

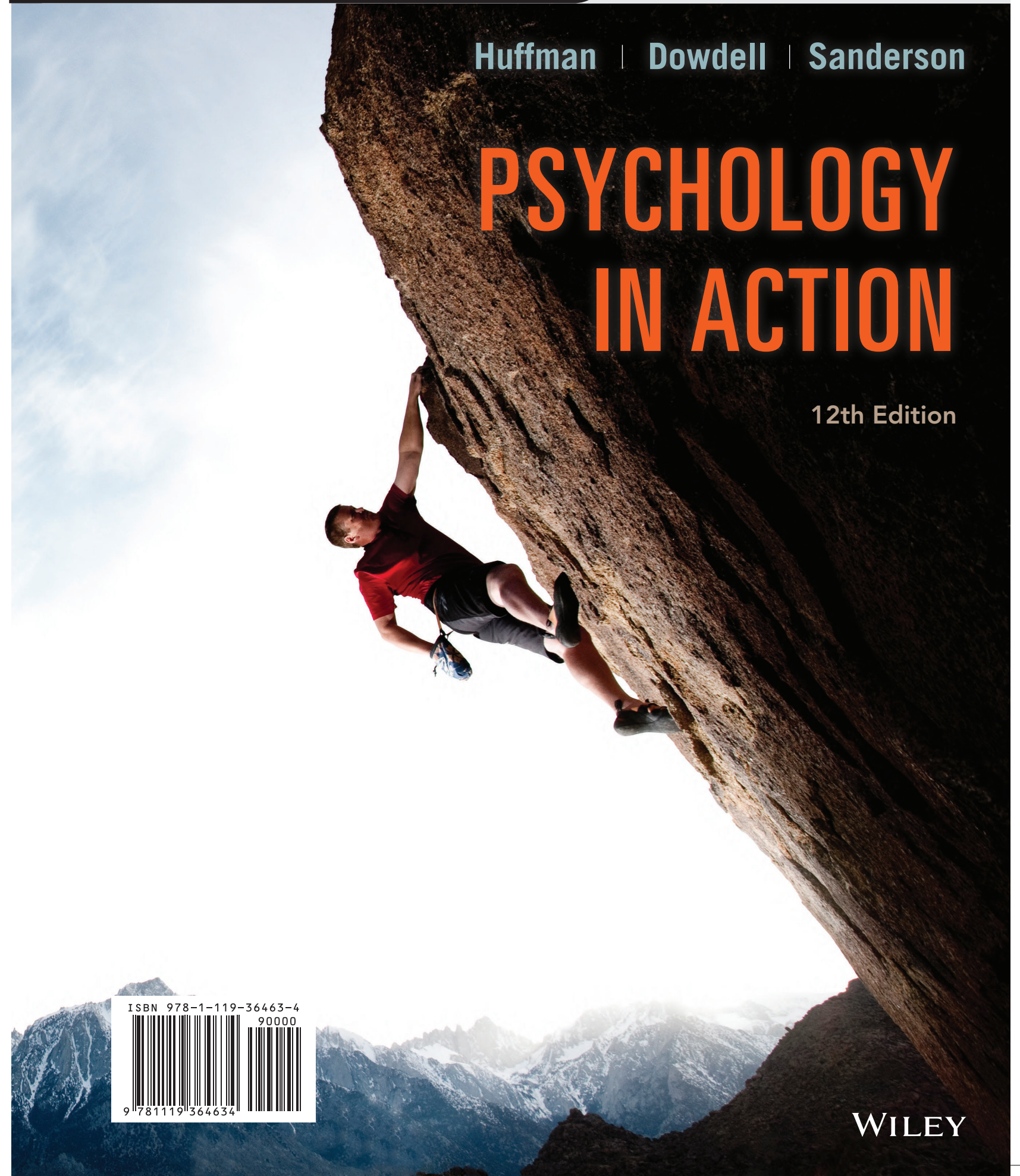
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12th Edition



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Psychology in Action

12th Edition

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This book was typeset in 9.5/11.5 Source Sans Pro at Aptara and printed and bound by LSC Communications. The cover was printed by LSC Communications.

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Enhanced EPUB ISBN: 978-1-119-394883-9

The inside back cover will contain printing identification and country of origin if omitted from this page. In addition, if the ISBN on the back cover differs from the ISBN on this page, the one on the back cover is correct.

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

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Courtesy of Katherine Dowdell

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Courtesy of Catherine Sanderson

related behaviors such as safer sex and disordered eating, the development of persuasive messages and interventions to prevent unhealthy behavior, and the predictors of relationship satisfaction. This research has received grant funding from the National Science Foundation and the National Institute of Health. Professor Sanderson has published over 25 journal articles and book chapters in addition to five college textbooks, a high school health textbook, and a popular press book on parenting. In 2012, she was named one of the country's top 300 professors by the Princeton Review.

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Preface



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What do you think about the death-defying mountain climber on the cover of this text? Most readers don't recognize the time and thought authors and publishers commit to visually capturing the essential message of their work. In our case, we've always chosen activity-oriented images for all twelve editions of *Psychology in Action* because, as its name implies, our textbook has earned its reputation as a leader in *active learning*.

Beginning with our first edition, we were the first to include *Try This Yourself* activities, *Study Tips*, *Research Challenges*, and other “hands on” demonstrations (e.g., *Critical Thinking Exercises* and *Media Challenges* that are available as graded assignments in the WileyPlus program). Why? We've always believed that student success is best assured through active learning, which encourages students to think critically and engage with

the material—thus leading to deeper levels of processing. Our enduring foundation in active learning continues in this twelfth edition—as shown in the following examples.

What's **NEW** in *Psychology in Action* 12e? Given our commitment to active learning and evidence-based research, we've chosen to make the development of a *growth mindset* and *grit* as the central goals and theme of this edition. As you may know, studies find that these two factors may be the most significant factors in determining career and academic success. In fact, some research suggests that they may be even more important than IQ (Datu et al., 2016; Dweck, 2007, 2012; Suzuk et al., 2015).

With this focus on a growth mindset and grit in mind, we start each chapter with a **NEW** *Psychology and a Classic* (or *Contemporary*) *Success* feature, which offers a brief description of a famous figure who exemplifies both qualities. (See the following example of J. K. Rowling.) The stories are then embedded throughout each chapter to illustrate core concepts. We believe offering these repeated success stories will reassure our readers that achievement is largely under their control,

Try This Yourself

Testing for Reflexes

If you have a newborn or young infant in your home, you can easily (and safely) test for these simple reflexes. (Most infant reflexes disappear within the first year of life. If they reappear in later life, it generally indicates damage to the central nervous system.)



Rooting reflex
Lightly stroke the cheek or side of the mouth, and watch how the infant automatically (reflexively) turns toward the stimulation and attempts to suck.



Grasping reflex
Place your finger or an object in the infant's palm and note his or her automatic grasping reflex.



Babinski reflex
Lightly stroke the sole of the infant's foot, and the big toe will move toward the top of the foot, while the other toes fan out.

Test Your Critical Thinking

1. What might happen if infants lacked these reflexes?
2. Can you explain why most infant reflexes disappear within the first year?

Research Challenge

Why Do Men and Women Lie About Sex?

The *social desirability bias* is of particular concern when we study sexual behaviors. A fascinating example comes from a study that asked college students to complete a questionnaire regarding how often they engaged in 124 different gender-typical behaviors (Fisher, 2013). Some of these behaviors were considered more typical of men (such as wearing dirty clothes and telling obscene jokes), whereas other behaviors were more common among women (such as writing poetry and lying about their weight). Half of the participants completed these questionnaires while attached to what they were told was a polygraph machine (or lie detector), although in reality this machine was not working. The other half completed the questionnaires without being attached to such a machine.

Can you predict how students' answers differed as a function of their gender and whether they were (or were NOT) attached to the supposed lie detector? Among those who were attached to a supposed lie detector and who believed that it could reliably detect their lies, men were more likely to admit that they sometimes engaged in behaviors seen as more appropriate for women, such as writing poetry. In contrast, women were more likely to admit that they sometimes engaged in behaviors judged more appropriate for men, such as telling obscene jokes. Even more interesting, men reported having had more sexual partners when they weren't hooked up to the lie detector than when they were. The reverse was true for women! They reported fewer partners when they were not hooked up to the lie detector than when they were.

How does the *social desirability response* help explain these differences? We're all socialized from birth to conform to norms (unwritten rules) for our culturally approved male and female behaviors. Therefore, participants who were NOT attached to the supposed lie detector provided more “gender appropriate” responses. Men admitted telling obscene jokes and reported having more sexual partners, whereas women admitted lying about their weight and reported having fewer sexual partners.

These findings were virtually reversed when participants believed they were connected to a machine that could detect their

lies. This fact provides a strong example of the dangers of the *social desirability* response. It also reminds us, as either researchers or consumers, to be very careful when interpreting findings regarding sexual attitudes and behaviors. Gender roles may lead to inaccurate reporting and exaggerated gender differences.

Test Yourself

1. Based on the information provided, did this study (Fisher, 2013) use descriptive, correlational, and/or experimental research?
2. If you choose:
 - *descriptive research*, is this a naturalistic observation, survey/interview, case study, and/or archival research?
 - *correlational research*, is this a positive, negative, or zero correlation?
 - *experimental research*, label the IV, DV, experimental group(s), and control group. (Note: If participants were not randomly assigned to groups, list it as a *quasi-experimental design*.)
 - both *descriptive* and *correlational*, answer the corresponding questions for both.

Check your answers by clicking on the answer button or by looking in Appendix B.

Note: The information provided in this study is admittedly limited, but the level of detail is similar to what is presented in most textbooks and public reports of research findings. Answering these questions, and then comparing your answers to those provided, will help you become a better critical thinker and consumer of scientific research.



Study Tip

One way to differentiate the two subdivisions of the ANS is to imagine skydiving out of an airplane. When you initially jump, your sympathetic nervous system has “sympathy” for your stressful situation. It alerts and prepares you for immediate action. Once your “para” chute opens, your “para” sympathetic nervous system takes over, and you can relax as you float safely to earth.

❖ Psychology and a Contemporary Success | J. K. Rowling

Joanne Rowling, best known as J. K. Rowling (1965–), is a British novelist, screenwriter, and film producer famous for her authorship of the *Harry Potter* series of fantasy novels (see photo). Rowling (pronounced *rolling*) was born in Yate, England, to parents who, as she says, “came from impoverished backgrounds and neither of whom had been to college.” They did, however, love to read, and Rowling grew up surrounded by books to become the classic “bookworm.” After graduating from Exeter University, Rowling moved to Portugal, where she met and married a Portuguese journalist. The marriage soon ended in divorce, and Rowling moved with her daughter to live near her sister in Edinburgh, Scotland. Struggling to support herself and her young daughter, she reluctantly signed up for welfare benefits, saying that she was “as poor as it is possible to be . . . without being homeless.” Rowling sold her first novel in the *Harry Potter* series for only \$4,000. Since then, though, this series of books has sold over 450 million copies (McClurg, 2017; Rowling, n.d.).

Despite her apparently wildly successful life, Rowling has endured numerous hardships. She reports that her teenage years were very unhappy due to her mother’s protracted illness and a strained relationship with her father. The period after her divorce and her mother’s painful death from multiple sclerosis was a particularly difficult time for Rowling. She saw herself as such a dismal failure that she even contemplated suicide. Fortunately, therapy helped her climb out of her diagnosed clinical depression, and she later reported that it was her experiences with such deep despair that led her to create the *Dementors*—the soul-sucking monsters found in the *Harry Potter* series (Bennett, 2012; Oppenheim, 2016; Rowling, n.d.).



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and thereby inspire them to use grit and a growth mindset to achieve their own personal dreams and aspirations. As shown in **Table 1**, we also include two additional NEW features—*Psychology and Your Personal Success* and *Psychology and Your Professional Success*—to further demonstrate how the content of each chapter, along with a growth mindset and grit, can help them succeed in the real world.

Given that our gracious and loyal previous adopters may be interested in what changes we’ve made and/or the updating we’ve added in this 12th edition (i.e., to the basic content, key terms, and continued features), we’ve created a handy summary of these changes in **Table 2**. This table also summarizes the key assets for each chapter provided in WileyPLUS.

Additional Resources

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Given that students obviously don’t all learn and achieve at the same rate, WileyPLUS with ORION provides adaptive practice in a digital tutorial, homework, and assessment platform that significantly improves individual student performance and success rates.

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x Preface

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Acknowledgments

Reviewers: To the professors who reviewed material and gave their time and constructive criticism, we offer our sincere appreciation. This text is much stronger, clearer, and concise thanks to their efforts. We are deeply indebted to the following individuals, and trust that they will recognize their contributions throughout the text.

Mary Beth Ahlum, *Nebraska Wesleyan University*; Kathryn Alves-Labore, *Forsyth Technical Community College*; Roxanna Anderson, *Palm Beach State College*; Susan Antaramian, *Christopher Newport University*; Darin Baskin, *Lone Star College*; Matthew Bell, *Santa Clara University*; Barbara Boccaccio, *Tunxis Community College*; Amy Bradshaw Hop-pock, *Embry-Riddle Aeronautical University*; Courtney Brewer, *Suffolk County Community College*; Melissa Brown, *State University of New York,*

College at Brockport; Michael Cassens, *Irvine Valley College*; Sky Chafin, *Grossmont College*; Charlene Chester, *Morgan State University*; Wanda Clark, *South Plains College*; Herb Coleman, *Austin Community College*; Lorry Cology, *Owens Community College*; Rosalyn Davis, *Indiana University, Kokomo*; Ben Denkinger, *Augsburg College*; Michael Dudley, *Southern Illinois University, Edwardsville*; Sylvia Edwards-Borens, *Texas State Technical College, Waco*; Daniella Errett, *Pennsylvania Highlands Community College*; Rebecca Ewing, *Central Georgia Technical College*; Linda Fayard, *Mississippi Gulf Coast Community College*; Johnathan Forbey, *Ball State University*; Jamie Franco-Zamudio, *Spring Hill College*; Audrey Fresques, *Paradise Valley Community College*; William Fry, *Youngstown State University*; Perry Fuchs, *The University of Texas at Arlington*; Janet Gebelt, *Westfield State University*; William Goggin, *University of Southern Mississippi*; Kate Guts, *Seattle University*; Jill Haasch, *Elizabeth City State University*; Barbara Hall, *Iowa Valley Community College*; Kate Halverson, *Des Moines Area Community College*; Andrew Herst, *Montgomery College*; Becky Howell, *Forsyth Technical Community College*; Vivian Hsu, *Rutgers, The State University of New Jersey*; Dominique Hubbard, *Northern Virginia Community College, Alexandria*; Jeannie Hudspeth, *Ozarka College*; Sierra Iwanicki, *Eastern Michigan University*; Alisha Janowsky, *University of Central Florida*; Joan Jensen, *Central Piedmont Community College*; Robert Rex Johnson, *Delaware County Community College*; Karen Jolley, *Central Georgia Technical College*; Deana Julka, *University of Portland*; Kristina Klassen, *North Idaho College*; Jim Koopman, *Des Moines Area Community College*; Monica Lackups-Fuentes, *Eastern Michigan University*; Julie Learn, *Indiana University of Pennsylvania*; James Leone, *Bridgewater State University*; Bernard Levin, *Blue Ridge Community College*; Carolyn Lorente, *Northern Virginia Community College*; Karen Markowitz, *Grossmont College*; Alex Marvin, *Seminole State College of Florida*; Daniel McConnell, *University of Central Florida*; Mark McKellop, *Juniata College*; Ticity Medley, *Tarrant County Community College, South Campus*; Amy Meeks, *Texas State University*; Elisabeth Morray, *Boston College*; Gabe Mydland, *Dakota State University*; Ronn Newby, *Des Moines Area Community College*; Mason Niblack, *Salish-Kootenai College*; Caroline Olko, *Nassau Community College*; Mary-Ellen O'Sullivan-Vollemans, *Housatonic Community College and Southern Connecticut University*; Alison Pepper, *University of Montana, Missoula College*; Doug Peterson, *University of South Dakota*; Susan Poulin, *Central Main Medical Center College of Nursing and Health Professions*; Chris K. Randall, *Kennesaw State University*; Matthew Rhoads, *Arkansas State University*; Nicole Rodiles, *Imperial Valley College*; Theresa Rufrano-Ruffner, *Indiana University of Pennsylvania*; Sharon Sanders, *University of Cincinnati, Clermont College*; Hildur Schilling, *Fitchburg State University*; Sharon Sexton, *Texas States Technical College*; David Shepard, *South Texas College*; Jessica Siegel, *University of the South*; Stuart Silverberg, *Westmoreland County Community College*; Amy Skinner, *Central Alabama Community College*; Sherry Span, *California State University, Long Beach*; Nelly Sta Maria, *Suffolk County Community College*; Cari Stevenson, *Kankakee Community College*; John Story, *Bluegrass Community and Technical College*; Eva Szei, *Arizona State University*; Rachelle Tannenbaum, *Anne Arundel Community College*; Kim Taylor, *Spokane Falls Community College*; Jane Theriault, *University of Massachusetts, Lowell*; Tiffany Thomas, *Des Moines Area Community College*; Sherri Toman, *United Tribes Technical College*; Katie Townsend-Merino, *Palomar College*; Alicia Trotman, *Mercy College*; Victoria Van Wie, *Lone Star College, CyFair*; Catherine Wehlburg, *Texas Christian University*; John Wright, *Washington State University*; Jason Young, *Hunter College*.

Special Thanks from the Authors

We'd like to offer our very special thank you to the superb editorial and production teams at John Wiley & Sons. Like any cooperative effort, writing a book requires a strong and professional support team, and we are deeply grateful to this remarkable group of people: Mary Ann Price, Senior Photo Editor; Maureen Eide, Senior Designer; Sandra Rigby, Senior Production Editor; and a host of others. Each of these individuals helped enormously in the production of this text. Without them, this program would not have been possible.

- This twelfth edition particularly benefited from the incredible patience, wisdom, and insight of Emma Townsend-Merino. Her title, Assistant Development Editor, does not reflect the true scope of her responsibilities and contributions. Emma's patience, wisdom, and professionalism inspire all who know her. As Jason Spiegelman (our incredible Test Bank author) noted, "she's awesome!"
- Our personal appreciation and gratitude also goes out to Veronica Visentin, our Executive Editor, who recently took over responsibility for the psychology team at Wiley and added her energy and personal touch to this Twelfth Edition. We're similarly thankful and beholden to Glenn Wilson, who also recently joined us as the Senior Market Development Manager. He handled all the ins and outs of marketing and was instrumental in the creative ideas for this edition.
- *Psychology in Action* also could not exist without a great team of contributors. We gratefully acknowledge the expertise and immense talents of Beverly Peavler, whose careful guidance and editing greatly improved this edition. In addition, we offer a big, heartfelt thank you to our team of fabulous ancillary authors: Jason Spiegelman (The Community College of Baltimore County) Test Bank and PowerPoint; Ronn Newby (Des Moines Area Community College) Instructor's Resource Guide; Melissa Patton (Eastern Florida State College) Instructor Demonstration Videos; and Kate Halverson (Des Moines Area Community College) Practice Tests. We love and appreciate each and every one of you!
- The staff at Furino Production deserves a special note of thanks—especially, Jeanine Furino. Their careful and professional approach was critical to the successful production of this edition. Jeanine supervised this project from manuscript through final text, with great patience and incredible grace.
- We'd also like to express our heartfelt appreciation to the hundreds of faculty across the country who contributed their constructive ideas to *Psychology in Action* 12e, and to our many students over all the years. They've taught us what students want to know, and inspired us to write this book.
- Finally, all the hard work of the entire staff, and months of writing, producing, and marketing of this book, would be wasted without an energetic and dedicated sales staff. We wish to sincerely thank all the publishing representatives for their tireless efforts and

good humor. It's a true pleasure to work with such a remarkable group of people.

Personal Acknowledgments from the Authors

- **From Karen Huffman:** Katherine Dowdell and I warmly welcome Catherine Sanderson to the shared authorship of the twelfth edition, and sincerely thank her for her timely research and invaluable contributions. Working with both of my co-authors has been a great and rewarding experience! In truth, the writing of this (and all editions of *Psychology in Action*) has been a group effort involving the input and unflagging support of my co-authors, along with all of my wonderful friends, family, and valued colleagues. To each person, I offer my most sincere thanks: Amy Beeman, Joline Bourdages, Sky Chafin, Haydn Davis, Mike Garza, Teresa Jacob, Jim Matiya, Lou Milstein, Kandis Mutter, Tyler Mutter, Roger Morrissette, Katie Townsend-Merino, Maria Pok, Fred Rose, Kathy Young. They and many others provided personal friendship, feedback, careful editing, library research, and a unique sense of what should and should not go into an introduction to psychology text.

A special note of appreciation goes to my dear friend and colleague, Tom Frangicetto at Northampton Community College. His co-authoring of the critical thinking Prologue, and full authorship of most of the critical thinking exercises for each chapter, provided invaluable, "hands on" opportunities for our students to practice and develop their critical thinking skills.

Finally, I send a big hug and continuing appreciation to Richard Hosey. His careful editing, constructive feedback, professional research skills, and shared commitment to excellence were essential to this revision. Last, and definitely not least, I thank my beloved husband, Bill Barnard. My professional life and personal happiness are in your loving hands.

- **From Katherine Dowdell:** Many thanks to my co-authors, Karen and Catherine, for their dedication, scholarship, and enthusiasm throughout this journey. I'd also like to express my deep appreciation to Tiffany Thomas, Kate Halverson and our colleagues at DMACC for their input, insight, and advice on the text and Wiley-PLUS. And finally, my love and gratitude to my family, Mark, Jane and Vaughn Hommerding, for their unfailing love and support for all that I am and do.
- **From Catherine Sanderson:** I am thrilled to be joining the author team for *Psychology in Action*, and appreciate the warm welcome from Karen and Katherine. I'd also like to thank my fabulous research assistant, Chris Roll, for all of his work on gathering and checking references. Last, but certainly not least, I owe a big thanks to my family (Bart, Andrew, Robert, and Caroline) for supporting yet another writing endeavor ... and all the resulting take-out dinners!

TABLE 1 New Special Features in *Psychology in Action, 12e*

Chapter Title	Psychology and a Classic/ Contemporary Success	Psychology and Your Professional Success	Psychology and Your Personal Success	WileyPLUS Assets : Animations(A), Mini Courses(MC), and Interactives(I)
1 Introduction and Research Methods	Michael Jordan	Would You Like a Career in Psychology?	Why Are a Growth Mindset and Grit Important?	<ul style="list-style-type: none"> Correlation does not mean causation (A) Components of an experiment (A) Research methods (MC) The scientific method (I)
2 Neuroscience and Biological Foundations	Adele Diamond		How to Train Your Brain	<ul style="list-style-type: none"> Sympathetic and parasympathetic nervous systems (A) Peripheral and central nervous systems (A) Lateralization of the brain (A) The human brain (MC) Key parts of the neuron (I) Communication between neurons (I)
3 Stress and Health Psychology	Marcus Luttrell	How Well Do You Cope with Job Stress?	Can Mindfulness Improve Your GPA?	<ul style="list-style-type: none"> Three types of conflict (A) The HPA axis and General Adaptation Syndrome (A) Physical response to stress (MC)
4 Sensation and Perception	Helen Keller		Helen Keller's Inspiring Advice	<ul style="list-style-type: none"> Sensation vs. perception (A) The body senses (A) Understanding perception: Selection and interpretation (A)
5 States of Consciousness	Albert Einstein	Potential Career Costs of Addiction	Can Maximizing Your Consciousness Save Lives?	<ul style="list-style-type: none"> Inattentional blindness, selective attention, automatic vs. controlled processes (A) Sleep deprivation (A) Why we sleep: Four theories (A) Agonist and antagonist drugs: How do they produce their effects? (I)
6 Learning	Cesar Millan	Why Can't We Get Anything Done Around Here?	Can Learning Principles Help You Succeed in College?	<ul style="list-style-type: none"> Reinforcement vs. punishment (A) Effective use of reinforcement and punishment (A) Six principles of operant conditioning (A) Schedules of reinforcement (A) Classical conditioning (MC)
7 Memory	Elizabeth Loftus		Can Memory Improvement Increase Success?	<ul style="list-style-type: none"> ESR memory model (A) Factors in forgetting (A) Memory distortions (A) Memory tools for student success (A)
8 Thinking, Language, and Intelligence	Bill Gates	Is a High IQ Essential to High Achievement?	Strategies for Better Problem Solving	<ul style="list-style-type: none"> Problem solving (A) Barriers to problem solving (A) Issues in measuring intelligence (A) Language and the brain (I) Language acquisition (I)

Chapter Title	Psychology and a Classic/ Contemporary Success	Psychology and Your Professional Success	Psychology and Your Personal Success	WileyPLUS Assets : Animations(A), Mini Courses(MC), and Interactives(I)
9 Life Span Development I	Oprah Winfrey	Does Ageism Matter?	The Power of Touch	<ul style="list-style-type: none"> • Research methods in development: Cross-sectional vs. longitudinal design (I) • Cognitive development (A) • Styles of attachment (A) • Parenting styles (I)
10 Life Span Development II	Nelson Mandela		What Are the Secrets to Enduring Love?	<ul style="list-style-type: none"> • Moral development (A) • Erikson's psychosocial theory (MC)
11 Gender and Human Sexuality	Ellen DeGeneres		Are Your Conflicts Constructive or Destructive?	<ul style="list-style-type: none"> • Cognitive factors influencing arousal (A)
12 Motivation and Emotion	Malala Yousafzai	What Are the Best Ways to Increase Motivation?	Are There Research-Based Secrets for Happiness?	<ul style="list-style-type: none"> • Environmental factors in eating and obesity (A) • Persistence and grit (A) • Theories of motivation (MC) • Symptoms of anorexia and bulimia (I)
13 Personality	Abraham Lincoln	Should You Match Your Personality With Your Career?	Can (and Should) We Improve Our Personalities? Could You Pass the Marshmallow Test?	<ul style="list-style-type: none"> • Trait theories (A) • Unconditional love (A) • Reciprocal determinism (A) • Freud's personality structure (I)
14 Psychological Disorders	Jennifer Lawrence		Can Resilience Promote Mental Health in Children and Adults?	<ul style="list-style-type: none"> • How phobias are created (A) • Learned helplessness (A) • Gender differences in managing depression (A) • Biopsychosocial model of schizophrenia (MC) • Anxiety disorders (I)
15 Therapy	J. K. Rowling		What Are the Keys to Good Mental Health?	<ul style="list-style-type: none"> • Systematic desensitization (A) • Operant conditioning (A) • Group therapy (A) • Cognitive behavioral therapy (MC) • Three major approaches to therapy (I) • Five common goals of therapy (I)
16 Social Psychology	Sonia Sotomayor	How Can We Reduce Attributional Biases? Can Prejudice Affect Your Career Success?	Using Psychology to Increase Your Dating Appeal	<ul style="list-style-type: none"> • Attribution (A) • Groupthink (A) • Altruism: Why do we help? (A) • Cognitive dissonance (MC) • Prejudice and discrimination (I)

TABLE 2 Continuing Special Features in *Psychology in Action*, 12e

Chapter Title	Research Challenges (RC)/ Gender and Cultural (G&C) Diversity	Significantly Revised Topics (RT)/Added New Topics (ANT)	Deleted Key Terms (DKT)/ New Key Terms (NKT)	NOW in Wiley-Plus Critical Thinking Exercises (CT)/ Media Challenges (MC)	Sample WileyPlus Assets: Videos (V), Animations (A), Virtual Field Trips (VFT)
1 Introduction and Research Methods	(RC) Why Do Men and Women Lie About Sex? (G&C) Psychology's History of Diversity	(RT) Moved research ethics to the Science of Psychology section, updated and revised correlational research (ANT) New connections of famous figure (Michael Jordan) with key chapter topics. Added discussion of quasi-experimental designs, growth mindset, and grit	(DKT) The term "survey" replaced with survey/interview (NKT) Functionalism, grit, growth mindset, natural selection, representative sample, structuralism	(CT) How to Think Critically About Psychological Science (MC) Is College Worth It?	Applying Research Methods (V) The Experiment (V) The Art of Prediction (A) Yerkes Primate Center (VFT)
2 Neuroscience and Biological Foundations	(RC) Does Lying Lead to More Lies? (RC) Phineas Gage—Myths versus Facts (G&C) Are Male and Female Brains Different? (G&C) Culture and Job Stress	(RT) Moved Genetic Inheritance to Ch. 9, expanded discussion of frontal lobes (ANT) New connections of famous figure (Adele Diamond) with key chapter topics. Added discussion of executive functions and positive effects of simple mental skills training and physical exercise on brain functioning	(DKT) Moved key terms related to genetics to Chapter 9 (NKT) All-or-nothing principle, executive functions, fight-flight-freeze response, motor cortex, nervous system, somatosensory cortex	(CT) DNA Testing: Changing Lives, Saving Lives (MC) The (Invisible) Plague of Concussion	Dissecting the Brain (V) Interaction of Genes and Environment (V) Drawing and Building A Brain (V) The Brain (A) Alcohol, Neurotransmitters and Your Brain (A) Neuroimaging (VFT) Reading Your DNA (VFT)
3 Stress and Health Psychology	(RC) What are the Hidden Benefits of Practice Testing? (RC) When Do Losers Actually Win? (G&C) What are the Problems with Acculturative Stress?	(RT) Updated and revised the benefits of stress, social media's negative effects, and PTSD with a focus on veterans (ANT) New connections of famous figure (Marcus Luttrell) with key chapter topics. Added discussion of acculturative stress, chronic pain, and cognitive appraisal. Moved table and major discussion of defense mechanisms from Chapter 13 to this chapter	(DKT) Type A and Type B (NKT) Acculturative stress, chronic pain, fight-flight-freeze response (versus fight or flight)	(CT) Perils of Procrastination (MC) Are We Denying the Dangers of Stress?	Sources of Stress (V) Coping with Stress (V) Positive Psychology (V) Biofeedback (VFT) Managing Stress Improves Health (A)

Chapter Title	Research Challenges (RC)/ Gender and Cultural (G&C) Diversity	Significantly Revised Topics (RT)/Added New Topics (ANT)	Deleted Key Terms (DKT)/ New Key Terms (NKT)	NOW in Wiley-Plus Critical Thinking Exercises (CT)/ Media Challenges (MC)	Sample WileyPlus Assets: Videos (V), Animations (A), Virtual Field Trips (VFT)
4 Sensation and Perception	(RC) Can Music Improve the Taste of Beer? (RC) Does Wearing Red Increase Your Sex Appeal? (G&C) Are the Gestalt Laws Universally True?	(ANT) New connections of famous figure (Helen Keller) with key chapter topics. Added discussion and new figure on feature detectors in the brain, new figure and research on depth perception	(NKT) Gestalt psychology, parapsychology, priming, volley principle for hearing	(CT) Why Do So Many People Believe in ESP? (MC) Astrology and Crime	Seeing and Hearing (V) A World Turned Upside Down: Visual Processing (V) Perception (A) How We See and Hear (A) 3-D Media (VFT)
5 States of Consciousness	(RC) What's Wrong with Distracted Driving? (G&C) Are There Differences in Dreams?	(RT) Significantly updated and revised text on sleep deprivation, opioids, LSD, Ketamine, and marijuana (ANT) New connections of famous figure (Albert Einstein) with key chapter topics. Added discussion of effects of multitasking on learning, new figure on sleep deprivation, emotionality and impulse control	(NKT) Inattentional blindness, suprachiasmatic nucleus	(CT) The Spectacular Now (MC) Teen Night Owls	Automatic Processing and Multitasking (V) Myths about Sleep, Dreaming and Drugs (V) Diagnosing Sleep Disorders (VFT)
6 Learning	(RC) Do Dogs Prefer Food or Praise? (RC) Does the Media Impact Our Body Size Preferences?	(RT) Expanded discussion of Skinner's response to Thorndike and his definition of reinforcement and punishment (ANT) New connections of famous figure (Cesar Millan) with key chapter topics, added discussion of classical conditioning and emotional eating	(DKT) Removed conditioning as a key term, and the word "stimulus" from key terms of generalization and discrimination	(CT) What Kind of Name Is Ryan For a Girl? (MC) The Return of the Working Class Hero	Classical and Operant Conditioning in Action (V) Understanding Reinforcement and Punishment (V) Classical Conditioning (A) The Search Dog Foundation (VFT)
7 Memory	(RC) Can Taking Photos Impair Our Memories? (G&C) Does Culture Affect Memory?	(RT) Updated and expanded discussion of infant memories, working memory with new figure, traumatic brain injury, eyewitness testimony, and repressed memories (ANT) New connections of famous figure (Elizabeth Loftus) with key chapter topics. Added discussion and new figure of the four major models of memory	(DKT) Sleeper effect (NKT) Parallel distributed processing, repression	(CT) Critical Thinking Is No Laughing Matter . . . Or Is It? (MC) How Memoirists Mold the Truth	Constructing Memory (V) Organizing Long-Term Memories (V) How Could I Forget That? (V) Eyewitness Memory (V) Enhancing Your Memory (A) USA Memory Championships (VFT) Alzheimer's Treatment Center (VFT)

TABLE 2 Continuing Special Features in *Psychology in Action*, 12e (continued)

Chapter Title	Research Challenges (RC)/ Gender and Cultural (G&C) Diversity	Significantly Revised Topics (RT)/Added New Topics (ANT)	Deleted Key Terms (DKT)/ New Key Terms (NKT)	NOW in Wiley-Plus Critical Thinking Exercises (CT)/ Media Challenges (MC)	Sample WileyPlus Assets: Videos (V), Animations (A), Virtual Field Trips (VFT)
8 Thinking, Language, and Intelligence	(RC) Is creativity Linked with Psychological Disorders? (G&C) Can Your Nonverbal Language Reveal Your Roots?	(RT) Updated discussion on the value of play and creativity, expanded and updated research on controversies surrounding racial/ethnic differences (ANT) New connections of famous figure (Bill Gates) with key chapter topics and added new discussion of artificial intelligence	(DKT) Babbling, cooing, overextension, over-generalization, savant syndrome, telegraphic speech (NKT) Artificial intelligence, cognitive offloading, convergent thinking, embodied cognition, mental age, triarchic theory of intelligence	(CT) 12 Years A Slave (MC) How Social Media Is Ruining Our Minds	Barriers to Problem Solving (V) Understanding IQ (V) Standards for Psychological Tests (V) Problem Solving (A) Baby Sign Language (VFT) High IQ Society (VFT) Down Syndrome Connection (VFT)
9 Life Span Development I	(RC) Deprivation and Development (G&C) Should Diversity Affect Research?	(RT) Expanded discussion of cultural effects on developmental research. Added new research on prenatal exposure to smoke and later obesity and how taking “selfies” relates to narcissism (ANT) New connections of famous figure (Oprah Winfrey) with key chapter topics. Added discussion of imprinting, along with new figure and section on genetics and theory of mind	(DKT) Moved age-related positivity effect to Chapter 10 (NKT) Behavioral genetics, chromosomes, DNA, epigenetics, gene, temperament, theory of mind	(CT) Overcoming Egocentric Thinking (MC) Older and Slower?	Understanding Development in Context (V) The Strange Situation (V) Attachment Through the Lifespan (V) A Guide to Parenting (VFT) Piaget and Cognitive Development (A)
10 Life Span Development II	(RC) Are Brain Differences Associated with Age-Related Happiness? (G&C) Effects on Moral Development	(RT) New section on how to increase your positivity and how traveling may increase immoral behavior (ANT) New connections of famous figure (Nelson Mandela) with key chapter topics. Added discussion of connection of theory of mind with autism, along with the age-related positivity effect	(DKT) Moved resiliency to Chapter 14 (NKT) Age-related positivity effect	(CT) Morality and Academic Cheating (MC) Millennials: Not the Marrying Kind	Kohlberg’s Stages of Moral Reasoning (A) Erikson’s Psychosocial Theory (V) Factors in Marital Satisfaction (V) Attitudes Toward Aging (V) Dying with Dignity: Hospice (VFT)

Chapter Title	Research Challenges (RC)/ Gender and Cultural (G&C) Diversity	Significantly Revised Topics (RT)/Added New Topics (ANT)	Deleted Key Terms (DKT)/ New Key Terms (NKT)	NOW in Wiley-Plus Critical Thinking Exercises (CT)/ Media Challenges (MC)	Sample WileyPlus Assets: Videos (V), Animations (A), Virtual Field Trips (VFT)
11 Gender and Human Sexuality	(RC) Is Gender Income Inequality Real? (RC) Does Political Affiliation Reflect Sexual Behavior? (G&C) Sexuality Across Cultures	(RT) Expanded discussion of sexual prejudice and sexual orientation, including LGBTQ (ANT) New connections of famous figure (Ellen DeGeneres) with key chapter topics. Added new discussion on gender and income inequality, the double standard, pair bonding, the fallacy of “stranger danger,” and child sexual abuse	(NKT) Double standard, gender stereotypes, pair bonding, sexuality, sexually transmitted infection	(CT) The Scarlet Letter (MC) Scarcity of Women in Science?	Clearing Up the Confusion: Gender Roles, Gender Identity and Sexual Orientation (V) Gender (A) The Sexual Response Cycle (V) Healthy Sexuality (V) Sexual Communication (V) Planned Parenthood (VFT)
12 Motivation and Emotion	(RC) Does Wearing “Sexy” Clothing Signal Sexual Interest? (G&C) Are Emotions Affected by Culture and Evolution?	(RT) Revised discussion and figure on intrinsic vs. extrinsic motivation, and updated and expanded theories on basic emotions (ANT) New connections of famous figure (Malala Yousafzai) with key chapter topics. Added new table and research: <ul style="list-style-type: none"> • Emotions • Psychology of happiness • Botox injections and the link to decreased empathy • How expectancies increase alcohol consumption • How sleep deprivation, photos of food, and processed foods increase eating 	(NKT) Adaptation-level phenomenon, display rules	(CT) The New Psychology of Success (MC) Mirror, Mirror on The Wall?	Get Motivated (V) Hormones and Hunger (V) Emotional Intelligence (V) The Polygraph (A) Surgical Weight Loss Center (VFT)
13 Personality	(RC) Do Nonhuman Animals Have Unique Personalities?	(RT) Revised levels of consciousness figure, updated step-by-step diagram on psychosexual stages, moved defense mechanisms table to Ch. 3, revised five-factor model and self-concept figures	(DKT) Morality principle, pleasure principle, reality principle (NKT) Behavioral genetics, character, temperament	(CT) Maslow Revisited (MC) Can Personality Predict Health?	Applying Rogerian Techniques (V) Exploring Your Personality (V) Measuring Personality (V) Freud’s Defense Mechanisms (A) Personality Research (VFT)

TABLE 2 Continuing Special Features in *Psychology in Action*, 12e (continued)

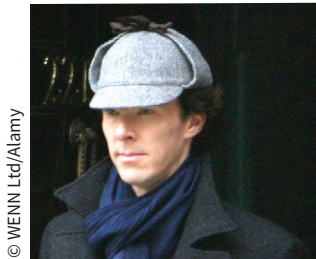
Chapter Title	Research Challenges (RC)/ Gender and Cultural (G&C) Diversity	Significantly Revised Topics (RT)/Added New Topics (ANT)	Deleted Key Terms (DKT)/ New Key Terms (NKT)	NOW in Wiley-Plus Critical Thinking Exercises (CT)/ Media Challenges (MC)	Sample WileyPlus Assets: Videos (V), Animations (A), Virtual Field Trips (VFT)
		(ANT) New connections of famous figure (Abraham Lincoln) with key chapter topics. Added discussion and figures: <ul style="list-style-type: none"> • Freud and modern western culture • Mischel’s marshmallow test • Personality and behavioral genetics • Identical vs. fraternal twins and adoption studies • Introversion and extraversion misconceptions 			
14 Psychological Disorders	(RC) Are Head Injuries Related to Depressive and Other Psychological Disorders? (RC) Does Unequal Pay for Equal Work Increase Female Anxiety and Depression?	(RT) Moved and expanded discussion of the stigma of mental illness, suicide and other general terms to front of chapter to better apply to all disorders, expanded discussion of gender strategies for managing depression (ANT) New connections of famous figure (Jennifer Lawrence) with key chapter topics. Added discussion and new figures: <ul style="list-style-type: none"> • OCD • Antisocial and borderline personality disorders • Nonsuicidal self-injury • Psychology student syndrome • Resilience 	(NKT) Mania, major depressive disorder, nonsuicidal self-injury, psychological disorder, psychology student syndrome, resilience	(CT) How Your Thoughts Can Make You Depressed (MC) Lefties and Psychotic Disorders	Myths About Mental Illness (V) Signs of Suicide (V) OCD (VFT) Bipolar Disorder (VFT) Schizophrenia (A)
15 Therapy	(RC) Can Watching Movies Prevent Divorce? (G&C) Therapy in Action	(RT) Moved evaluation of psychoanalysis to include psychoanalytic therapies, significantly revised figures for systematic desensitization and aversion therapy	(DKT) Antianxiety drugs, antidepressant drugs, mood-stabilizer drugs	(CT) Cinema Therapy (MC) Finding Treatment Grows Harder	A Guide to Psychotherapy (V) Myths About Therapy (V) CBT (A) ECT Treatment Center (VFT) Kicking the Habit: Drug Treatment (VFT)

Chapter Title	Research Challenges (RC)/ Gender and Cultural (G&C) Diversity	Significantly Revised Topics (RT)/Added New Topics (ANT)	Deleted Key Terms (DKT)/ New Key Terms (NKT)	NOW in Wiley-Plus Critical Thinking Exercises (CT)/ Media Challenges (MC)	Sample WileyPlus Assets: Videos (V), Animations (A), Virtual Field Trips (VFT)
		(ANT) New connections of famous figure (J. K. Rowling) with key chapter topics. Added new discussion, figures and/or tables: <ul style="list-style-type: none"> • Cognitive triad and depression • Token economy • Evidence-based practice in psychology (EBPP) • Side-by-side comparison of treatments for psychological disorders • Psychedelic drugs and psychosis • Evidence-based practice in psychology (EBPP) • Metacognitive therapy • Mindfulness-based cognitive therapy (MBCT) • Therapeutic alliance • Well-being therapy (WBT) 	(NKT) Evidence-based practice in psychology (EBPP), metacognitive therapy, mindfulness-based cognitive therapy (MBCT), therapeutic alliance, well-being therapy (WBT)		
16 Social Psychology	(RC) Can a 10-Minute Conversation Reduce Prejudice? (G&C) How Does Culture Affect Personal Space? (RC) Can Long-Distance Relationships Survive?	(RT) Moved prejudice to social cognition section, expanded discussion on flirting, deleted female named hurricanes (ANT) New connections of famous figure (Sonia Sotomayor) with key chapter topics. Added new discussions and/or new figures: <ul style="list-style-type: none"> • Prefrontal cortex and relation to social behavior • How taking pain pills can change attitudes • Implicit biases • Saving your own life • Social facilitation • Social loafing 	(DKT) Frustration-aggression hypothesis, mere-exposure effect (NKT) social facilitation, social loafing, changed triarchic theory of love to triangular theory of love	(CT) To Kill A Mockingbird (MC) When Science Becomes News	Implicit Attitudes (V) Bystander Effect (V) Attitudes and Cognitive Dissonance (A) Internet Dating (VFT)

Prologue

Successful Living Through Critical Thinking

Co-authored with Thomas Frangicetto (and generous contributions from his students at Northampton Community College, Bethlehem, PA)



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Benedict Cumberbatch as Sherlock

“Sherlock Holmes is not a cold, calculating, self-gratifying machine. He cares for Watson. . . and for Mrs. Hudson. He has a conscience . . . In other words, Holmes has emotions—and attachments—like the rest of us. What he’s better at is controlling them and only letting them show under very specific circumstances.”

Maria Konnikova (2012), “Stop Calling Sherlock Holmes A Sociopath!”

Psychologist Maria Konnikova also could have said that Sherlock Holmes – the famous fictional detective created by Sir Arthur Conan Doyle and popularized in numerous movies, books, and TV shows – is an excellent *critical thinker*. In applying fundamental, psychological principles of deduction, perception, skepticism, and logic, Holmes realized that emotions could be the enemy of sound reasoning (Kellogg, 1986). Even the most sublime emotion of all, *love*, is not to be trusted. In one story, Holmes says to his best friend and crime-solving companion, Dr. John Watson, “Love is an emotional thing, and whatever is emotional is opposed to that cold reason which I place above all things.”



courtesy The Gottman Institute

John Gottman as John Gottman

Why are we opening this Prologue on Critical Thinking with a discussion of emotions? We believe, as Sherlock Holmes did, that our capacity for objective reason is compromised when we are highly emotional (Halpern, 2014; Paul & Elder, 2002). What about Sherlock Holmes’ love life? Although he “cared deeply” about special people in his life, he apparently never experienced *romantic love*. Had Holmes been a real person working with Dr. John Gottman (a pre-eminent authority on romantic relationships—see Chapter 10), and had he applied his critical thinking skills to his love life, he may have been more successful. Effective critical thinking is the best route to finding lasting love, as well as the best antidote to self-defeating, repetitive thoughts, feelings and actions. Unlike the common use of “critical” as a negative type of criticism and fault finding, critical thinking is a positive, life-enhancing process and key to success in all parts of our lives.

What exactly is critical thinking? We define it as: *Thinking about our feelings, actions, and thoughts so we can clarify and improve them* (adapted from Chaffee, 1988, p. 29). As you can see in **Figure 1**, there are 3 main categories of critical thinking, with at least 15 overlapping **critical thinking components (CTCs)**: Affective (feelings/emotions), Behavioral (actions), and Cognitive (thoughts).

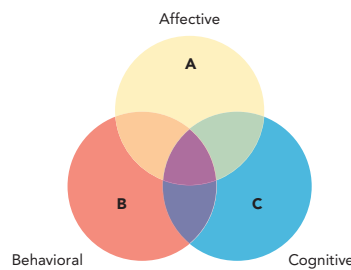


FIGURE 1 ABCs of Critical Thinking

Critical Thinking Components (CTCs)

(Note: Most CTCs include personal examples generously provided by students at Northampton Community College.)

Affective Components (Emotional foundation for critical thinking)

1. **Empathize and Demonstrate Altruism:** Critical thinkers are empathic. They try to understand others' feelings, thoughts, and behaviors. Noncritical thinkers view everything in relation to themselves, which is known as "egocentrism" (Chapter 13). The ability to consider the perspective of another person is the most effective antidote to egocentric thinking. *There are children who lag behind in language development. It's best to empathize. When I am a teacher, there are going to be many times where I need to know that differences are "okay."* Kayla Ann Felten

Can you see how empathy would naturally lead to altruism—actions designed to help others with no obvious benefit to the helper (Chapter 16)? Once we stand in another's shoes and mirror their emotions, we naturally want to help them.

2. **Welcome Divergent Views and Critical Dialogue:** Critical thinkers examine issues from every angle, especially opposing viewpoints. This quality is especially valuable in decision-making and avoiding groupthink (Chapter 16). *Most Americans don't try to understand the sociocultural influences of suicide bombers. They believe that martyrs are crazy, while Palestinians believe that martyrdom is to be idolized. My decision to believe that martyrdom is a form of self-expression may clash with the views of many, but as an American, I have the right to believe what I want.*

Sophia Blanchet

Critical thinkers also actively question others, challenge opinions, and welcome questions and challenges in return. Socratic questioning is an important type of critical dialogue, which deeply probes the meaning, justification, or logical strength of an argument (Elder & Paul, 2007). It is easy to avoid such time-consuming dialogues, but they are a vital part of intellectually healthy relationships. *My mother has been calling me for the last year because she is dying. It has taken a long time to warm up to her because of the past. After many years, we are finally expressing our feelings with each other. This has been gratifying because we have become friends. My hope is that when the end comes, we will know that, despite our faults, we really loved each other.*

Tim Walker

3. **Tolerate Ambiguity, but not Magical Thinking:** Formal education often trains us to look for a single "right" answer (aka *convergent thinking*—Chapter 8). But critical thinkers know that many issues are too complex to have one right answer. They value qualifiers such as "probably" and "not very likely." *A big difference between high school and*

college level thinking is tolerating ambiguity. In high school, we were often taught there was one right answer. In college, we learn that things are more complex. We also learn that some questions do not even have an "answer" or may have multiple answers. Chereen Nawrocki

Tolerating ambiguity does not mean that all beliefs and opinions are equally valid. Despite scientific consensus on many issues, noncritical thinkers often resort to magical thinking, which makes unwarranted links between one event—some action we've taken—and some unconnected result (Riggio, 2014). Consider superstitious behaviors, the belief in supernatural forces—such as ghosts, alien abductions, possession by spiritual entities—or even winning big one time at gambling and expecting to win repeatedly (Sagan, 1996; Shermer & Gould, 2007). *The problem with magical thinking is that we can believe that our actions are caused by the magical force instead of being due to us or the social environment. Reliance on magical thinking to explain things leads to self-deception and a lack of insight.* Ronald Riggio

4. **Appreciate Eclecticism and Synthesize:** Critical thinkers are not bound to one way of thinking. They appreciate and select what appears to be the best or most useful option when faced with competing ideas and approaches. For example, a psychotherapist might have training in one theoretical perspective, but also use techniques from other perspectives when more appropriate for the problems presented. This CTC goes beyond *welcoming divergent views*; it also involves analyzing all potential sources for value and content.

Critical thinkers are also able to combine or "synthesize" various elements into a useful composite. *Understanding a suicidal person is the key to saving them. Critical thinkers "recognize that comprehension comes from combining various elements into a useful composite." By seeing patterns or "warning signs"—such as different symptoms of depression and changes in behavior—you can recognize suicidal thinking.* Michelle Pascoe

5. **Value Emotional Intelligence (EI):** Defined as "the ability to know and manage one's emotions, empathize with others, and maintain satisfying relationships," emotional intelligence (Chapter 12) can serve as the bridge between our intelligence and emotional reactions. *I think increasing children's emotional intelligence is a superb idea—especially a focus on managing aggressive impulses. The ability to manage aggressiveness means you are well on your way toward learning to control your feelings and recognizing the feelings of others too.* Amy Harding

Behavioral Components (Actions necessary for critical thinking)

- 6. Listen Actively and Cultivate Trust:** Critical thinkers fully engage their thoughts, feelings, and actions when listening to another person. They ask questions, nonverbally affirm what they hear, and request clarification. *My brother was diagnosed with a rare kidney disease, and I tried my hardest to communicate with him and appreciate his thoughts and feelings. When he would try to talk about his feelings, I would often interrupt or tell him what he should think or feel. I was trying to focus on my need to control my own feelings when I should have been doing what he needed the most from me: active listening.* Toni Snead

In addition to active listening, being both trusting and trustworthy are essential qualities to bring to all meaningful relationships. One caution: Not everyone is worthy of your total trust. It is a privilege that must be earned over time and trial. For Gottman, trust is not something that just “grows” between people; rather, it is the “specific state that exists when you are both willing to change your own behavior to benefit your partner”—in other words, “you have each other’s back” (Gottman, 2012).

- 7. Employ Precise Terms and Define Problems Accurately:** Precise terms help critical thinkers identify issues clearly so they can be objectively defined and empirically tested. When two people argue about an issue, they are often defining it differently without even knowing it. *I have had a Japanese girlfriend for the last year and a half. Our cultures are very different and at times we do not understand each other. But, if we remain open and help each other appreciate what words like “love” and “commitment” mean to us, we can learn how to understand each other better.* Anar Akhundov

A critical thinker also tries to frame the issues as accurately as possible to prevent confusion and to lay the foundation for gathering relevant information (see CTC #8). This CTC appears to contradict *tolerating ambiguity* (see CTC #3), but critical thinkers are able to tolerate ambiguity until it is possible to *define problems accurately*.

- 8. Gather Information and Delay Judgment until Adequate Data are Available:** Impulsivity is a major obstacle to good critical thinking. Rash judgments about others, impulse purchases of a new car or home, uninformed choices for political candidates, or “falling in love at first sight” can all be costly mistakes that we may regret for many years. A critical thinker does not make snap judgments. Instead, he or she collects up-to-date, relevant information on all sides of an issue and delays decisions or judgment until adequate information is available. *I am a white male. I have met African Americans I don’t like, I have met Asians I don’t like, I have met Hispanics I don’t like, and yes, I have met whites I don’t like. So if I don’t like an entire race of people because I don’t like certain people of that race, then I shouldn’t like my own race either, because there*

are people of my race I don’t like. You cannot judge a race by its worst representatives. I know I would not want my whole race judged by “White Power,” KKK members. Maybe someday we will just have one race—the human race.

Ryan Umholtz

- 9. Cultivate Open-Mindedness and Modify Judgments in Light of New Information:** Critical thinkers are willing to examine their own thinking and abandon or *modify their judgments* if compelling evidence contradicts them. Non-critical thinkers stubbornly stick to their beliefs and often *value self-interest above the truth*. The ability to say, “I’m rethinking my opinion,” reflects the open-minded flexibility of a good critical thinker. *For much of high school, I procrastinated. However, I procrastinate less now that I am in college. I know now that these assignments are for my benefit and that a certain level of self-motivation is required in order to succeed in life. I am paying for my education, so I may as well get as much out of it as I can.* Tom Shimer

- 10. Accept Change:** Critical thinkers remain open to the need for adjustment throughout our life cycle. Because critical thinkers fully trust the processes of reasoned inquiry, they are willing to use these skills to examine even their most deeply held beliefs, and to modify these beliefs when evidence and experience contradict them. *It’s easy to tell a woman to get out of a bad relationship because she doesn’t deserve to be abused. It’s much harder when you’re the one in the relationship. It’s important for the abused woman to stop trying to “change” the man, thinking the situation will get better. It’s vital not to be stuck in a toxic situation and accepting change is the first step.* Katrina Kelly

Cognitive Components (Thought processes required for critical thinking)

- 11. Recognize Personal Biases and Value Truth above Self-Interest:** Being an effective critical thinker does not mean the absence of bias, but rather the willingness to recognize and correct it. *We may think we are hitting the benchmarks on social issues when we drop a “bill or two in the bucket” and consider our job done. Some of us view the suffering of others as the result of their own actions. Over-generalizing that all “purple people” are lazy and all “orange people” are uncivilized reflects bias . . . [where] there is no room for empathy or simple kindness. Unless we recognize our personal biases, instead of hiding behind them as a cover for a lack of humanness, we will never witness another’s oppression and “feel their pain.”*

Mary Ellen Allen

Critical thinkers also avoid the tendency to cater to our self-interests, while ignoring conflicting information. We must recognize that, even when it appears otherwise, the “truth” is always in our self-interest. *No matter what my interest was in watching my friends do drugs, I valued the truth against their reasons for why I should begin to smoke with them. Anytime I felt tempted, I valued what my mother told me. The truth was in front of my eyes. Family*

members that were homeless, indulging in illegal drugs, were the truth for me. I valued my life more than I wanted to fit in.

Nicole Bouvet

- 12. Recognize Fact versus Opinion and Resist Overgeneralization:** *Facts* are statements that are supported by objective evidence. *Opinions* are statements that express how a person feels about an issue or what someone *believes* to be true. It is easy to have an uninformed opinion about any subject, but critical thinkers seek out and evaluate facts before forming their opinions.

Overgeneralization is applying an experience to other situations that are only superficially similar. It's also a form of "tunnel vision"—failing to see the bigger picture because you see just a small sample of the whole. *While watching a rerun of "Jersey Shore," I made an over-generalization about "Jersey guys"! The show convinced me that every Jersey boy in his twenties was a meathead without moral values and who only cared about his looks. I met a Jersey boy and automatically thought he was like one of the guys from the show. Turns out he was an educated man who happened to come from New Jersey.*

Caitie Stoneback

- 13. Analyze Data for Value and Content and Apply Knowledge to New Situations:** By evaluating the nature of evidence and the credibility of sources, critical thinkers recognize blatant appeals to emotion, unsupported claims, and faulty logic. They also can spot sources that contradict themselves, or have a vested interest in selling a product, idea, or viewpoint that is only partially accurate (a "half-truth"). *This is an important CTC when it comes to choosing a religion because it takes a full analysis of a religious system in order to make the right choice. If I break down all of a religion's content for its inherent value, I will be making a well-informed decision.*

Ali Nabavian

Noncritical thinkers can often provide correct answers, repeat definitions, and carry out calculations, yet

they are unable to transfer their knowledge to new situations because of an inability to "synthesize" seemingly unrelated content (see #4). *History teaches that war rarely puts an end to a conflict. America's experience in Iraq argues that military action against Iran means inviting more trouble. Iran would retaliate, inviting a tit-for-tat escalation, putting American interests in great danger. Polls tell us most Americans prefer diplomatic options.*

Nivedita "Minu" Mahato

- 14. Independent Thinking:** Rather than passively accepting the beliefs of others or being easily manipulated, critical thinkers are independent. They hold firm to their own values, while recognizing the difference between being independent and just being stubborn (Sagan, 1996; Shermer & Gould, 2007). *All my life, I was a follower. I did what everyone else did—the designer clothes, the makeup, the highlights, etc. Instead of thinking independently, I went with the crowd. And that was one of my greatest downfalls.*

Courtney Fisher

- 15. Metacognition** (aka *reflective thinking*) involves analyzing your mental processes—*thinking about your own thinking*. Critical thinkers who are motivated to examine and trace the origin of their beliefs can often be heard saying things like: "What was I thinking?" or "I don't know why I believe that, I'll have to think about it." *My dad and I had a torn relationship following my parents' divorce. I couldn't live with my mother anymore, so I thought about living with my dad. I began employing meta-cognition. I wanted to understand my anger toward him. I realized when we fought, it was just frustration. I decided to move in with my dad, and I'm happy to say our relationship has changed dramatically for the better. Using critical thinking made a huge difference.*

Laura Markley

