

# Contents

**Boxes** xvi

**An Invitation to the Student** xix

**Preface** xxi

**About the Authors** xxv

## **Chapter 1 Introduction to Psychology** 2

Introduction to Psychology 4

Psychology: Science or Common Sense? 5

The Goals of Psychology 5

What Is a Theory? 6

Basic and Applied Research 6

Descriptive Research Methods 6

Naturalistic Observation: Caught in the Act of Being Themselves 6

Laboratory Observation: A More Scientific Look at the Subject 7

The Case Study Method: Studying a Few Subjects in Depth 7

Survey Research: The Art of Sampling and Questioning 7

The Experimental Method: Searching for Causes 8

Independent and Dependent Variables 10

Experimental and Control Groups: The Same Except for the Treatment 10

Control in the Experiment: Attempting to Rule Out Chance 11

Generalizing the Experimental Findings: Do the Findings Apply to Other Groups?  
11

Potential Problems in Experimental Research 11

Advantages and Limitations of the Experimental Method 12

Other Research Methods 13

The Correlational Method: Discovering Relationships, Not Causes 13

Psychological Tests: Assessing the Participant 14

Participants in Psychological Research 17

Human Participants in Psychological Research 17

The Use of Animals in Research 17

Ethics in Research: First and Foremost 19

The Historical Progression of Psychology: Exploring the Different Perspectives 19

Wilhelm Wundt: The Founding of Psychology 20

Titchener and Structuralism: Psychology's Blind Alley 21

Functionalism: The First North American School of Psychology 21

Gestalt Psychology: The Whole Is More Than Just the Sum of Its Parts 21

Behaviourism: Never Mind the Mind 22

Psychoanalysis: It's What's Deep Down That Counts 23

Humanistic Psychology: Looking at Human Potential 23

Cognitive Psychology: Focusing on Mental Processes 24

Psychology Today 25

Perspectives in Psychology: Recent Views on Behaviour and Thinking 25

Psychologists at Work 26

Key Terms 29

Thinking Critically	29
Summary & Review	29

## **Chapter 2 Biology and Behaviour 32**

The Neurons and the Neurotransmitters	34
The Neurons: Billions of Brain Cells	34
Neurotransmitters: The Chemical Messengers of the Brain	37
The Variety of Neurotransmitters: Some Excite and Some Inhibit	39
Glial Cells: The Neurons' Helper Cells	40
The Central Nervous System	41
The Spinal Cord: An Extension of the Brain	42
The Brainstem: The Most Primitive Part of the Brain	42
The Cerebellum: A Must for Graceful Movement	43
The Thalamus: The Relay Station Between Lower and Higher Brain Centres	44
The Hypothalamus: A Master Regulator	44
The Limbic System: Primitive Emotion and Memory	45
The Cerebral Hemispheres	46
The Lobes of the Brain	46
Specialization of the Cerebral Hemispheres	52
Functions of the Left Hemisphere: Language First and Foremost	52
Functions of the Right Hemisphere: The Leader in Visual-Spatial Tasks	52
The Split Brain: Separate Halves or Two Separate Brains?	54
Discovering the Brain's Mysteries	57
The EEG and the Microelectrode	57
The CT Scan and MRI	58
The PET Scan, the Functional MRI, and Other Imaging Techniques	58
Brain Damage: Causes and Consequences	59
Recovering from Brain Damage	60
The Peripheral Nervous System	60
The Somatic Nervous System	60
The Autonomic Nervous System	62
The Endocrine System	63
The Pituitary Gland	63
The Thyroid Gland	64
The Pancreas	64
The Adrenal Glands	64
The Sex Glands	65
Key Terms	66
Thinking Critically	67
Summary & Review	67

## **Chapter 3 Sensation and Perception 70**

Sensation: The Sensory World	72
The Absolute Threshold: To Sense or Not to Sense	72
The Difference Threshold: Detecting Differences	73

Signal Detection Theory	74
Transduction: Transforming Sensory Stimuli into Neural Impulses	74
Sensory Adaptation	74
Vision	75
Light: What We See	76
The Eye: Window to the Visual Sensory World	76
Colour Vision: A Multicoloured World	79
Hearing	82
Sound: What We Hear	83
The Ear: More to It Than Meets the Eye	84
Theories of Hearing: How Hearing Works	85
Hearing Loss: Kinds and Causes	86
Smell and Taste	87
Smell: Sensing Scents	87
Taste: What the Tongue Can Tell	88
Our Other Senses	89
The Skin Senses: Information from Our Natural Clothing	89
Pain: Physical Hurts	91
The Kinesthetic Sense: Keeping Track of Our Body Parts	93
The Vestibular Sense: Sensing Up and Down and Changes in Speed	93
Perception: Ways of Perceiving	94
The Gestalt Principles of Perceptual Organization	94
Perceptual Constancy	96
Depth Perception: Perceiving What's Up Close and What's Far Away	97
Extraordinary Perceptions	100
Additional Influences on Perception	102
Bottom-Up and Top-Down Processing	103
Subliminal Persuasion: Does It Work?	103
Extrasensory Perception: Does It Exist?	105
Key Terms	106
Thinking Critically	106
Summary & Review	107

## **Chapter 4 States of Consciousness 110**

What Is Consciousness?	112
Circadian Rhythms: Our 24-Hour Highs and Lows	112
The Suprachiasmatic Nucleus: The Body's Timekeeper	113
Jet Lag: Where Am I and What Time Is It?	113
Shift Work: Working Day and Night	113
Sleep: That Mysterious One-Third of Our Lives	114
NREM and REM Sleep: Watching the Eyes	115
Sleep Cycles: The Nightly Pattern of Sleep	117
Variations in Sleep: How We Differ	118
Sleep Deprivation: How Does It Affect Us?	119
Dreaming: Mysterious Mental Activity While We Sleep	120
Sleep Disorders	123

Parasomnias: Unusual Behaviours During Sleep	123
Major Sleep Disorders	124
Altering Consciousness through Concentration and Suggestion	126
Meditation: Expanded Consciousness or Relaxation?	126
Hypnosis: Look into My Eyes	127
Altered States of Consciousness and Psychoactive Drugs	128
Drug Dependence: Slave to a Substance	129
Stimulants: Speeding Up the Nervous System	130
Hallucinogens: Seeing, Hearing, and Feeling What Is Not There	132
Depressants: Slowing Down the Nervous System	133
How Drugs Affect the Brain	135
Key Terms	138
Thinking Critically	139
Summary & Review	139

## **Chapter 5 Learning 142**

Classical Conditioning	145
Pavlov and Classical Conditioning	145
The Elements and Processes in Classical Conditioning	146
John Watson, Little Albert, and Peter	150
Factors Influencing Classical Conditioning	152
Classical Conditioning in Everyday Life	152
Classically Conditioned Taste Aversions	154
Operant Conditioning	155
Skinner and Operant Conditioning	155
Reinforcement: What's the Payoff?	158
Factors Influencing Operant Conditioning	163
Punishment: That Hurts!	164
Escape and Avoidance Learning	166
Learned Helplessness	166
Comparing Classical and Operant Conditioning: What's the Difference?	167
Behaviour Modification: Changing Our Act	167
Cognitive Learning	169
Observational Learning: Watching and Learning	169
Key Terms	172
Thinking Critically	172
Summary & Review	172

## **Chapter 6 Memory 176**

Remembering	178
The Three Processes in Memory: Encoding, Storage, and Retrieval	178
The Three Memory Systems: The Long and the Short of It	179
The Levels-of-Processing Model: Another View of Memory	186
Measuring Memory	187
Three Methods of Measuring Memory	187

Hermann Ebbinghaus and the First Experimental Studies on Learning and Memory	188
Forgetting	189
The Causes of Forgetting	189
The Nature of Remembering and Forgetting	193
Memory as a Permanent Record: The Videocassette Recorder Analogy	193
Memory as a Reconstruction: Partly Fact and Partly Fiction	193
Eyewitness Testimony: Is It Accurate?	195
Recovering Repressed Memories: A Controversy	196
Unusual Memory Phenomena	197
Factors Influencing Retrieval	200
The Serial Position Effect: To Be Remembered, Be First or Last but Not in the Middle	200
Environmental Context and Memory	200
The State-Dependent Memory Effect	201
Stress, Anxiety, and Memory: Relax and Remember	202
Biology and Memory	202
Brain Damage: A Clue to Memory Formation	202
Neuronal Changes in Memory: Brain Work	203
Hormones and Memory	204
Improving Memory	205
Study Habits That Aid Memory	205
Key Terms	208
Thinking Critically	209
Summary & Review	209

## **Chapter 7 Intelligence, Cognition, and Language 212**

The Nature of Intelligence	214
The Search for Factors Underlying Intelligence	214
Intelligence: More Than One Type?	215
Measuring Intelligence	217
Alfred Binet and the First Successful Intelligence Test	217
The Intelligence Quotient, or IQ	218
Intelligence Testing in North America	218
Requirements of Good Tests: Reliability, Validity, and Standardization	219
The Range of Intelligence	220
The IQ Controversy: Brainy Dispute	223
The Uses and Abuses of Intelligence Tests	223
The Nature–Nurture Controversy: Battle of the Centuries	224
Intelligence: Is It Fixed or Changeable?	225
Emotional Intelligence	227
Personal Components of Emotional Intelligence	227
Interpersonal Components of Emotional Intelligence	228
Imagery and Concepts: Tools of Thinking	229
Imagery: Picture This—Elephants with Purple Polka Dots	229
Concepts: Our Mental Classification System (Is a Penguin a Bird?)	231

Problem Solving and Creativity	233
Approaches to Problem Solving: How Do We Begin?	233
Impediments to Problem Solving: Mental Stumbling Blocks	234
Creativity: Unique and Useful Productions	235
Language	236
The Structure of Language	237
Language Development	238
Theories of Language Development: How Do We Acquire It?	239
Having More Than One Language	240
Animal Language	241
Language and Thinking	243
Key Terms	246
Thinking Critically	246
Summary & Review	246

## **Chapter 8 Development 250**

Developmental Psychology: Basic Issues and Methodology	252
Controversial Issues in Developmental Psychology	252
Approaches to Studying Developmental Change	253
Heredity and Prenatal Development	254
The Mechanism of Heredity: Genes and Chromosomes	254
The Stages of Prenatal Development: Unfolding According to Plan	255
Negative Influences on Prenatal Development: Sabotaging Nature's Plan	257
Physical Development and Learning	259
The Neonate	259
Perceptual Development in Infancy	260
Learning in Infancy	260
Physical and Motor Development: Growing, Growing, Grown	261
The Cognitive Stages of Development: Climbing the Steps to Cognitive Maturity	263
Piaget's Stages of Cognitive Development	263
An Evaluation of Piaget's Contribution	266
Intellectual Capacity During Early, Middle, and Late Adulthood	267
Socialization and Social Relationships	268
Erikson's Theory of Psychosocial Development	269
The Parents' Role in the Socialization Process	271
Peer Relationships	276
Kohlberg's Theory of Moral Development	277
Adult Social Relationships	279
Special Concerns in Later Adulthood	282
Fitness and Aging	282
Terminal Illness and Death	282
Key Terms	285

Thinking Critically	285
Summary & Review	285

## **Chapter 9 Motivation and Emotion 288**

Introduction to Motivation	290
Theories of Motivation	290
Instinct Theories of Motivation	291
Drive-Reduction Theory: Striving to Keep a Balanced Internal State	291
Arousal Theory: Striving for an Optimal Level of Arousal	292
Maslow's Hierarchy of Needs: Putting Our Needs in Order	294
The Primary Drives: Hunger and Thirst	296
Thirst: We All Have Two Kinds	296
The Biological Basis of Hunger: Internal Hunger Cues	296
Other Factors Influencing Hunger: External Eating Cues	297
Understanding Body Weight: Why We Weigh What We Weigh	298
Social Motives	300
The Need for Achievement: The Drive to Excel	301
The What and Why of Emotions	303
Motivation and Emotion: What Is the Connection?	303
The Components of Emotions: The Physical, the Cognitive, and the Behavioural	303
Theories of Emotion: Which Comes First, the Thought or the Feeling?	304
The Expression of Emotion	306
The Range of Emotion: How Wide Is It?	306
The Development of Facial Expressions in Infants: Smiles and Frowns Come Naturally	307
Cultural Rules for Displaying Emotion	307
Emotion as a Form of Communication	308
Experiencing Emotion	310
The Facial-Feedback Hypothesis: Does the Face Cause the Feeling?	310
Emotion and Rational Thinking	311
Love: The Strongest Emotional Bond	312
Key Terms	315
Thinking Critically	316
Summary & Review	316

## **Chapter 10-Personality Theory and Assessment 320**

Sigmund Freud and Psychoanalysis	323
The Conscious, the Preconscious, and the Unconscious: Levels of Awareness	323
The Id, the Ego, and the Superego: Warring Components of the Personality	324
Defence Mechanisms: Protecting the Ego	324
The Psychosexual Stages of Development: Centred on the Erogenous Zones	326
Freud's Explanation of Personality	329

Evaluating Freud's Contribution	330
The Neo-Freudians	330
Carl Gustav Jung	330
Alfred Adler: Overcoming Inferiority	331
Karen Horney: Champion of Feminine Psychology	332
Trait Theories	333
Gordon Allport: Personality Traits in the Brain	333
Raymond Cattell's 16 Personality Factors	334
Hans Eysenck: Stressing Two Factors	335
The Five-Factor Theory of Personality: The Big Five	335
Evaluating the Trait Perspective	336
Learning Theories and Personality	337
The Behaviourist View of B.F. Skinner	337
The Social-Cognitive Theorists: Expanding the Behaviourist View	337
Humanistic Personality Theories	339
Abraham Maslow: The Self-Actualizing Person	339
Carl Rogers: The Fully Functioning Person	340
Evaluating the Humanistic Perspective	340
Personality: Is It in the Genes?	341
The Twin Study Method: Studying Identical and Fraternal Twins	341
Personality Assessment	342
Observation, Interviews, and Rating Scales	342
Personality Inventories: Taking Stock	343
Projective Tests: Projections from the Unconscious	345
Key Terms	348
Thinking Critically	349
Summary & Review	350

## **Chapter 11 Health and Stress 352**

Two Approaches to Health and Illness	354
Theories of Stress	355
Hans Selye and the General Adaptation Syndrome	356
Richard Lazarus's Cognitive Theory of Stress	357
Sources of Stress: The Common and the Extreme	359
Everyday Sources of Stress	359
Catastrophic Events and Chronic Intense Stress	360
Coping with Stress	362
Problem-Focused and Emotion-Focused Coping	362
Coping with Traumatic Events	363
Evaluating Life Stress: Major Life Changes, Hassles, and Uplifts	364
Holmes and Rahe's Social Readjustment Rating Scale: Adding Up the Stress Score	364
The Hassles of Life: Little Things Stress a Lot	366
Health and Disease	366
Cancer: A Dreaded Disease	367
The Immune System: An Army of Cells to Fight Off Disease	368



AIDS	368
Stress and the Immune System	369
Personal Factors Reducing the Impact of Stress and Illness	369
Your Lifestyle and Your Health	371
Smoking: Hazardous to Your Health	372
Alcohol: A Problem for Millions	372
Exercise: Keeping Fit Is Healthy	373
Key Terms	376
Thinking Critically	377
Summary & Review	377

## **Chapter 12 Psychological Disorders 380**

What Is Abnormal?	382
Perspectives on the Causes and Treatment of Psychological Disorders	383
Defining and Classifying Psychological Disorders	384
Anxiety Disorders: When Anxiety Is Extreme	386
Generalized Anxiety Disorder	386
Panic Disorder	386
Phobias: Persistent, Irrational Fears	387
Obsessive-Compulsive Disorder	389
Somatoform and Dissociative Disorders	390
Somatoform Disorders: Physical Symptoms with Psychological Causes	390
Dissociative Disorders: Mental Escapes	392
Schizophrenia	394
The Symptoms of Schizophrenia: Many and Varied	394
Types of Schizophrenia	395
The Causes of Schizophrenia	396
Mood Disorders	398
Depressive Disorders and Bipolar Disorder: Emotional Highs and Lows	398
Causes of Major Depressive Disorder and Bipolar Disorder	401
Other Psychological Disorders	403
Personality Disorders: Troublesome Behaviour Patterns	403
Sexual and Gender Identity Disorders	404
Key Terms	408
Thinking Critically	408
Summary & Review	408

## **Chapter 13 Therapies 412**

Insight Therapies	414
Psychodynamic Therapies: Freud Revisited	415
The Humanistic and Existential Therapies	416
Therapies Emphasizing Interaction with Others	418
Behaviour Therapy: Unlearning the Old, Learning the New	421
Behaviour Modification Techniques Based on Operant Conditioning	421
Therapies Based on Classical Conditioning	422
Therapies Based on Observational Learning: Just Watch This!	425

Cognitive Therapies: It's the Thought That Counts	426
Rational-Emotive Therapy: Human Misery—The Legacy of False Beliefs	426
Beck's Cognitive Therapy: Overcoming the "Power of Negative Thinking"	428
The Biological Therapies	429
Drug Therapy: Pills for Psychological Ills	430
Electroconvulsive Therapy: The Controversy Continues	432
Psychosurgery: Cutting to Cure	433
Therapies and Therapists: Many Choices	434
Evaluating the Therapies: Do They Work?	434
Mental Health Professionals: How Do They Differ?	435
Therapy and Race, Ethnicity, and Gender	435
Key Terms	438
Thinking Critically	438
Summary & Review	439

## **Chapter 14 Social Psychology 442**

Social Perception	444
Impression Formation: Sizing Up the Other Person	444
Attribution: Our Explanation of Behaviour	445
Attraction	447
Factors Influencing Attraction	447
Romantic Attraction	449
Mate Selection: The Mating Game	449
Conformity, Obedience, and Compliance	450
Conformity: Going Along with the Group	450
Obedience: Following Orders	452
Compliance: Giving In to Requests	454
Group Influence	456
The Effects of the Group on Individual Performance	456
The Effects of the Group on Decision Making	457
Social Roles	458
Attitudes and Attitude Change	459
Attitudes: Cognitive, Emotional, and Behavioural Positions	459
Persuasion: Trying to Change Attitudes	461
Prejudice and Discrimination	463
The Roots of Prejudice and Discrimination	463
Combating Prejudice and Discrimination	467
Prejudice: Is It Increasing or Decreasing?	468
Prosocial Behaviour: Behaviour That Benefits Others	469
The Bystander Effect: The Greater the Number of Bystanders, the Less Likely They Are to Help	469
People Who Help in Emergencies	471
Aggression: Intentionally Harming Others	472
Biological Versus Social Factors in Aggression	472
Aggression in Response to Frustration: Sometimes, but Not Always	472

Aggression in Response to Aversive Events: Pain, Heat, Noise, and More	473
The Social Learning Theory of Aggression: Learning to Be Aggressive	474
Key Terms	477
Thinking Critically	477
Summary & Review	477
<b>Glossary</b>	<b>481</b>
<b>References</b>	<b>501</b>
<b>Name Index</b>	<b>549</b>
<b>Subject Index</b>	<b>555</b>
<b>Photo Credits</b>	<b>566</b>