

# CONTENTS

Preface xiv

## CHAPTER 1 PSYCHOLOGY: THE SCIENCE OF BEHAVIOUR 2

---

### The Nature of Psychology 4

*Psychology as a Basic and Applied Science 5*

### Perspectives on Behaviour: Guides to Understanding and Discovery 8

*The Importance of Perspectives 9*

*The Biological Perspective: Brain, Genes, and Behaviour 9*

*The Cognitive Perspective: The Thinking Human 13*

### Research Foundations

#### The Social Construction of Reality: They Saw a Game 17

*The Psychodynamic Perspective: The Forces Within 18*

*The Behavioural Perspective: The Power of the Environment 20*

*The Humanistic Perspective: Freedom and Self-Actualization 22*

*The Sociocultural Perspective: The Embedded Human 23*

### Research Frontiers

#### Nature and Nurture: Biology, Culture, and Behaviour 25

*The Perspectives in Historical Context 26*

### Integrating the Perspectives: Three Levels of Analysis 28

*An Example: Understanding Depression 29*

*Summary of Major Themes 31*

### Fields within Psychology 32

### Psychological Applications

Academic Performance Enhancement Strategies 35

## CHAPTER 2 STUDYING BEHAVIOUR SCIENTIFICALLY 40

---

### Scientific Principles in Psychology 42

*Scientific Attitudes 42*

*Gathering Evidence: Steps in the Scientific Process 43*

*Two Approaches to Understanding Behaviour 44*

*Defining and Measuring Variables 46*

### Methods of Research 49

*Descriptive Research: Recording Events 49*

### Research Foundations

#### Studies of Bullying in Canadian Schools 52

*Correlational Research: Measuring Associations between Events 55*

*Experiments: Examining Cause and Effect 58*

*Experimental versus Descriptive/Correlational Approaches 64*

### Threats to the Validity of Research 66

*Confounding of Variables 66*

*Demand Characteristics 67*

*Placebo Effects 68*

*Experimenter Expectancy Effects 68*

*Replicating and Generalizing the Findings 69*

### Research Frontiers

#### Science, Psychics, and the Paranormal 70

### Ethical Principles in Human and Animal Research 71

*Ethical Standards in Human Research 72*

*Ethical Standards in Animal Research 73*

### Critical Thinking in Science and Everyday Life 74

### Psychological Applications

Evaluating Claims in Research and Everyday Life 74

## CHAPTER 3

### BIOLOGICAL FOUNDATIONS OF BEHAVIOUR 78

---

#### The Neural Bases of Behaviour 80

- Neurons* 81
- Nerve Conduction: An Electrochemical Process* 82
- How Neurons Communicate: Synaptic Transmission* 83

#### The Nervous System 90

- The Peripheral Nervous System* 90
- The Central Nervous System* 92

#### Research Foundations

Wilder Penfield and a Cortical Map 97

*The Hierarchical Brain: Structures and Behavioural Functions* 98

#### Psychological Applications

Healing the Nervous System 115

#### Nervous System Interactions with the Endocrine and Immune Systems 117

- Interactions with the Endocrine System* 117
- Interactions Involving the Immune System* 119

#### Research Frontiers

How Psychological Factors Affect the Immune System 121

## CHAPTER 4

### GENES, EVOLUTION, AND BEHAVIOUR 126

---

#### Genetic Influences 128

- Chromosomes and Genes* 128
- Behaviour Genetics Techniques* 131

#### Psychological Applications

Genetic Counselling 133

#### Genetic Influences on Behaviour 134

- Heredity, Environment, and Intelligence* 135
- Biological Reaction Range, Environment, and Intelligence* 136

#### Evolution and Behaviour 139

- Evolution of Adaptive Mechanisms* 139

- An Evolutionary Snapshot of Human Nature* 142
- Evolutionary Psychology* 143

#### Research Foundations

Gender Differences in the Ideal Mate 148

#### Research Frontiers

Inequality, Competition, and Murder 153

#### How Not to Think About Behaviour Genetics and Evolutionary Psychology 154

- Genetic Determinism* 154
- Social Darwinism* 155
- Defending the Status Quo* 156

## CHAPTER 5

### SENSATION AND PERCEPTION 158

---

#### Sensory Processes 161

- Stimulus Detection: The Absolute Threshold* 161
- Signal Detection Theory* 162

#### Research Foundations

Subliminal Stimuli: Can They Affect Behaviour? 163

- The Difference Threshold* 164
- Sensory Adaptation* 165

#### The Sensory Systems 166

- Vision* 166
- Audition* 174

#### Research Frontiers

Sensory Prosthetics: "Eyes" for the Blind, "Ears" for the Hearing Impaired 179

- Taste and Smell: The Chemical Senses* 181
- The Skin and Body Senses* 183

#### Perception: The Creation of Experience 184

- Perception Is Selective: The Role of Attention* 185
- Perceptions Have Organization and Structure* 186
- Perception Involves Hypothesis Testing* 188
- Perception Is Influenced by Expectations: Perceptual Sets* 189
- Stimuli Are Recognizable under Changing Conditions: Perceptual Constancies* 190

#### Perception of Depth, Distance, and Movement 191

- Depth and Distance Perception* 191
- Perception of Movement* 192

#### Illusions: False Perceptual Hypotheses 193

**Psychological Applications**

Stalking a Deadly Illusion 195

Experience, Critical Periods, and Perceptual Development 197

Cross-Cultural Research on Perception 198

Critical Periods: The Role of Early Experience 199

Restored Sensory Capacity 200

## CHAPTER 6

### STATES OF CONSCIOUSNESS 204

---

The Puzzle of Consciousness 206

*Measuring States of Consciousness* 207*Levels of Consciousness: Psychodynamic and Cognitive Perspectives* 207

Circadian Rhythms: Our Daily Biological Clocks 210

*Keeping Time: Brain and Environment* 210*Environmental Disruptions of Circadian Rhythms* 212**Psychological Applications**

Combatting Winter Depression, Jet Lag, and Night Shiftwork Disruptions 213

Sleep and Dreaming 215

*Stages of Sleep* 215*Getting a Night's Sleep: Brain and Environment* 217*How Much Do We Sleep?* 217*Sleep Deprivation* 219*Why Do We Sleep?* 220*Sleep Disorders* 221*The Nature of Dreams* 224*Daydreams and Waking Fantasies* 228

Drugs and Altered Consciousness 229

*Drugs and the Brain* 229*Tolerance and Withdrawal* 231*Depressants* 233**Research Foundations**

Drinking and Driving: Decision Making in Altered States 234

*Stimulants* 236*Opiates* 237*Hallucinogens* 238*Marijuana* 238*From Genes to Culture: Determinants of Drug Effects* 239

Hypnosis 242

*The Scientific Study of Hypnosis* 242*Hypnotic Behaviours and Experiences* 243**Research Frontiers**

Does Forensic Hypnosis Improve Eyewitness Memory? 245

*Theories of Hypnosis* 246

Some Final Thoughts 248

## CHAPTER 7

### LEARNING AND ADAPTATION: THE ROLE OF EXPERIENCE 250

---

Adapting to the Environment 252

*How Do We Learn? The Search for Mechanisms* 252*Why Do We Learn? The Search for Functions* 253*Crossroads of Learning: Biology, Cognition, and Culture* 253*Habituation* 254

Classical Conditioning: Associating One Stimulus with Another 255

*Pavlov's Pioneering Research* 256*Basic Principles* 256*Applications of Classical Conditioning* 260**Research Frontiers**

Can Classical Conditioning Make Us Sick—and Healthy Again? 262

Operant Conditioning: Learning through Consequences 264

*Thorndike's Law of Effect* 264*Skinner's Analysis of Operant Conditioning* 265*Antecedent Conditions: Identifying When to Respond* 266*Consequences: Determining How to Respond* 266*Shaping and Chaining: Taking One Step at a Time* 270*Generalization and Discrimination* 271*Schedules of Reinforcement* 272*Escape and Avoidance Conditioning* 275*Applications of Operant Conditioning* 276**Psychological Applications**

Using Operant Principles to Modify Your Behaviour 278

Biology and Learning 280

*Constraints on Classical Conditioning: Learned Taste Aversions* 280*Are We Biologically Prepared to Fear Certain Things?* 281*Constraints on Operant Conditioning: Animals That "Won't Shape Up"* 282*Learning and the Brain* 282

Cognition and Learning	283
<i>Insight and Cognitive Maps</i>	284
<i>Cognition in Classical Conditioning</i>	285
<i>Cognition in Operant Conditioning</i>	286

Observational Learning: When Others Pave the Way	288
<i>The Modelling Process</i>	288

### Research Foundations

Lessons from Lassie: Can Watching TV Increase Helping Behaviour?	289
--	-----

## CHAPTER 8

### MEMORY 292

Memory as Information Processing	294
<i>A Three-Component Model</i>	295
Encoding: Entering Information	299
<i>Effortful and Automatic Processing</i>	300
<i>Levels of Processing: When Deeper Is Better</i>	300
<i>Exposure and Rehearsal</i>	301
<i>Organization and Imagery</i>	301
<i>How Prior Knowledge Shapes Encoding</i>	304
Storage: Retaining Information	305
<i>Memory as a Network</i>	306
<i>Types of Long-Term Memory</i>	307
Retrieval: Accessing Information	309
<i>The Value of Multiple and Self-Generated Cues</i>	309
<i>The Value of Distinctiveness</i>	310
<i>Context, State, and Mood Effects on Memory</i>	311
<b>Psychological Applications</b>	
Improving Memory and Academic Learning	313
Forgetting	314

<i>The Course of Forgetting</i>	314
<i>Why Do We Forget?</i>	315
<i>Amnesia</i>	317
<i>Forgetting to Do Things: Prospective Memory</i>	318
Memory as a Constructive Process	319
<i>Memory Distortion and Schemas</i>	319
<i>The Misinformation Effect and Eyewitness Testimony</i>	321

### Research Frontiers

How Accurate Are Young Children's Memories?	322
<i>The "Recovered Memory" Controversy: Repression or Reconstruction?</i>	323

### The Biology of Memory 325

<i>Where in the Brain Are Memories Formed?</i>	326
--	-----

### Exceptional Memory 328

### Research Foundations

Is Exceptional Memory Really Exceptional?	329
A Final Thought: The "Curse" of Exceptional Memory	330

## CHAPTER 9

### THOUGHT, LANGUAGE, AND INTELLIGENCE 334

Language	336
<i>The Nature and Structure of Language</i>	337
<i>Acquiring a Language</i>	338
<i>Linguistic Influences on Thinking</i>	343
<i>Concepts and Propositions</i>	344

### Research Frontiers

Can Animals Acquire Language?	346
-------------------------------	-----

### Reasoning and Problem Solving 347

<i>Reasoning</i>	348
<i>Problem Solving</i>	350

### Psychological Applications

Guidelines for Creative Problem Solving	356
---	-----

### Intelligence 358

<i>Intelligence in Historical Perspective</i>	358
<i>Scientific Standards for Psychological Tests</i>	363
<i>The Nature of Intelligence</i>	365
<i>Influences on Intelligence</i>	371

### Research Foundations

Gender and Racial Stereotypes, Self-Concept, and Cognitive Performance	375
--	-----

### Extremes of Intelligence 377

## CHAPTER 10

### MOTIVATION AND EMOTION 382

---

#### Perspectives on Motivation 384

- Instinct Theory and Modern Evolutionary Psychology* 384
- Homeostasis and Drive Theory* 385
- Incentive and Expectancy Theories* 385
- Psychodynamic and Humanistic Theories* 386

#### Hunger and Weight Regulation 388

- The Physiology of Hunger* 388
- Psychological Aspects of Hunger* 391
- Environmental and Cultural Factors* 393
- Obesity* 394
- Eating Disorders* 395

#### Psychological Applications

##### The Battle to Control Eating and Weight 397

#### Sexual Motivation 399

- Sexual Behaviour: Patterns and Changes* 399
- The Physiology of Sex* 400
- The Psychology of Sex* 402
- Cultural and Environmental Influences* 403
- Sexual Orientation* 405

#### Research Frontiers

##### Sensation-Seeking 407

#### Achievement Motivation 409

- Motivation for Success: The Thrill of Victory* 409
- Fear of Failure: The Agony of Defeat* 409
- Achievement Needs and Situational Factors* 410
- Family and Cultural Influences* 411

#### Motivation in the Workplace 412

- Why Do People Work?* 412
- Enhancing Work Motivation* 412

#### Motivational Conflict 414

#### The Nature and Functions of Emotion 415

- The Adaptive Value of Emotion* 415
- The Nature of Emotion* 417

#### Interactions among the Components of Emotion 428

- The James-Lange Somatic Theory* 428
- The Cannon-Bard Theory* 429
- Cognitive-Affective Theories* 430

#### Research Foundations

##### Cognition-Arousal Relations 433

## CHAPTER 11

### DEVELOPMENT OVER THE LIFE SPAN 436

---

#### Major Issues and Methods 438

#### Prenatal Development 440

- Genetics and Sex Determination* 441
- Environmental Influences* 441

#### Infancy and Childhood 443

- The Amazing Newborn* 444
- Sensory-Perceptual Development* 446
- Physical, Motor, and Brain Development* 447

#### Research Frontiers

##### Effects of Early Experience on Human Perceptual-Motor Abilities 449

- Cognitive Development* 450
- Moral Development* 457
- Personality and Social Development* 460

#### Research Foundations

##### Were You a Shy Baby or a Fussy Baby: Does Infant Temperament Predict Adult Functioning? 461

#### Adolescence 469

- Physical Development* 470
- Cognitive Development* 471
- Social and Personality Development* 472

#### Psychological Applications

##### Understanding How Divorce and Remarriage Affect Children and Adolescents 474

#### Adulthood 475

- Physical Development* 476
- Cognitive Development* 477
- Social and Personality Development* 480

## CHAPTER 12

### PERSONALITY 488

---

- What Is Personality? 490
- The Psychodynamic Perspective 491
- Freud's Psychoanalytic Theory* 491
  - Evaluating Psychoanalytic Theory* 496
- The Humanistic Perspective 498
- Carl Rogers's Self Theory* 498
  - Research on the Self* 500
  - Evaluating Humanistic Theories* 502
- Trait and Biological Perspectives 503
- Cattell's Sixteen Personality Factors* 504
  - Eysenck's Extraversion-Stability Model* 504
  - The Five Factor Model* 505
  - Traits and Behaviour Prediction* 506
  - Biological Foundations of Personality Traits* 506
  - The Stability of Personality Traits* 507
  - Evaluating the Trait Approach* 509
- Research Foundations**
- Walter Mischel and the Consistency Paradox 509

- Research Frontiers**
- Personality and Health 510
- Social Cognitive Theories 512
- Julian Rotter: Expectancy, Reinforcement Value, and Locus of Control* 512
  - Albert Bandura: Social Learning and Self-Efficacy* 513
- Psychological Applications**
- Increasing Self-Efficacy through Systematic Goal Setting 515
- Evaluating Social Cognitive Theories* 516
- Personality Assessment 517
- Interviews* 518
  - Behavioural Assessment* 519
  - Remote Behaviour Sampling* 519
  - Personality Scales* 520
  - Projective Tests* 522
  - Personality Theory and Personality Assessment* 523

## CHAPTER 13

### PSYCHOLOGICAL DISORDERS 526

---

- Historical Perspectives on Psychological Disorders 528
- The Demonological View* 529
  - Early Biological Views* 530
  - Psychological Perspectives* 530
- Defining and Classifying Psychological Disorders 531
- What Is "Abnormal"?* 531
  - Diagnosing Psychological Disorders* 533
  - Critical Issues in Diagnostic Labelling* 534
- Anxiety Disorders 536
- Phobic Disorder* 537
  - Generalized Anxiety Disorder* 537
  - Panic Disorder* 538
  - Obsessive-Compulsive Disorder* 538
  - Post-traumatic Stress Disorder (PTSD)* 539
- Research Foundations**
- Rape, Trauma, and PTSD 540
- Causal Factors in Anxiety Disorders* 541
- Mood (Affective) Disorders 545
- Depression* 545
  - Bipolar Disorder* 546
  - Prevalence and Course of Mood Disorders* 547
  - Causal Factors in Mood Disorders* 548
- Psychological Applications**
- Understanding and Preventing Suicide 551
- Somatoform Disorders 553
- Dissociative Disorders 554
- Research Frontiers**
- Dissociative Identity Disorder: A Clinical and Scientific Puzzle 555
- Schizophrenia 557
- Characteristics of Schizophrenia* 558
  - Subtypes of Schizophrenia* 559
  - Causal Factors in Schizophrenia* 560
- Personality Disorders 563
- Anti-social Personality Disorder* 564
  - Causal Factors* 565
- Disorders of Childhood and Old Age 567
- Childhood Disorders* 568
  - Dementia in Old Age* 569



## CHAPTER 14

### TREATMENT OF PSYCHOLOGICAL DISORDERS 574

---

- The Helping Relationship 576
- Psychodynamic Therapies 577
  - Psychoanalysis 578
  - Brief Psychodynamic Therapies 580
- Humanistic Psychotherapies 581
  - Client-Centred Therapy 581
  - Gestalt Therapy 583
- Cognitive Therapies 585
  - Ellis's Rational-Emotive Therapy 585
  - Beck's Cognitive Therapy 586
- Behaviour Therapies 587
  - Classical Conditioning Treatments 587
  - Operant Conditioning Treatments 589
  - Modelling and Social Skills Training 591
- Integrating and Combining Therapies 592
- Research Frontiers**
- Virtual Reality as a Therapeutic Technique 593
- Cultural and Gender Issues in Psychotherapy 594
  - Cultural Factors in Treatment Utilization 595
  - Gender Issues in Therapy 596
- Evaluating Psychotherapies 597
  - Psychotherapy Research Methods 598
  - Factors Affecting the Outcome of Therapy 600
- Research Foundations**
- The Effectiveness of Psychotherapy: Feedback from the Consumer 602
- Biological Approaches to Treatment 604
  - Drug Therapies 604
  - Electroconvulsive Therapy 606
  - Psychosurgery 607
  - Mind, Body, and Therapeutic Interventions 608
- Psychological Disorders and Society 610
  - Deinstitutionalization 610
  - Preventive Mental Health 611
- Psychological Applications**
- When and Where to Seek Therapy 613

## CHAPTER 15

### STRESS, HEALTH, AND COPING 616

---

- The Nature of Stress 618
  - Stressors 618
- Research Foundations**
- Life Events, Social Readjustment, and Illness 620
  - The Stress Response 621
  - Chronic Stress and the GAS 622
- Stress and Health 624
  - Stress and Psychological Well-Being 625
  - Stress and Illness 626
- Vulnerability and Protective Factors 627
  - Social Support 628
  - Cognitive Protective Factors: The Importance of Beliefs 629
  - Physiological Reactivity 631
- Research Frontiers**
- Stress and Working Memory 632
- Coping with Stress 633
  - Effectiveness of Coping Strategies 634
  - Controllability and Coping Efficacy 634
  - Bottling Up Feelings: The Cost of Constraint 635
  - Gender, Culture, and Coping 636
- Psychological Applications**
- Stress Management 636
- Pain and Pain Management 638
  - Biological Mechanisms of Pain 638
  - Cultural and Psychological Influences on Pain 640
  - Psychological Techniques for Controlling Pain and Suffering 643
- Health Promotion and Illness Prevention 646
  - How People Change: The Transtheoretical Model 646
  - Increasing Behaviours That Enhance Health 648
  - Reducing Behaviours That Impair Health 651
- Combatting Substance Abuse 653
  - Psychological Approaches to Treatment and Prevention 653

# CHAPTER 16

## BEHAVIOUR IN A SOCIAL CONTEXT 662

---

### Social Thinking and Perception 664

- Attribution: Perceiving the Causes of Behaviour* 664
- Forming and Maintaining Impressions* 667
- Attitudes and Attitude Change* 669

### Social Influence 674

- The Mere Presence of Others* 675
- Social Norms: The Rules of the Game* 676
- Conformity and Obedience* 677

### Research Foundations

The Dilemma of Obedience: When Conscience Confronts Malevolent Authority 679

- Crowd Behaviour and Deindividuation* 683
- Group Influences on Performance and Decision Making* 684

### Social Relations 687

- Affiliation and Interpersonal Attraction* 687
- Love* 692

### Psychological Applications

Making Close Relationships Work: Lessons from Psychological Research 693

- Prejudice and Discrimination* 694
- Pro-social Behaviour: Helping Others* 699
- Aggression: Harming Others* 703

### Research Frontiers

Do Violent Video Games Promote Aggression? 708

Appendix: Statistics in Psychology 712

Credits C1

Glossary G1

References R1

Name Index N1

Subject Index S1