CHAPTER 1:
THE SCIENCE OF PSYCHOLOGY: FICTION AND FACT

SCIENCE VS. POPULAR PSYCHOLOGY: WHY COMMON SENSE ISN’T COMMON

The Vast World of Popular Psychology
  Common and Uncommon Sense
  Naïve Realism
  When Common Sense is Right
  Keeping an Open Mind
  Truth is Often Stranger than Fiction

Psychological Information and Misinformation
  Popular Psychology as Misinformation
  Popular Psychology as Information
  Distinguishing Psychological Information from Misinformation
  The Growth of Popular Psychology
  Quick Fixes

PSYCHOLOGY AS A SCIENCE

What is Science?
  Scientific Attitudes
Science as a Safeguard Against Bias
Self-Deception
  Confirmation Bias
  Recognizing That We Might Be Wrong
  Thinking Scientifically
  Science Isn’t Perfect

EVALUATING SCIENTIFIC FINDINGS IN THE MEDIA AND ON THE INTERNET

PsychoMythology Box: What a Scientific Theory is and What it Isn’t

THE CHALLENGES OF PSYCHOLOGY

The Rodney Dangerfield of the Sciences
What Makes Psychology Difficult
New Frontiers Box: Thinking Critically About Race
A Nasty Little Subject

APPLICATIONS OF PSYCHOLOGICAL SCIENCE TO EVERYDAY LIFE

Basic vs. Applied Research
  Giving Psychology Away
  How Psychology Affects Us
PSYCHOLOGY IN HISTORICAL PERSPECTIVE:
WHAT A LONG, STRANGE, TRIP IT’S BEEN

Psychology: From Séance to Science
   Psychology’s Liberation from Philosophy
   Psychology’s Liberation from Spiritualism
Psychology Today: Reasons for both Optimism and Concern
The Great Historical Frameworks of Modern Psychology
   Structuralism
   Functionalism
   Behaviorism
   Cognitivism
   Psychoanalysis

THE MULTIFACETED WORLD OF MODERN PSYCHOLOGY

Types of Psychologists: Fact and Fiction

THE THREE GREAT DEBATES OF PSYCHOLOGY

The Nature-Nurture Debate
   The Turning Tide
   Current Status of the Nature-Nurture Debate
The Free-Will Determinism Debate
   Can Free Will be an Illusion?
   Automatic Behaviors
   A Compromise?
The Mind-Body Debate
   A Debate that Science Can’t Resolve
   Press Coverage of the Mind-Body Debate
Parting Thoughts

CHAPTER 2:
SCIENCE AND PSEUDOSCIENCE IN PSYCHOLOGY:
SORTING THE WHEAT FROM THE CHAFF

TRIP TO THE BOOKSTORE

CRITICAL THINKING PRINCIPLES FOR SORTING THE WHEAT FROM THE CHAFF

Scientific Skepticism
   Attitudes of Scientific Skepticism
   Pathological Skepticism
   Oberg’s dictum
The Role of Authority in Science
Basic Principles of Critical Thinking
   Hume’s dictum
   Falsifiability
   Occam’s razor
   Replicability
   Ruling Out Alternative Hypotheses
   Correlation Doesn’t Imply Causation

PSYCHOLOGICAL PSEUDOSCIENCE
What is Pseudoscience?
The Prevalence of Pseudoscientific Beliefs
The Seven Deadly Sins of Pseudoscience
  Overuse of ad hoc immunizing hypotheses
  Lack of self-correction
  Exaggerated claims
  Overreliance on anecdotes
  Evasion of peer review

ORIGINS OF PSEUDOSCIENTIFIC BELIEFS

Two Thinking Systems
Motivational Factors
  The Transcendental Temptation
  Needs for Wonder
New Frontiers Box: Terror Management Theory and its Implications for Pseudoscientific Beliefs
Scientific Illiteracy
Cognitive Factors: Making Sense Out of Nonsense
  The Interpreter
  Pareidolia
  Apophenia
PsychoMythology Box: The Bermuda Triangle

THE DANGERS OF PSEUDOSCIENCE

Opportunity cost
  Animal Deaths and Extinctions
  Direct Harm
  A Slippery Slope

TEN GREAT FALLACIES IN PSYCHOLOGICAL THINKING

Emotional reasoning fallacy
Bandwagon fallacy
Appeal to authority fallacy
Genetic fallacy
Argument from antiquity fallacy
Argument from adverse consequences fallacy
Appeal to ignorance fallacy
Either-or fallacy
Naturalistic fallacy
Not-me fallacy

CHAPTER 3:
RESEARCH METHODS: SAFEGUARDS AGAINST ERROR

THE TALE OF JENNY STORCH

Science Confronts Facilitated Communication
The Beauty – and Necessity – of Good Research Design

HEURISTICS AND BIASES: HOW NOT TO BE FOOLED
A History of Heuristics
   Representativeness
   Availability
Cognitive Biases

THE SCIENTIFIC METHODS: A TOOLBOX OF SKILLS

Generating and Testing Hypotheses
Case Study Designs
   Useful Insights
   Existence Proofs
   Access to the Rare and Unusual
   Pitfalls of Case Studies
Correlational Designs
   Basic Facts About Correlations
   Illusory Correlation
   Correlation and Causation
Experimental Designs
   Random Assignment
   Manipulation of an Independent Variable
   Meta-analysis
   Pitfalls in Experimental Design
      The Placebo Effect
      The Nocebo Effect
      The Experimenter Expectancy Effect
      Hawthorne Effect

BECOMING A PEER REVIEWER OF PSYCHOLOGICAL RESEARCH

SURVEY DESIGNS

Random Selection

SELF-REPORT MEASURES

Response Sets
   Reliability
   Validity
   Reliability and Validity: The Differences

RATING DATA

Uses
   Halo Effect
   Leniency Effect
   Error of Central Tendency

NATURALISTIC OBSERVATION

Advantage
Disadvantage
PsychoMythology Box: Laboratory Research Doesn’t Apply to the Real World, Right?

STATISTICS

Descriptive and Inferential Statistics
   Descriptive Statistics
   Inferential Statistics
   Statistical Significance
   Practical Significance
ETHICAL ISSUES IN RESEARCH DESIGN

Research and Values

Ethical Issues in Human Research
Informed Consent
Debriefing

Ethical Issues in Animal Research

CHAPTER 4:
BIOLOGICAL PSYCHOLOGY

Topics covered will include:
- Why Psychology Students Need to Understand the Brain
- Appropriate Versus Inappropriate Types of Reductionism
- The Human Brain as the Product of Natural Selection
- Evolution: Conceptions and Misconceptions
- Genetic Influences on Behavior: Understandings and Misunderstandings
- The Neuron as the Basic Unit of Communication
- Neurotransmitter Systems and the Action Potential
- The Central Nervous System
- Phrenology and Early Views of Brain Structure and Function
- A Basic Tour of the Human Brain
- Split-Brain Experiments: The Left Hemisphere as an Interpreter
- Brain Scanning Methods: A New Frontier or a New Phrenology?
- The Peripheral Nervous System and Psychological Arousal
- Hormones as Messengers

CHAPTER 5:
SENSATION AND PERCEPTION

Topics covered will include:
- Order out of Disorder: How We Make Sense of the World
- Psychophysics
- The Human Visual System
- Optical Illusions and What they Tell Us about Human Psychology
- Hearing
- Taste and Smell
- The Other Senses: Touch, Pain, and Proprioception
- Human Factors: Applying Perception to the Real World
- Extrasensory Perception: Reality or Oxymoron?
- Subliminal Perception and Persuasion

CHAPTER 6:
LEARNING

Topics covered will include:
- How Natural Selection Has Allowed Us to Benefit from Experience
- Classical Conditioning
- Operant Conditioning
- Applications of Operant Conditioning to Daily Life
- Superstitions and Their Origins
- Learning by Observation: A Third Form of Learning?
- Biological Constraints on Learning
- Cognitive Influences on Learning
- Learning Without Awareness

CHAPTER 7:
CONSCIOUSNESS: EXPANDING THE BOUNDARIES OF PSYCHOLOGICAL INQUIRY

THE BIOLOGY OF SLEEP

The Circadian Rhythm
Stages of Sleep and Dreaming
  - Stage 1 Sleep
  - Stage 2 Sleep
  - State 3 and 4 Sleep
  - Stage 5: Paradoxical or REM Sleep

REM vs. NREM Sleep and Lucid Dreams
  - REM vs. NREM Sleep
  - Lucid Dreaming

THEORIES AND PSYCHOLOGY OF DREAMS

Freud and Wish Fulfillment: The Dream Protection Theory
  - Dream Symbols and Dream Dictionaries
  - Challenges to Wish Fulfillment Theory: Dream Content and Nightmares
Hobson's Theory
  - Activation-Synthesis Theory
  - Brain Imaging Studies
Solms's Neuropsychological Hypothesis
  - Brain Injury Studies
  - Are REM Sleep and Dreams Independent?
Neurocognitive Perspectives on Dreaming: Information Processing and Culture
  - Cognitive Capacities
  - The Universality of Dreams and Culture
  - What is the Function of Dreams?

New Frontiers Box

DISORDERS OF SLEEP

Insomnia
  - Restless Leg Syndrome
  - Short-term Psychotherapy
Narcolepsy
Sleep Apnea
Night Terrors
Sleepwalking

OTHER ALTERATIONS OF CONSCIOUSNESS AND UNUSUAL EXPERIENCES

Out of Body Experiences
Near Death Experiences
Déjà vu Experiences
Meditation
  Types of Meditation
  Possible Benefits of Meditation
  Evaluating Meditation

HYPNOSIS

Myths and Misconceptions About Hypnosis: What Hypnosis is and Isn’t
  Most People who are Hypnotized Describe Hypnosis as a Trance State
  People are Unaware of their Surroundings
  People Forget What Happened During Hypnosis
  An Hypnotic Trance Creates Robots of Flesh and Blood
  Hypnosis Improves Memory

New Frontiers Box
  Hypnosis is Much More Powerful than Waking Suggestions

What Would Constitute Evidence for a Trance State?

Unraveling the Mysteries of Hypnosis: Gullibility and Faking
  Gullibility
  Faking

Theories of Hypnosis
  Sociocognitive Theory: A Non-State Theory
  Neodissociation Theory

Hypnosis in Clinical Practice

DRUGS AND CONSCIOUSNESS

The Depressant Drugs: Alcohol and the Sedative-Hypnotics
  Alcohol
  The Sedative-Hypnotics

The Stimulant Drugs: Tobacco, Cocaine, and the Amphetamines
  Tobacco
  Cocaine
  The Amphetamines

The Opiate Narcotic Drugs: Heroin, Morphine, and Codeine
  Heroin
  Morphine and Codeine

The Psychedelic Drugs: Marijuana and LSD
  Marijuana
  LSD

CHAPTER 8:

MEMORY

Topics covered will include:
  • An Evolutionary View of Memory
  • A Source Monitoring Perspective: Memory as an Adaptive System That Can Sometimes
    Lead to Confusions
  • The Neuroscience of Human Memory
  • The Three Stages of Memory: Sensory, Short-Term, and Long-Term
  • Implicit and Explicit Memory
  • Normal and Abnormal Forgetting
  • Can We Improve Memory? Mnemonic Devices, Herbal Remedies, and a Potpourri of
    Fads
  • Memory Construction and Reconstruction
CHAPTER 9:
THINKING AND LANGUAGE

HOW DOES LANGUAGE WORK?

The features of language
- Phonemes
- Words
- Syntax
- Extralinguistic Information

Why did language evolve?
- Theories of language evolution
  - Motor theory
  - Gesture theory
  - Big Brain theory
- Evolution and arbitrariness of language

LEARNING TO COMMUNICATE

How do children learn language
- Babbling
- Development of Phoneme Perception
- Learning Words
  - Pronunciation errors
  - Errors in word meaning
- Syntactic Development
- Development of Extralinguistic Communication
- Theoretical accounts of language acquisition
  - The Imitation account
  - The Nativist account
  - The Social Pragmatics account
  - The General Cognitive Processing account
- Critically evaluating the theories

Non-human animal communication
- Teaching human language to non-human animals
- Human v. non-human communication: Who wins?

Special cases of language learning
- Sign language
  - The linguistic structure of sign languages
  - Sign language acquisition
  - Myths about sign language
- Bilingualism
  - Acquiring two languages
  - Second language learning and critical periods

Psychomythology Box: Cryptophasia – secret twin language exposed

DO WE THINK IN WORDS? THE RELATION BETWEEN LANGUAGE AND THOUGHT

Linguistic determinism
New Frontiers Box: Transcranial Magnetic Stimulation-Putting the brain on “pause”
Linguistic relativity

**READING**

How does reading work?
Pre-reading
Speed reading—a hoax in sheep’s clothing

**THINKING AND REASONING**

Cognitive economy—Imposing order on the world
  *Top-down processing*
  *Categories and schemas*
  *Playing the odds—An adaptive approach*
The risks of economizing: You get what you pay for
Problem solving: more thinking hurdles
The scientific method just doesn’t come naturally

**CHAPTER 10:**

**INTELLIGENCE**

Topics covered will include:
- Intelligence: A Politically Incorrect Term
- Controversies Regarding Intelligence and Its Measurement
- The Eugenic Movement
- What is Intelligence?
- Models of Intelligence: General Factor vs. Specific Abilities Models
- The Measurement and Mismeasurement of Human Intellect
- Intelligence at the Extremes: From Mental Retardation to Genius
- Uses and Abuses of IQ Tests
- Bias in IQ Tests: Truth vs. Reality
- The Heritability of IQ
- Environmental Influences on IQ and the Mystery of the Flynn Effect
- Group Differences in IQ Tests: The “Bell Curve” Revisited
- Artificial Intelligence: The Next Frontier

**CHAPTER 11:**

**HUMAN DEVELOPMENT**

Topics covered will include:
- The First Year of Life
- The Early Years and the Great Myth of the “First Three Years”
- Adolescence and Myths of Adolescence
- Cognitive Development: Piaget and his Followers
- Moral Development: Kohlberg and His Critics
- Social and Emotional Development: Basic Conceptual Issues
- Temperament and Attachment
- Parenting Practices: Has Their Influence Been Overestimated?
- Why Many Studies of Development are Uninterpretable: The Need for Behavior-Genetic Designs
- Gender and Gender Development
- Adulthood and Aging
- Popular Myths of Aging
CHAPTER 12:
EMOTION AND MOTIVATION

Topics covered will include:
- Emotions as a Product of Natural Selection
- The Biology of Emotion
- Models of Emotion: Discrete Emotion Theory and Cognitive Views
- How Culture Shapes Emotion
- Happiness: Its Counterintuitive Causes and Noncauses
- Self-Esteem and Self-Esteem Movement: Much Ado about Nothing?
- Anger and the Myth of Catharsis
- Lies and Lie Detection: Human and Machine (e.g., polygraph testing, brain fingerprinting)
- Theoretical Views of Motivation
- Hunger and Thirst: Science and Pseudoscience (e.g., diet crazes)
- Sexual Motivation: Conceptions and Misconceptions
- Achievement Motivation: Measurement and Mismeasurement
- Intrinsic Motivation and the Myth of the Undermining Effect
- Liking and Attraction

CHAPTER 13:
STRESS, COPING AND HEALTH

Topics covered will include:
- Psychological Perspectives on Stress
- The Physiology of Stress and Distress
- Coping with Stress
- What’s Wrong with the Coping Literature?
- Psychosomatic Medicine
- Persistent Myths Regarding Psychosomatic Conditions
- The Type A Personality: What Happened to it?
- Behavioral Medicine and Its Applications
- Psychoneuroimmunology
- Biofeedback: Miracle or Mirage?

CHAPTER 14:
SOCIAL PSYCHOLOGY: HOW OTHERS AFFECT US

WHAT IS SOCIAL PSYCHOLOGY?

Humans as a Social Species
- Social Facilitation
- How Humans Came to be this Way
- The Great Lesson of Social Psychology
- Attributions
- Evidence for the Fundamental Attribution Error

Cultural Influences
Social Comparison

THE SOCIAL PSYCHOLOGY OF FALSE BELIEFS
Mass Hysteria

Urban Legends
Urban Legends as Good Stories
Word of Mouth
Recognition

CONFORMITY AND OBEDIENCE

Conformity: The Asch Paradigm
Parametric Studies
Individual, Cultural, and Gender Differences in Conformity
Conformity: The Autokinetic Effect
Deindividuation
The Stanford Prison Study
Other Evidence for Deindividuation
Crowds
Groupthink
The History of Groupthink
Symptoms
Solutions
Group Polarization
Cults and Brainwashing
How Cults Work
The Dark Side of Cults
Common Misconceptions
Resisting Cult Influence
Obedience
Obedience: A Double-Edged Sword
Stanley Milgram: The Sources of Destructive Obedience
The Milgram Paradigm
Milgram’s “Shocking” Findings
The Milgram Paradigm: Individual, Gender, and Cultural Differences
Milgram’s studies: Lessons

HELPING: WHEN WE INTERVENE AND WHEN WE DON’T

Safety in Numbers?
Causes of Bystander Nonintervention
Pluralistic Ignorance
Diffusion of Responsibility
Studies of Bystander Nonintervention
Predictors of Helping
Individual and Gender Differences
Situational Factors
Social Loafing: A Variant of Bystander Nonintervention?
Evidence for Social Loafing
Antidotes
PsychoMythology Box: Is Brainstorming in Groups a Good Way to Generate Ideas?

ATTITUDES AND PERSUASION

Attitudes and Behaviors
When Attitudes Don’t Predict Behavior
When Attitudes Do Predict Behavior
Origins of Attitudes
Recognition
Characteristics of the Messenger
Attitudes and Personality

Attitude Change
Cognitive Dissonance Theory
Alternatives to Cognitive Dissonance Theory

Persuasion
Routes to Persuasion
Persuasion Techniques
The Marketing of Pseudoscience

PREJUDICE AND DISCRIMINATION

The Nature of Prejudice
Evolutionary Underpinnings
Biases

Discrimination
Consequences
Creating Discrimination

Stereotypes
The Good and the Bad of Stereotypes
Explicit and Implicit Stereotypes

New Frontiers Box: Implicit Measures of Prejudice
Stereotypes: Are they accurate?
Ultimate Attribution Error

Roots of Prejudice
Scapegoat hypothesis
Just-world hypothesis
Conformity
Individual differences

Combating Prejudice
Robbers’ Cave Study
Jigsaw Classrooms

CHAPTER 15:
PERSONALITY

Topics covered will include:
- Basic Criteria for Evaluating Personality Theories
- Personality: What Is It and How Can We Study It?
- The Causes of Personality: Findings from Behavior-Genetic Studies
- The Myth of Shared Environment
- New Frontiers: Molecular Genetic Studies of Personality
- Psychoanalytic Theory: Core Assumptions and Criticisms
- Freud’s Followers
- Behavioral and Social Learning Theories of Personality
- Humanistic/Existential Models of Personality
- Trait Models of Personality
- Personality Assessment: Basic Principles for Evaluating Psychological Tests Structured Personality Tests
- Projective Techniques
- Common Pitfalls in Personality Assessment: The P.T. Barnum Effect and Illusory Correlation
- Psychomythology Box: Criminal Profiling
CHAPTER 16:
PSYCHOPATHOLOGY

Topics covered will include:
- Conceptual Issues: What is Abnormality?
- Labeling and Labeling Theory: Understandings and Misunderstandings
- The Causes of Abnormality: Genetic and Environmental Influences on Mental Disorders
- Schizophrenia: The Great Enigma
- Mood Disorders
- Suicide and Suicide Myths
- Anxiety and Somatoform Disorders
- Psychopathy and Personality Disorders
- Alcoholism and Substance Disorders
- Dissociative Disorders: Multiple Personalities, Multiple Controversies
- Childhood Disorders: Attention-Deficit/Hyperactivity Disorder and Autism
- Cultural and Gender Influences on Psychopathology
- Controversial Psychiatric Disorders: Labeling Gone Haywire?

CHAPTER 17:
PSYCHOTHERAPY AND SOMATIC THERAPY

Topics covered will include:
- The History of Psychotherapy
- Major Models of Psychotherapy: Psychoanalysis, Behavioral, Cognitive, Humanistic/Existential
- Evaluating the Efficacy of Psychotherapy: Challenges and Perils
- The Dodo Bird Verdict: Are All Psychotherapies Equally Effective?
- Psychotherapy and the Problem of the Placebo Effect
- The Scientist-Practitioner Gap
- Fringe Psychotherapies: Help or Hype?
- The Self-Help Movement: A Good Idea Gone Haywire
- The History of Somatic Interventions: Psychosurgery and Early Drug Treatments
- Psychopharmacological Treatments: Medications for Schizophrenia, Mood Disorders, and Anxiety Disorders
- The Placebo Effect Rears Its Ugly Head Yet Again
- Herbal Remedies: Gingko, Kava, and a Plethora of Other Purported Treatments
- Cosmetic Psychopharmacology: A Revolution Whose Time Has Come?
- Electroconvulsive therapy and Its Variants
- Controversies in Somatic Therapy: Drug Overprescription, Drug Underprescription, and Psychologist Prescription Privileges

CHAPTER 18:
APPLIED PSYCHOLOGY

PSYCHOLOGY IN THE WORKPLACE

Personnel Selection
Integrity Tests: Do they really work?
Psychomythology Box: The Interviewer Illusion
Worker Motivation and Productivity
Leadership: How to Inspire an Organization and How to Ruin It
Managing Employees
Human Factors
New Frontiers Box: Minimizing Airplane Accidents Through Better Design

SPORTS PSYCHOLOGY

Enhancing Performance
Mental Imagery: Science and Pseudoscience
Group and Team Dynamics
Exercise: Relations to Mental and Physical Adjustment

LAW AND PSYCHOLOGY

Expert Testimony: Uses, Misuses, and Abuses
Jury Selection and Decision-Making
Eyewitness Testimony: When it Goes Right and When it Goes Wrong
The Insanity Defense and Competency to Stand Trial
Involuntary Institutionalization
Violence Prediction: Can We Do It?
Child Sexual Abuse and Mandated Reporting
Punishment and Capital Punishment: What We Do and Don’t Know

CHAPTER 19:
CONCLUDING THOUGHTS: TAKING CRITICAL THINKING WITH YOU

Topics covered will include:
- Putting It All Together: Applying Critical Thinking Outside of the Classroom
- The Media and Internet: Sorting the Wheat from the Chaff
- Becoming a Scientific Thinker in Everyday Life
- Parting Thoughts on Leaving Your Introductory Psychology Course