Operant Behavior 245

6.3e Limitations of Punishment 246

6.3f Advantages of Punishment 247

6.4 Comparing Pavlovian and Operant Conditioning 248

6.4a Two-Factor Theory of Avoidance Learning 249

6.5 Cognitive Influences on Learning 250

6.5a Latent Learning 250

6.5b Cognitive Processes in Learning 252

6.5c Observational Learning 253

6.6 Biological Bases of Learning	254
6.6a Pavlovian Conditioning of the Aplysia	255
Health, Psychology, and Life	
Pavlovian Conditioning	257
CHAPTER REVIEW	259
TERMS AND CONCEPTS	262
POP QUIZ	263

Chapter 7



Memory 267

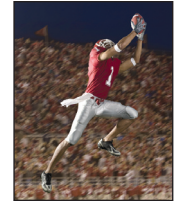
7.1 What Is Memory?	267
7.1a Information Processing and Memory	267
7.1b Memory Processes	268
7.2 A Model of Memory	269
7.2a Memory Systems	269
7.2b Sensory Memory	271
7.2c Short-Term or Working Memory	273
7.2d Long-Term Memory	276
7.2e Explicit and Implicit Memory	283
7.3 Memory as a Dynamic Process	284
7.3a Constructive Memory	284
7.3b False Memories	286
7.3c Schemas	287
7.3d Eyewitness Testimony	288
7.3e State Dependency	290
7.3f Extreme Emotion	290
7.4 Forgetting	291
7.4a Decay of the Memory Trace	292
7.4b Interference	292
7.4c Retrieval Failure	294
7.4d Motivated Forgetting	295
7.4e Diseases that Cause Forgetting	295
7.4f Daniel Schacter's Seven Sins of Memory	296

7.5 The Biology of Memory	296
7.5a The Hebbian Rule	296
7.5b Long-Term Potentiation	297
7.5c Distributed Memory	298
7.5d Neural Structures for Long-Term Memory	299
7.5e Where are Short-Term, Working Memories Processed?	300

7.6 Improving Memory	300
7.6a Reducing the Material to a Manageable Amount	301
7.6b Learning the Whole Versus Piecemeal Learning	302
7.6c Using Recitation to Check Recall	302
7.6d Overlearning	303
7.6e Making Use of Study Breaks and Rewards	303
7.6f Spacing Study Sessions	303
7.6g Avoiding Interference	303
7.6h Managing Your Time	304

CHAPTER REVIEW	305
TERMS AND CONCEPTS	308
POP QUIZ	309

Chapter 8



Motivation 313

8.1 The Nature of Motivation	313
8.1a Defining Motivation	314
8.2 Motivational Explanations of Behavior	314
8.2a Instinct Theory	315
8.2b Drive-Reduction Theory	316
8.2c Cognitive Theories of Motivation	317
8.2d Biological Bases of Motivation	320
8.2e Hormones Controlling Hunger	323
8.3 Eating Disorders: Obesity, Anorexia, and Bulimia	324
8.3a Obesity	324

Health, Psychology, and Life

Some Suggestions for Overcoming Obesity 327

8.3b Anorexia and Bulimia 329

8.4 Sensation-Seeking Motivation 329

8.4a Optimum Level of Arousal 330

8.5 Sexual Motivation and Behavior 331

8.5a Biological Bases of Sexual Behavior 332

8.5b Psychosocial Factors in
Sexual Behavior 333

8.5c Sexual Orientation: Homosexuality 336

CHAPTER REVIEW 340

TERMS AND CONCEPTS 343

POP QUIZ 344

Chapter 9



Emotion and Stress 347

9.1 The Components of Emotion 347

9.1a Physiological Arousal 347

9.1b Cognitive Processes 348

9.1c Behavioral Responses 348

9.1d Feelings 348

9.2 The Range of Human Emotion 349

9.2a Plutchik's Emotional Wheel 349

9.3 Theories of Emotion 349

9.3a The James-Lange Theory 349

9.3b The Cannon-Bard Theory 353

9.3c The Schachter-Singer Theory 353

9.3d The Function of Emotional Expression 355

9.3e Facial Feedback and Emotions 357

9.3f The Neurobiology of Emotions 359

9.3g Opponent-Processes and Motivation 360

9.4 Stress 363

9.4a The Stress Response 363

9.4b Physiological Responses to Stress 363

9.4c Stressors 366

9.4d Stress and Disease 367

Health, Psychology, and Life

Managing Stress 368

CHAPTER REVIEW 375

TERMS AND CONCEPTS 377

POP QUIZ 378

Chapter 10



Cognition: Thinking and Language 381

10.1 Thinking 381

10.1a Components of Thinking 382

10.1b Prototypes and Exemplars 386

10.2 Problem Solving 386

10.2a Stages of Problem Solving 388

10.2b Strategies for Problem Solving 390

10.2c Characteristics of Difficult Problems 393

10.3 Reasoning and Decision Making 397

10.3a Logical Reasoning for Decisions 397

10.3b Some Common Causes of
Reasoning Errors 399

10.3c Subjective Probability and
Reasoning for Decisions 400

10.3d The Role of Emotion in
Decision Making 404

10.4 Language 405

10.4a Psycholinguistics 406

10.4b Theories of Language Acquisition 407

10.4c Stages of Language Acquisition 408

10.4d Brain Mechanisms for Language 410

10.4e Is Language Unique to Humans? 413

CHAPTER REVIEW 416

TERMS AND CONCEPTS 419

RESEARCH PERSPECTIVES

Perspectives on Language 420

POP QUIZ 426

PART 4: DEVELOPMENTAL PROCESSES AND INDIVIDUAL DIFFERENCES

Chapter 11



Development 1: Conception Through Childhood 429

- 11.1 Developmental Issues 429
 - 11.1a Heredity and Environment 429
 - 11.1b Continuous versus Stage Development 430
 - 11.1c Critical Periods in Development 431
- 11.2 Developmental Research 433
 - 11.2a The Cross-Sectional Design 433
 - 11.2b The Longitudinal Design 433
 - 11.2c The Cross-Sequential Design 435
- 11.3 The Beginning of Life 435
 - 11.3a Genes and Chromosomes 435
 - 11.3b Genetic Abnormalities 440
- 11.4 Prenatal Development 443
 - 11.4a Germinal Stage 444
 - 11.4b Embryonic Stage 445
 - 11.4c Fetal Stage 445
 - 11.4d The Effects of Alcohol and Drugs on Development 445
- 11.5 Physical Development 446
 - 11.5a Development of the Brain 446
 - 11.5b Physical Growth 449
 - 11.5c Motor Development 449
- 11.6 Cognitive Development 451
 - 11.6a Piaget's Theory of Cognitive Development 451
 - 11.6b Gender Differences in Cognitive Abilities 457
- 11.7 Psychosocial Development 459
 - 11.7a Attachment 459
 - 11.7b Parenting Styles and Social-Emotional Development 464
 - 11.7c Erikson's Theory of Psychosocial Development 465

- 11.8 Gender Identity 468
 - 11.8a Biological Influences on Gender Identity 468
 - 11.8b The Socialization of Gender Roles 472
- CHAPTER REVIEW 474
- TERMS AND CONCEPTS 478
- POP QUIZ 479

Chapter 12



Development 2: Adolescence to the End of Life 485

- 12.1 Adolescence 485
 - 12.1a Physical Development During Adolescence 486
 - 12.1b Cognitive Development During Adolescence 487
 - 12.1c Moral Development During Adolescence 488
 - 12.1d Psychological Development During Adolescence 492
- 12.2 Adulthood 495
 - 12.2a Physical Development in Early and Middle Adulthood 496
 - 12.2b Cognitive Development in Early and Middle Adulthood 498
 - 12.2c Psychosocial Development in Early and Middle Adulthood 499
- 12.3 The Older Years 503
 - 12.3a The Graying of America 503
 - 12.3b Physical Development in the Older Years 504
 - 12.3c Cognitive Changes in the Older Years 505
 - 12.3d Psychological Development in the Older Years 507

- CHAPTER REVIEW 509
- TERMS AND CONCEPTS 512
- POP QUIZ 513

Chapter

13



Intelligence 517

13.1 Defining Intelligence 517

13.2 Measuring Intelligence 519

- 13.2a Binet and Intelligence Testing 519
- 13.2b The Stanford-Binet Intelligence Scale 520
- 13.2c The Wechsler Adult Intelligence Scale 521

13.3 Evaluating Intelligence Tests 521

- 13.3a How Intelligence Tests Are Developed 521
- 13.3b Test Reliability and Validity 524
- 13.3c Achievement and Aptitude Tests 526

13.4 Theories of Intelligence 527

- 13.4a Factorial Theories 527
- 13.4b Process Theories 529

13.5 Hereditary and Environmental Influences on Intelligence 532

- 13.5a Isolating Contributions to Intelligence 532
- 13.5b Twin Studies 533
- 13.5c Evaluating the Hereditary and Environmental Evidence 534

13.6 Racial Differences in Intelligence 535

- 13.6a Within- and Between-Group Differences and Intelligence 535

CHAPTER REVIEW 538

TERMS AND CONCEPTS 541

RESEARCH PERSPECTIVES

Perspectives on Intelligence 542

POP QUIZ 548

Chapter

14



Personality: Theories and Assessment 551

14.1 Defining Personality 551

14.2 Theories of Personality 552

- 14.2a Trait Theories 552
- 14.2b Evaluating the Trait Theories 555

14.3 Psychoanalytic Theory 557

- 14.3a The Historical Context of Freud's Theory 557
- 14.3b Personality and the Unconscious 558
- 14.3c The Structure of Personality 559
- 14.3d Personality Dynamics 561
- 14.3e Freud's View of Personality Development 565
- 14.3f Evaluating Freud's Psychoanalytic Theory 566
- 14.3g Other Psychodynamic Theorists: The Neo-Freudians 568

14.4 Humanistic Theories of Personality 570

- 14.4a Rogers: The Concept of Self 571
- 14.4b Maslow: Self-Actualization 572
- 14.4c Evaluating Humanistic Theories 573

14.5 Behavioral and Social-Learning Theories of Personality 574

- 14.5a The Behavioral Perspective 574
- 14.5b The Social-Learning Perspective 575
- 14.5c Evaluating Behavioral and Social-Learning Theories 577

14.6 The Assessment of Personality 578

- 14.6a Behavioral Observation 578
- 14.6b Interviews 579
- 14.6c Questionnaires 580
- 14.6d Projective Tests 581

CHAPTER REVIEW 585

TERMS AND CONCEPTS 589

POP QUIZ 590

PART 5: THE NATURE AND TREATMENT OF BEHAVIORAL DISORDERS

Chapter 15



Behavioral Disorders 593

- 15.1 Defining Abnormal Behavior 593
- 15.2 Classifying Behavioral Disorders 596
- 15.3 Anxiety Disorders 596
 - 15.3a Panic Disorder 597
 - 15.3b Agoraphobia 598
 - 15.3c Social Anxiety Disorder 598
 - 15.3d Specific Phobia 599
 - 15.3e Generalized Anxiety Disorder 599
- 15.4 Obsessive-Compulsive and Related Disorders 600
 - 15.4a Obsessive-Compulsive Disorder 600
- 15.5 Trauma- and Stressor-Related Disorders 601
 - 15.5a Posttraumatic Stress Disorder 601
 - 15.5b Theoretical Perspectives on Anxiety, Posttraumatic Stress, and Obsessive-Compulsive Disorders 602
- 15.6 Somatic Symptom Disorders 606
 - 15.6a Somatic Symptom Disorder 606
 - 15.6b Illness Anxiety Disorder 607
 - 15.6c Conversion Disorder 607
 - 15.6d Theoretical Perspectives on Somatic Symptom Disorders 608
- 15.7 Dissociative Disorders 608
 - 15.7a Dissociative Amnesia 608
 - 15.7b Depersonalization-Derealization Disorder 609
 - 15.7c Dissociative Identity Disorder 609
 - 15.7d Theoretical Perspectives on Dissociative Disorders 610

- 15.8 Depressive Disorders 610
 - 15.8a Major Depressive Disorder 611

- 15.9 Bipolar Disorders 612
 - 15.9a Bipolar Disorder 612
 - 15.9b Theoretical Perspectives on Depressive Disorders 614

- 15.10 Schizophrenia 618
 - 15.10a Primary Symptoms of Schizophrenia 620
 - 15.10b The Development of Schizophrenia 622
 - 15.10c Subtypes of Schizophrenia 622
 - 15.10d Positive and Negative Symptoms of Schizophrenia 623
 - 15.10e Theoretical Perspectives on Schizophrenia 624

- 15.11 Personality Disorders 627
 - 15.11a Antisocial Personality Disorder 627
 - 15.11b Theoretical Perspectives on Antisocial Personality Disorder 628

CHAPTER REVIEW 630

TERMS AND CONCEPTS 634

RESEARCH PERSPECTIVES

Perspectives on Behavioral Disorders 635

POP QUIZ 641

Chapter 16



Treatment of Behavioral Disorders 645

- 16.1 Psychological Therapies 645
 - 16.1a Psychoanalysis 645
 - 16.1b Techniques of Psychoanalysis 646
 - 16.1c The Present Status of Psychoanalysis 648
 - 16.1d Cognitive Therapies 649
 - 16.1e Behavioral Therapies 652

16.2 Biologically Based Therapies 658

16.2a Psychosurgery 658

16.2b Electroconvulsive Therapy &
Magnetic Seizure Therapy 661

16.2c Deep Brain Stimulation 662

16.2d Psychoactive Drugs 662

16.2e Summary of Psychoactive Drugs 666

Health, Psychology, and Life

Guidelines for Seeking Professional Help 667

CHAPTER REVIEW 669

TERMS AND CONCEPTS 671

POP QUIZ 672

Chapter 17



Social Psychology 675

17.1 Social Perception 676

17.1a First Impressions 676

17.1b Person Schemas 677

17.1c Implicit Personality Theories 677

17.2 Attribution Theories 678

17.2a The Correspondent Inference Theory 678

17.2b Covariation Principle 680

17.2c Attribution Errors 682

17.3 Attitudes 684

17.3a Acquiring Attitudes 684

17.3b The Function of Attitudes 686

17.3c Do Attitudes Predict Behavior? 688

17.3d Changing Attitudes 690

17.4 Prejudice 692

17.4a Outgroups, Ingroups, and the
Causes of Prejudice 693

17.5 Implicit Attitudes 695

17.5a The Implicit Association Test 695

17.6 Social Influences on Behavior 695

17.6a Conformity 696

17.6b Compliance 699

17.6c Obedience 700

17.6d Groupthink 702

17.7 Interpersonal Behavior: Attraction and Aggression 702

17.7a Attraction 703

17.7b Aggression 706

CHAPTER REVIEW 712

TERMS AND CONCEPTS 716

POP QUIZ 717

Appendix 719

A.1 Descriptive Statistics 719

A.1a Measures of Central Tendency 719

A.1b Measures of Variability 722

A.1c Normal Frequency Distributions 726

A.1d Correlation 730

A.1e Linear Regression 734

A.2 Inferential Statistics 736

A.2a Estimation 736

A.2b Hypothesis Testing 737

A.3 Advanced Statistical Techniques 740

A.3a Analysis of Variance 740

A.3b Factor Analysis 741

POP QUIZ 742

Glossary 745

Bibliography 775

Index 803