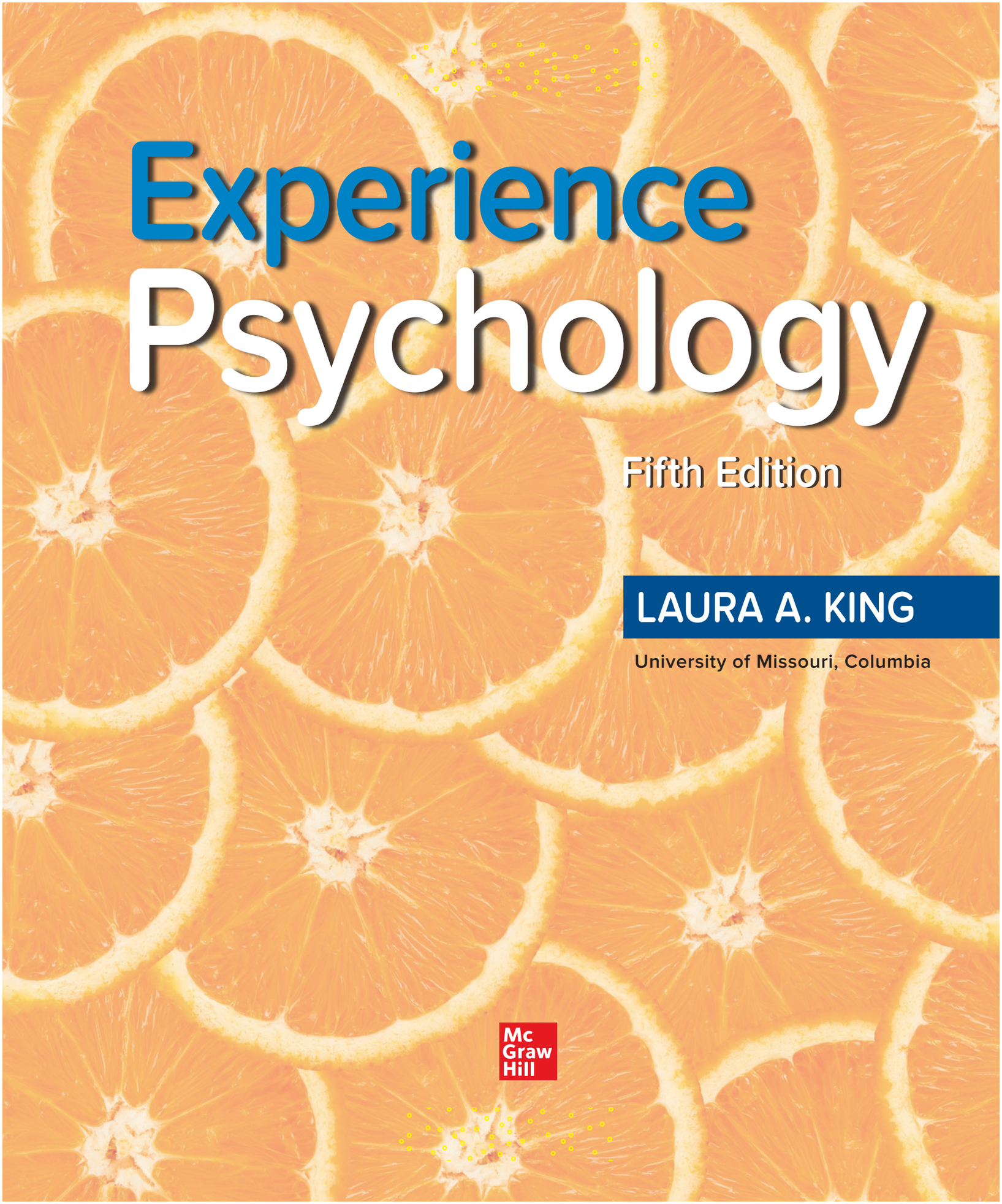

EXPERIENCE PSYCHOLOGY, FIFTH EDITION

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about the author

Courtesy Lisa Jensen

Laura A. King

Laura King did her undergraduate work at Kenyon College, where she began studying toward an English major. In the second semester of her junior year, she declared a second major in psychology. She completed her A.B. in English with high honors and distinction and in psychology with distinction in 1986. Laura then did graduate work at Michigan State University and the University of California, Davis, receiving her Ph.D. in personality psychology in 1991.

Laura began her career at Southern Methodist University (SMU) in Dallas, moving to the University of Missouri in 2001, where she is now a Curators' Distinguished Professor of Psychology. In addition to seminars in the development of character, social psychology, and personality psychology, she has taught undergraduate lecture courses in introductory psychology, introduction to personality psychology, social psychology, and the Art and Science of Living. She has also taught the Psychology of the Good Life for the community at large. At SMU, she received six different teaching awards, including the "M" award for "sustained excellence" in 1999. At the University of Missouri, she received the Chancellor's Award for Outstanding Research and Creative Activity in 2004.

Her research, which has been funded by the National Institute of Mental Health and the National Science Foundation, has focused on a variety of topics relevant to the question of what it is that makes for a good life. She has studied goals, life stories, happiness, well-being, and meaning in life. In general, her work reflects an enduring interest in understanding what is good and healthy in people.

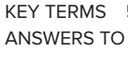
She has published over 100 articles and chapters (typically with graduate and undergraduate student collaborators). She received the Carol and Ed Diener Award for Distinguished Contributions to Personality in 2011; the award for Distinguished Service to SPSP in 2015; and the 2018 Jack Block Award for Distinguished Research in Personality Psychology, the highest honor in her field. She was elected President of the Society for Personality and Social Psychology in 2021. Laura has served as editor or associate editor for a number of journals and was the first woman to edit the *Journal of Personality and Social Psychology: Personality Processes and Individual Differences,* the top outlet in personality and social psychology.

In "real life," Laura is an accomplished cook and enjoys listening to music (mostly jazz vocalists and singer-songwriters), running with her faithful dog John, and learning about advanced calculus from her son, Sam.

For Sam

brief contents

contents



McGraw Hill Education Psychology APA Documentation Style Guide

guide to diversity, equity, and inclusion

Throughout the text, numerous changes have been made to provide more inclusive language and more diverse examples when discussing human groups—including those based on gender, gender identity, sexuality, disability status, veteran status, immigrant status, and religious faith. New photos for the fifth edition were chosen to ensure representation of the broad range of people who are of interest to psychologists, including stigmatized groups such as people with overweight, people with disabilities, and people of gender and sexual minorities. In addition, we strived to include images that show people of different backgrounds interacting in nonstereotypical ways, such as white people being helpful to Black people. The fifth edition revision was completed with an emphasis on combating anti-Black racism and ensuring that all students—regardless of gender, gender identity, sexual orientation, religious faith, disability status, immigrant status, indigenous identities, socioeconomic status, military veteran status—would recognize themselves in *Experience Psychology*.

CHAPTER 1 THE SCIENCE OF PSYCHOLOGY

- Example of forgiveness drawn from the Amish was replaced with civil rights hero John Lewis, and it includes a description of the man who beat Lewis and his statements about his own racist views.
- *Challenge Your Thinking: Where Is Everybody?* confronts the lack of diversity in the history of psychology, as well as in contemporary science (Roberts & others, 2020). Scholars who are highlighted include Mary Whiton Caulkins, Henry Turner, and Inez Beverly Prosser. The feature box notes that to address the pressing problems facing psychology we need everyone included in the conversation—regardless of not only race and gender but disability status, gender identity, and sexual orientation.
- *Psychology in Our World: Big Data in Psychological Science* reviews the ways big data has been used to measure racism and health disparities and to estimate the number of sexual and gender minority people.
- A summary is provided on research (Biswas-Diener & others, 2005) into happiness in groups of people not generally included in psychological studies—Inughuits, Maasai, and Old Order Amish.
- The concept of WEIRD samples is introduced and defined.
- The section on values in psychological research focuses on the example of research on gay and lesbian parents (Farr & others, 2019, 2020).

CHAPTER 2 THE BRAIN AND BEHAVIOR

- The discussion of the links between heredity and environmental influences reviews research on how genetic essentialism impacts our judgments of others, including people with psychological disorders or with diverse sexual orientations (Lynch & others, 2019).

- A review of gender differences is provided related to the neurotransmitter oxytocin (Feldman & Bakermans-Kranenburg, 2017; Lieberz & others, 2020; von Dawans & others, 2019).

CHAPTER 3 SENSATION AND PERCEPTION

- Throughout the chapter, biases and shortcuts that characterize perception are pointed out to be problematic when applied to people.
- Expectations are discussed in terms of person perception, gender, race/ethnicity, wealth indicators, and other factors, tying perceptual processes to the diverse world. The impact of stereotypes on accurate perception is presented (Moradi & others, 2020; Petsko & Bodenhausen, 2020).
- Cultural influences on perception are discussed, highlighting research on differences between Japanese and American study participants (Masuda & Nisbett, 2001, 2006).
- Morgan Freeman and James Earl Jones are used as examples for the concept of timbre.
- The chapter reviews research on the undertreatment of pain in Black patients, including research on lower painkiller prescription rates for broken bones (Todd & others, 2000) and appendicitis in children (Goyal & others, 2015). Cultural (Feng & others, 2020; Onishi & others, 2017) and gender (Day & others, 2020; Nascimento & others, 2020) differences in reporting pain are also discussed.
- *Intersection: Sensation and Perception and Social Psychology: Do False Beliefs about Race Affect Pain Treatment?* reviews research on false beliefs about racial differences in pain perception among medical students and residents (Hoffman & others, 2016). The key factor in these false beliefs was ingroup empathy, suggesting the need for more diversity in the medical profession (Hagedorn & others, 2020).
- Cultural impacts on the sensation of taste are presented, including the example of the role of umami in Asian cuisine.

CHAPTER 4 STATES OF CONSCIOUSNESS

- The concept of dehumanization is introduced.
- *Intersection: Consciousness and Social Psychology: Could Robots Make Us Kinder to Each Other?* reviews research showing that reminders of robots that boost a sense of shared humanity reduce outgroup animosity (Castelo & others, 2020).
- The link between lovingkindness meditation and reductions in prejudice is reviewed (Kang & others, 2014; Price-Blackshear & others, 2017).
- The discussion of alcohol use disorder has been revised to remove objectifying labels.

CHAPTER 5 LEARNING

- The chapter-opening vignette focuses on service dogs trained to assist military veterans who have trauma-related physical disabilities or psychological disorders.
- *Intersection: Learning and Social Psychology: Can Observational Learning Lead to Bias?* highlights research by an outstanding scholar of color, Sylvia Perry, examining how observing someone react negatively to a target can lead observers to be biased toward that target (Skinner & Perry, 2020).
- The discussion of modeling includes consideration of the idea that if similarity to a model promotes learning, then we need more diverse models in the world. The section points to lack of diversity in STEM as well as the new role models provided by the elections of President Barack Obama in 2008 and Vice President Kamala Harris in 2020.
- Research is reviewed on how multicultural experiences enhance insight learning (Leung & others, 2008). The chapter also reviews the impact of cultural values on the application of learning processes and the content of learning.

CHAPTER 6 MEMORY

- Review of evidence for the role of racial prejudice and other forms of bias in faulty memory (Behrman & Davey, 2001; Brigham & others, 2007; Loftus, 1993).
- *Psychology in Our World: Using Psychological Research to Improve Police Lineups* describes strategies for reducing the effects of bias in eye-witness identifications (Brewer & Wells, 2011; Wells & others, 2020).

CHAPTER 7 THINKING, INTELLIGENCE, AND LANGUAGE

- The problem of using prototypes to make social judgments is reviewed, including examples of a woman candidate to be a CEO and a Latina girl wanting to be a doctor.
- *Challenge Your Thinking: Can Artificial Intelligence Be Racist?* reviews how AI systems are created and how although it might seem that computers would be less biased than people, they are not (Cossins, 2018; Heaven, 2020).
- Cultural differences in definitions of intelligence are reviewed.
- A critique is provided of Robert Sternberg's definition of intelligence as "the capacity to success in whatever context" as circular and biased and supporting the status quo. The discussion highlights that women, people of color, indigenous people, and people with disabilities may have extraordinarily high ability but still not succeed in an unfair system.
- The science of intelligence is acknowledged as having "a difficult, even shameful, often racist history." The link between intelligence and eugenics is more explicitly examined (Winston, 2020). Spearman's idea of requiring intelligence before allowing people to be parents is discussed/critiqued.
- Cultural bias in testing is discussed, including rural-urban differences and disadvantages for people of diverse backgrounds who speak no English or nonstandard English (Cathers-Shiffman & Thompson, 2007; Scarr, 1984). The difficulties in creating culture-fair intelligence tests are reviewed.
- The section "Genes, Environment, and Group Differences" reviews race as a social construction, the meaning of skin color and its general irrelevance to genes associated with intelligence, the influence of skin color on access to resources such as education, nutrition, healthcare, and related factors. The text also highlights racial disparities in wealth (Kraus & others, 2019) and the role of financial differences in enduring differences in intelligence (Weiss & Saklofske, 2020).
- The chapter dismantles the hereditarian argument about group differences in IQ by pushing students to recognize the role of the environment in characteristics regardless of their heritability. It emphasizes that because encountering complex environments leads to more insight learning, our diverse world is pulling us to higher levels of cognitive sophistication.
- A review is provided of prejudice and bias in testing for giftedness, suggesting that bias in who gets tested helps to explain the lack of diversity in gifted education, in terms of race/ethnicity, language differences, physical disabilities, and learning disabilities (Carman, 2011).
- Forms of classification of intellectual disability are reviewed (Giesbers & others, 2020; McNicholas & others, 2017), including the use of assessment of capacities in addition to IQ scores (American Association on Intellectual and Developmental Disabilities, 2010).
- The discussion of the bilingual advantage critiques the idea that for bilingualism to be a positive thing it must be linked to some external cognitive skills. The text emphasizes that regardless of its other correlates, knowing more than one language is good skill.
- A critique is provided of the "30-million word gap" as a way to think about socioeconomic differences in verbal ability and academic performance.

CHAPTER 8 HUMAN DEVELOPMENT

- Diverse examples are included throughout. Examples provided of people with optimal life themes include Martin Luther King Jr., Mother Teresa, Nelson Mandela, and Oprah Winfrey. Nelba Marquez-Greene is featured in a self-quiz question about life themes. The Japanese island of Okinawa is used as an example in the discussion of aging.
- The discussions of puberty, pregnancy, and gender feature gender-inclusive language and a diversity of examples of identities and experiences.
- Vygotsky's sociocultural approach is reviewed.
- Important women scholars are highlighted, including Elizabeth Spelke (infant cognitive development), Mary Ainsworth (infant socioemotional development), Carol Gilligan (moral development), and Elisabeth Kübler-Ross (death and dying).
- The cultural context of parenting is reviewed (Pinquart & Kauser, 2018).
- The importance of the value of diverse identities in adolescence is stressed with citations to research showing the importance of such identities to minoritized groups, including racial and ethnic minorities, sexual and gender minorities, disability-related groups, religious minorities, and immigrant groups (Pohjola, 2020; Quam & others, 2020; Raifman & others, 2020). The concept of biculturalism is discussed (Ferguson & others, 2020; Romero & others, 2020).
- The risk of bullying for sexual and gender minority youth is reviewed (Kaufman & others, 2020) along with the importance of supportive families and communities (Bouris & Hill, 2017; Hall, 2017). The section ultimately concludes, "Creating a context where all identities are celebrated allows youth from all different groups to find safe, nurturing, and positive context to be themselves."
- John Gottman's inclusion of same-gender couples in his long-running research on successful relationships is noted.
- The "Gender Development" section has been updated to reflect inclusive language and includes revised definitions for gender, gender identity, sexual orientation, gender expression, and gender roles.
- Research on differences in infant toy preferences as a function of assigned gender is revised and expanded to include recent evidence that calls large differences into question (Davis & Hines, 2020).
- *Psychology in Our World: Human Identities and the Changing Gender Landscape* reviews the ways that our understanding of gender has changed, rapidly. Elliot Page provides an example.

CHAPTER 9 MOTIVATION AND EMOTION

- *Intersection: Developmental Psychology and Social Psychology: Are There "Boy Foods" and "Girl Foods"?* highlights the gendered nature of eating (Graziani & others, 2020).
- The concept of affirmative consent is reviewed in the discussion of cognitive and sensory/perceptual factors in sexuality.
- Cultural factors in sexuality are reviewed, including classic studies by Messenger (1971) and Marshall (1971).
- The section "Sexual Behavior and Orientation" reviews definitions of sexual behavior that consider the diversity of sexual orientations. The section acknowledges in the discussion (and with a photo) the place of sexual activity in a fulfilling life for people with disabilities (McGrath & others, 2020).
- Gender differences in sexual attitudes and behavior are reviewed, including issues with study design that have called some earlier findings into question (Conley, 2011).
- The section on sexual orientation includes revised definitions of gay, lesbian, bisexual, pansexual, and asexual orientations. It also notes that any explanation of sexual orientation must explain *heterosexuality.*

- Research on gay and lesbian well-being and parenting is reviewed (Farr & Patterson, 2013; Golombok & others, 2014; Oakley & others, 2017; Patterson, 2013, 2014; Patterson & Farr, 2014; Sumontha & others, 2017).
- Maslow's hierarchy is critiqued for classism, and the text notes that Maslow's perspective appears to derive from the Blackfoot Nation, a First Nation of Canada.
- The influence of culture in emotional expression is reviewed, including sociocultural display rules (Hudson & Jacques, 2014; Zhu & others, 2013).

CHAPTER 10 PERSONALITY

- Freud's approach is noted as situated in the gender binary of his time period.
- Cross-cultural studies in research on personality traits are reviewed (De Raad & others, 2010; Lovik & others, 2017; Paunonen & others, 1992; Thalmayer & others, 2020; Zhou & others, 2009).
- In the discussion of Maslow, his list of self-actualized individuals is noted as biased, limited to people who were able to be successful in society in a particular historical context—mostly men, mostly white people, and not including people of diverse gender identities or sexual orientations or people with disabilities.
- *Intersection: Personality and Social Psychology: Do Personality Traits Predict Prejudice?* reviews recent research on traits and other individual differences as predictors of racism (Banton & others, 2020; Esses, 2020; Federico & Aguilera, 2019; Kocaturk & Bozdag, 2020; Lin & Alvarez, 2020; Marsden & Barnett, 2020; Metin-Orta & Metin-Camgöz, 2020; Stern & Crawford, 2020; Ziller & Berning, 2019).
- *Challenge Your Thinking: Does It Really Matter How Long a Child Waits for That Second Treat?* reviews the role of social class in delay of gratification among young children (Watts & others, 2018).
- The chapter notes issues with Hans Eysenck as a scholar who promoted ideas about genetic explanations for group differences in IQ.

CHAPTER 11 SOCIAL PSYCHOLOGY

- This chapter, of course, contains a plethora of topics and studies relevant to issues of prejudice, racism, stereotype threat, stereotyping, ethnocentrism, and other topics. The chapter narrative and photo program highlight the diversity of important scholars in social psychology.
- Stereotype threat (Steele, 1997, 2012; Steele & Aronson, 1995, 2004) is reviewed, including discussion of which groups are impacted (Cadaret & others, 2017; Gonzalez & others, 2020; Jordano & Touron, 2017; Lewis & Sekaquaptewa, 2016; Robinson & others, 2020; Wegmann, 2017; Weiss & Perry, 2020), when it is activated, what impact it can have (Bullock & others, 2020; Kalokerinos & others, 2017), and what interventions might be effective (Liu & others, 2020; Vallée & others, 2020).
- Sociocultural influences on aggression are discussed, including cultural norms about masculine pride and family honor and cultures of honor (Cohen, 2001; Cohen & others, 1996; Gul & others, 2020; Hadi, 2020; Nawata, 2020).
- Cross-cultural research on interpersonal attraction is reviewed.
- The lack of diverse samples in close relationship research is highlighted.
- Coverage of deindividuation (Levine & others, 2010) includes consideration of KKK as well as multiple perpetrator rape, highlighting the potential role of a leader whose voice matters to the group (Woodhams & others, 2020).
- The importance of social and ethnic identities is reviewed, including as a resource for coping with bias and injustice (Crocker & others, 1998; Marks & others, 2015).
- The discussion of prejudice includes expanded coverage of anti-Black prejudice, systemic racism (Liverpool, 2020), and the continuing influence of race on many aspects

of U.S. life (Bertrand & Mullainathan, 2004; Copur-Gencturk & others, 2020; Eberhardt, 2020; Ge & others, 2020; Shin & others, 2016). Prejudice against people of Asian descent during the COVID-19 pandemic is also noted.

- Microaggressions are defined and discussed, with examples and impacts (Sue, 2010; Williams, 2020).
- The discussion of implicit racism highlights each person's personal responsibility for working on their own biases and not assuming that because such prejudice is automatic it is somehow beyond personal accountability.
- Research on factors that may improve intergroup relations is reviewed (Onyeador & others, 2020; Shelton & Richeson, 2014), including specific types of intergroup contact (Hässler & others, 2020; Marinucci & others, 2020; Mousa, 2020; Pettigrew & Tropp, 2006; Stott & others, 2012; Turner & others, 2020; White & others, 2020). The example of Christian refugees and Muslims playing on soccer teams together in Iraq is noted (Mousa, 2020).
- A final section on "Breaking the Prejudice Habit" describes research on the hard work of reducing prejudice (Devine & others, 2012; Paluck & others, 2021).

CHAPTER 12 PSYCHOLOGICAL DISORDERS

- The chapter-opening vignette focuses on a student who experienced a psychotic break, was diagnosed with bipolar disorder, and went on to develop a play about mental illness that aims to overcome stigma (Porter, 2019).
- Diverse examples are included throughout: for example, Lin Manuel Miranda, Naomi Osaka, and Patrick Mahomes represent atypical people who are not "abnormal"; choreographer Alvin Ailey is provided as an example of a person with bipolar disorder.
- The cultural context of disorders reviews how people struggling for social justice have often been labeled deviant or mentally ill (Potter, 2012) as well as the misuse of psychological diagnoses in immigrants who differ culturally (Alallawi & others, 2020; Carney, 2020).
- The idea of valuable neurodiversity is introduced (Bertilsdotter Rosqvist & others, 2019; Chapman, 2020; Ortiz, 2020) in the discussion of autism spectrum disorder.
- Patterns of associations with race, gender, and socioeconomic status in the diagnoses of neurodevelopmental disorders are reviewed (Maenner & others, 2020).
- The section on trauma and stress-related disorders includes coverage of sexual assault, sexual victimization on campus, and their links to PTSD (Coulter & Rankin, 2020; Gilmore & others, 2017; Hannan & others, 2020).
- *Psychology in Our World: Sexual Victimization on Campus* outlines statistics about sexual violence on campus among diverse groups (Cantor & others, 2019), Title IX protections for students, and suggested interventions.
- Sociocultural factors in depression are reviewed, including socioeconomic status and gender (Hodes & others, 2017; Joshi & others, 2017; Kisely & others, 2017; Linder & others, 2020; Lorant & others, 2007; Salk & others, 2017).
- Figure 3 reviews gender differences in depression rates in different cultures. Gender differences in rates of eating disorders are also discussed.
- Sociocultural factors in schizophrenia highlight the role of poverty and industrialization (Jablensky, 2000; Myers, 2010).
- Rates of suicide are reviewed for U.S. groups, with special attention to Native American/Native Alaskan adolescents (Hoffmann & others, 2020; Kerr & others, 2017). Worldwide rates of suicide are also discussed (World Population Review, 2018).
- The final section of the chapter addresses combating stigma. The concept of illusory correlation and prejudice against those with psychological disorders (stereotyped as "dangerous") is explicitly confronted.

- The Intersection feature *Clinical Psychology and Social Psychology: How Does the Stigma of Mental Illness Affect Social Interactions?* examines how stigma affects social interactions (Lucas & Phelan, 2019).

CHAPTER 13 THERAPIES

- The controversy over applied behavior analysis for the neurodiversity community is noted.
- *Challenge Your Thinking: Who Should Decide What Treatment Is Best for a Person?* addresses the importance of autonomy among people with psychological disorders in deciding on their treatment.
- Community mental health is reviewed, along with the important goal of empowerment.
- The sociocultural approach to therapy is reviewed along with the concepts of cultural competence (Tehee, 2020) and cultural humility (Davis & others, 2018; Jones & Branco, 2020).
- Ethnicity (Akhtar, 2006; Jackson & Greene, 2000), gender (Zerbe Enns & others, 2020), and gender identity and sexual orientation (Cronin & others, 2020; Huffman & others, 2020) are reviewed as important factors in therapy.
- A quiz question requires students to put themselves in the shoes of a young Asian American man seeking therapy and considering how to choose a therapist.

CHAPTER 14 HEALTH PSYCHOLOGY

- Research on military personnel and the importance of social support to PTSD and physical symptoms is reviewed (Luciano & McDevitt-Murphy, 2017).
- The role of church-based support for Blacks as a protective buffer against depression is discussed (Chatters & others, 2014).
- *Challenge Your Thinking: How Powerful Is the Power of Positive Thinking?* addresses victim blaming and stigmatization of those with physical illness.
- Type A research is critiqued for focusing on people unlikely to be at risk for coronary heart disease.
- A new section, "Stress and Prejudice," reviews research on the ways prejudice affects stress among sexual minority groups, people of diverse gender identities, and people who differ in immigrant status, veteran status, and race (e.g., Albuja & others, 2019; Feinstein & others, 2020; Hipes & Gemoets, 2019; Kassing & others, 2020; Zia & Ma, 2020). It reviews the meaning of health disparities and the differences in life expectancy for Black and white Americans (Xu & others, 2020) and emphasizes how COVID-19 likely exacerbated these (Wrigley-Field, 2020). The killing of George Floyd is discussed, and racism is described as a public health emergency.
- Prejudice against people with overweight and obesity is reviewed, including its impact on chronic stress (Tomiyama, 2019).
- *Intersection: Health Psychology and Social Psychology: Can Weight-Based Bias Affect the Health Consequences of Obesity?* reviews the health consequences of weight bias (Puhl & others, 2020) and a longitudinal study (Daly & others, 2019) showing that perceived discrimination independently predicts ill health among individuals with obesity even controlling for the health effects of obesity itself.
- The role of civic activism as a way to positively reappraise injustice among Black Americans is reviewed (Riley & others, 2020).
- *Psychology in Our World: Environments That Support Active Lifestyles* notes the role of systemic racism in access to environments that promote health (Bell & others, 2019).

preface

Some Students Take Psychology . . . Others Experience It!

Informed by student data, *Experience Psychology* helps students understand and appreciate psychology as an integrated whole. The personalized, adaptive learning program, thought-provoking examples, and interactive assessments help students see psychology in the world around them and experience it in everyday life. *Experience Psychology* is about, well, experience—our own behaviors; our relationships at home and in our communities, in school, and at work; and our interactions in different learning environments. Grounded in meaningful real-world contexts, *Experience Psychology*'s contemporary examples, personalized author notes, and applied exercises speak directly to students, allowing them to engage with psychology and to learn verbally, visually, and experientially—by reading, seeing, and doing. Function is introduced before dysfunction, building student understanding by looking first at typical, everyday behavior before delving into the less common—and likely less personally experienced—rare and abnormal behavior. *Experience Psychology* places the science of psychology, and the research that helps students see the academic foundations of the discipline, at the forefront of the course.

With *Experience Psychology*, students do not just "take" psychology but actively *experience* it. Paired with McGraw Hill Education Connect, a digital assignment and assessment platform that strengthens the link between faculty, students, and coursework, instructors and students accomplish more in less time. Connect Psychology is particularly useful for remote and hybrid courses, and includes assignable and assessable videos, quizzes, exercises, and interactivities, all associated with learning objectives. Interactive assignments and videos allow students to experience and apply their understanding of psychology to the world with fun and stimulating activities.

Experience a Personalized Approach

PERSONAL NOTES FROM THE AUTHOR THAT PROMOTE UNDERSTANDING

Experience Psychology emphasizes a personal approach, with an abundance of personal pedagogical "asides" communicated directly by author Laura King to students to guide their understanding and stimulate their interest as they read. Some of these notes highlight important terms and concepts; others prompt students to think critically about the complexities of the issues; and still others encourage students to apply what they have learned to their prior reading or to a new situation. These mini-conversations between the author and the reader help develop students' analytical skills for them to carry and apply well beyond their courses.

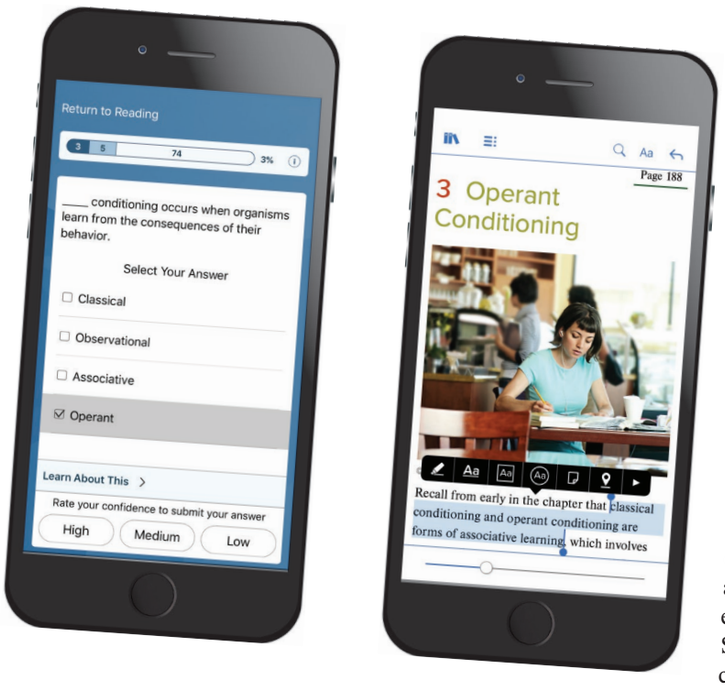
This is very "meta," but you're reading one right now. Think of it as a chance to nudge the reader's attention. And also to say thanks for taking on Intro Psych!

SMARTBOOK® A PERSONALIZED EXPERIENCE THAT LEADS TO IMPROVED LEARNING AND RESULTS

Students study more effectively with Connect and SmartBook 2.0.

How many students *think* they know everything about introductory psychology but struggle on the first exam?

- SmartBook 2.0 helps students study more efficiently by highlighting what to focus on in the chapter, asking review questions, and directing them to resources until they understand.
- Connect's assignments help students contextualize what they've learned through application, so they can better understand the material and think critically.



- SmartBook 2.0 personalizes learning to individual student needs, continually adapting to pinpoint knowledge gaps and focus learning on topics that need the most attention. Study time is more productive and, as a result, students are better prepared for class and coursework.
- Connect reports deliver information regarding performance, study behavior, and effort so instructors can quickly identify students who are having issues or focus on material that the class hasn't mastered.

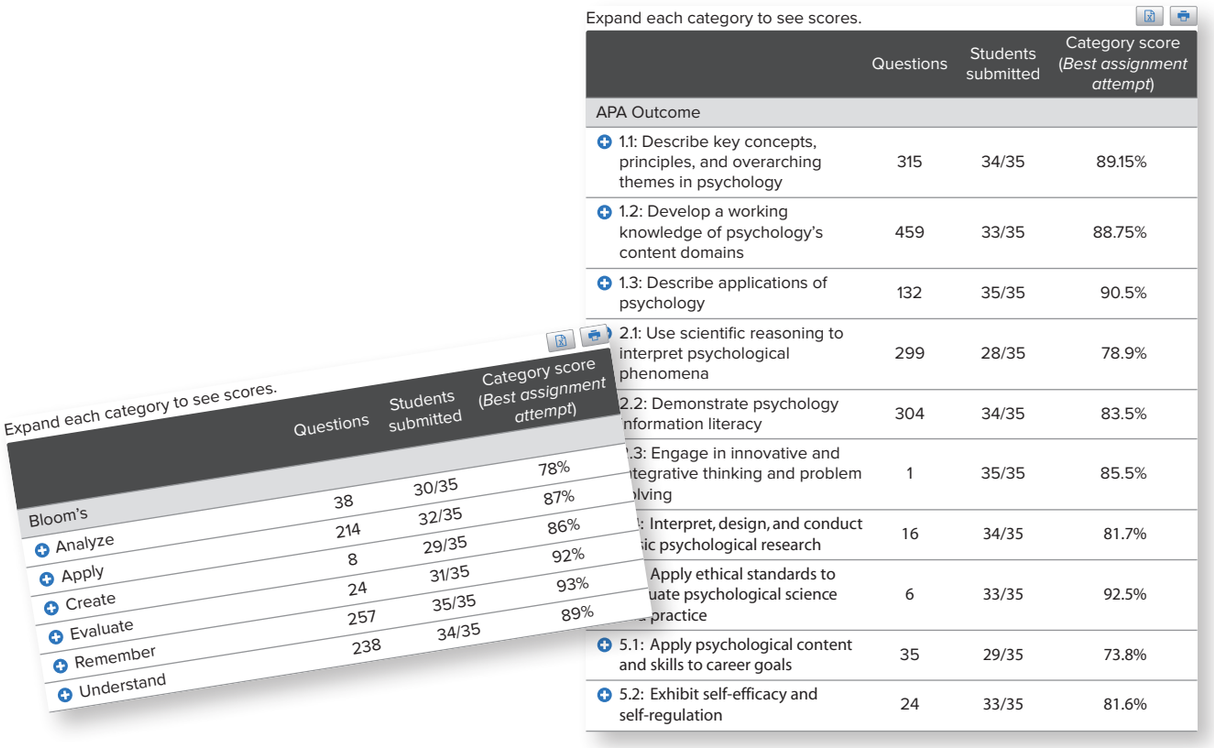
With McGraw Hill's free **ReadAnywhere app,** students can read or study when it's convenient for them—anytime, anywhere. Available for iOS or Android smartphones or tablets, ReadAnywhere gives users access to McGraw Hill tools including the eBook and SmartBook 2.0 in Connect. Students can take notes, highlight, and complete assignments offline – their work will sync when they open the app with WiFi access.

Experience the Power of Data

Experience Psychology harnesses the power of data to improve the instructor and student experiences. Whether a class is face-to-face, hybrid, or entirely online, McGraw Hill Connect provides the tools needed to reduce the amount of time and energy instructors spend administering their courses. Easy-to-use course management tools allow instructors to spend less time administering and more time teaching, while reports allow students to monitor their progress and optimize their study time.

- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.

- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA learning goals and outcomes and levels of Bloom's taxonomy.
- The **SmartBook Reports** allow instructors and students to easily monitor progress and pinpoint areas of weakness, giving each student a personalized study plan to achieve success.



Expand each category to see scores.

	Questions	Students submitted	Category score (*Best assignment attempt*)
Bloom's			
Analyze	38	30/35	78%
Apply	214	32/35	87%
Create	8	29/35	86%
Evaluate	24	31/35	92%
Remember	257	35/35	93%
Understand	238	34/35	89%

Expand each category to see scores.

	Questions	Students submitted	Category score (*Best assignment attempt*)
APA Outcome			
1.1: Describe key concepts, principles, and overarching themes in psychology	315	34/35	89.15%
1.2: Develop a working knowledge of psychology's content domains	459	33/35	88.75%
1.3: Describe applications of psychology	132	35/35	90.5%
2.1: Use scientific reasoning to interpret psychological phenomena	299	28/35	78.9%
2.2: Demonstrate psychology information literacy	304	34/35	83.5%
3: Engage in innovative and integrative thinking and problem solving	1	35/35	85.5%
4: Interpret, design, and conduct basic psychological research	16	34/35	81.7%
4.2: Apply ethical standards to evaluate psychological science or practice	6	33/35	92.5%
5.1: Apply psychological content and skills to career goals	35	29/35	73.8%
5.2: Exhibit self-efficacy and self-regulation	24	33/35	81.6%

Experience an Emphasis on Critical Thinking

Experience Psychology stimulates critical reflection and analysis. The **Challenge Your Thinking** features involve students in debates relevant to findings from contemporary psychological research. Thought-provoking questions encourage examination of the evidence on both sides of a debate or issue. For example, the Challenge in the "Thinking, Intelligence, and Language" chapter considers whether artificial intelligence can be biased (it can be). The Challenge in the "Psychological Disorders" chapter considers whether birth month predicts an ADHD diagnosis (it does).

Challenge YOUR THINKING

Can Artificial Intelligence Be Racist?

Artificial intelligence (or AI) is useful in domains in which human problem solving faces insurmountable obstacles. For example, recently, an AI network developed by DeepMind (an offshoot of Google) produced an accurate three-dimensional model of a protein from its amino acid sequence. This feat had long evaded human scientists and promises to revolutionize biology (Callaway, 2020). If AI can solve complex problems better than humans can, should we rely on computers to make important decisions about people? Such decisions are among the most complex we ever make, including who to hire or if a person is likely to commit a crime. Could AI systems serve as perfectly fair, objective decision-makers in such circumstances? Unfortunately, AI systems can be biased. Let's take a look at why.

A first important consideration is something called the training dataset. An AI system does not bring years of experience to its decisions. Instead, such systems are trained on enormous datasets that include all available information about a topic. Remember, computers are especially good at problems that involve very large amounts of information and using algorithms that consider every possible combination of factors to get to the right answer.

Imagine we want to create an AI system that could safely land a plane in any circumstance. We would gather a vast amount of information, perhaps about all the plane landings ever recorded. The data would include relevant details of weather, time of day, terrain, type of plane, and so forth, along with information about success or failure to safely land the plane. That information would become the training dataset for our plane landing AI. It would "learn" from that training data and, if successful, dictate exactly what to do in any circumstance to safely land a plane. Landing a plane is a good example of how AI might be quite useful, right?

However, this process—using a vast amount of existing information to train AI to make decisions—is where bias creeps in. What an AI system "knows" depends on what is in the training dataset. Research has shown that biases in training datasets can lead to biased decisions even by computers (Heaven, 2020).

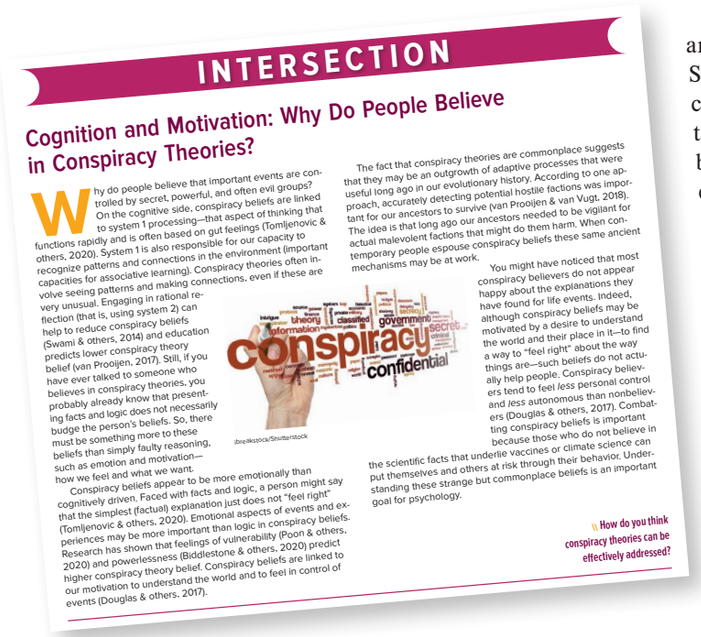
Especially concerning are predictive AIs used in the criminal justice system. These programs are used to guide decisions, such as whether a person who has been arrested will reoffend if released prior to standing trial. AIs make predictions based on the volumes of data that have been collected about people who have been arrested. In the United States, it is against the law for algorithms to use race as a predictor variable, but other variables related to race are used, such as socioeconomic status, education, and where a person lives (Heaven, 2020). Research has shown that such predictive AIs overestimate the likelihood that Black people will reoffend and underestimate the likelihood that white people will reoffend (Cossins, 2018).

Another important concern is that, generally, creators of AI systems do not allow public access to their training datasets so it is difficult to know with certainty the degree to which these systems are biased (Heaven, 2020). You may have heard the adage, "Garbage in, garbage out." AI systems can only be as fair as the data on which they are trained. The unfortunate conclusion is that if the datasets on which these systems are trained are biased by racism (or sexism or other prejudices) then the AI will make biased decisions.

Photoplasma Photo/Shutterstock

What Do You Think?

- Is it better to use imperfect AI systems or people to make decisions about people?
- How might training datasets be improved to remove bias?



INTERSECTION

Cognition and Motivation: Why Do People Believe in Conspiracy Theories?

Why do people believe that important events are controlled by secret, powerful, and often evil groups? On the cognitive side, conspiracy beliefs are linked to system 1 processing—that aspect of thinking that functions rapidly and is often based on gut feelings (Tomljenovic & others, 2020). System 1 is also responsible for our capacity to recognize patterns and connections in the environment (important capacities for associative learning). Conspiracy theories often involve seeing patterns and making connections, even if these are very unusual. Engaging in rational reflection (that is, using system 2) can help to reduce conspiracy beliefs (Swami & others, 2014) and education predicts lower conspiracy theory belief (van Prooijen, 2017). Still, if you have ever talked to someone who believes in conspiracy theories, you probably already know that presenting facts and logic does not necessarily budge the person's beliefs. So, there must be something more to these beliefs than simply faulty reasoning, such as emotion and motivation—how we feel and what we want.

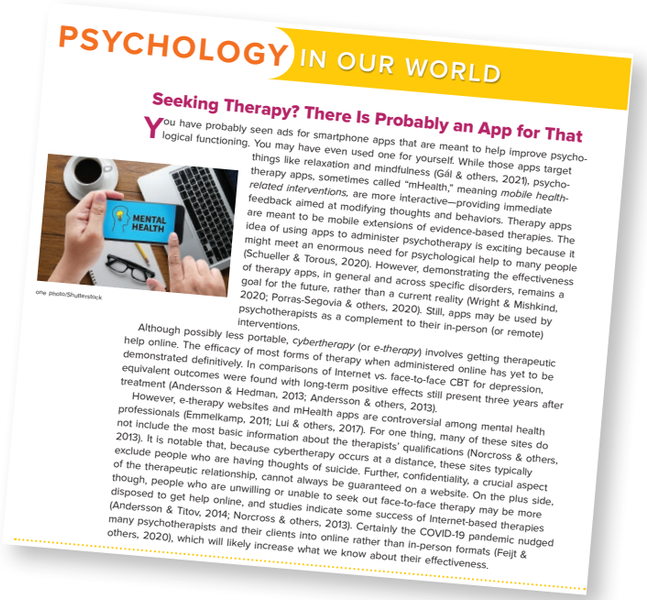
Conspiracy beliefs appear to be more emotionally than cognitively driven. Faced with facts and logic, a person might say that the simplest (factual) explanation just does not "feel right" (Tomljenovic & others, 2020). Emotional aspects of events and experiences may be more important than logic in conspiracy beliefs. Research has shown that feelings of vulnerability (Poon & others, 2020) and powerlessness (Biddlestone & others, 2020) predict higher conspiracy theory belief. Conspiracy beliefs are linked to our motivation to understand the world and to feel in control of events (Douglas & others, 2017).

The fact that conspiracy theories are commonplace suggests that they may be an outgrowth of adaptive processes that were useful long ago in our evolutionary history. According to one approach, accurately detecting potential hostile factions was important for our ancestors to survive (van Prooijen & van Vugt, 2018). The idea is that long ago our ancestors needed to be vigilant for actual malevolent factions that might do them harm. When contemporary people espouse conspiracy beliefs these same ancient mechanisms may be at work.

You might have noticed that most conspiracy believers do not appear happy about the explanations they have found for life events. Indeed, although conspiracy beliefs may be motivated by a desire to understand the world and their place in it—to find a way to "feel right" about the way things are—such beliefs do not actually help people. Conspiracy believers tend to feel *less* personal control and *less* autonomous than nonbelievers (Douglas & others, 2017). Combatting conspiracy beliefs is important because those who do not believe in the scientific facts that underlie vaccines or climate science can put themselves and others at risk through their behavior. Understanding these strange but commonplace beliefs is an important goal for psychology.

How do you think conspiracy theories can be effectively addressed?

Experience Psychology's **Intersection** features are also designed to spark critical thought. Showcasing studies in different areas of psychological research that focus on the same topic, the Intersections shed light on the links between, and the reciprocal influences of, this exciting work, and they raise provocative questions for student reflection and class discussion. For example, the selection for the "Thinking, Intelligence, and Language" chapter brings together cognition and motivation to examine recent research on the development and persistence of conspiracy theories.



PSYCHOLOGY IN OUR WORLD

Seeking Therapy? There Is Probably an App for That

You have probably seen ads for smartphone apps that are meant to help improve psychological functioning. You may have even used one for yourself. While those apps target things like relaxation and mindfulness (Gál & others, 2021), psychotherapy apps, sometimes called "mHealth," meaning *mobile health-related interventions*, are more interactive—providing immediate feedback aimed at modifying thoughts and behaviors. Therapy apps are meant to be mobile extensions of evidence-based therapies. The idea of using apps to administer psychotherapy is exciting because it might meet an enormous need for psychological help to many people (Schueller & Torous, 2020). However, demonstrating the effectiveness of therapy apps, in general and across specific disorders, remains a goal for the future, rather than a current reality (Wright & Mishkind, 2020; Porras-Segovia & others, 2020). Still, apps may be used by psychotherapists as a complement to their in-person (or remote) interventions.

Although possibly less portable, *cybertherapy* (or *e-therapy*) involves getting therapeutic help online. The efficacy of most forms of therapy when administered online has yet to be demonstrated definitively. In comparisons of Internet vs. face-to-face CBT for depression, equivalent outcomes were found with long-term positive effects still present three years after treatment (Andersson & Hedman, 2013; Andersson & others, 2013).

However, e-therapy websites and mHealth apps are controversial among mental health professionals (Emmelkamp, 2011; Lui & others, 2017). For one thing, many of these sites do not include the most basic information about the therapists' qualifications (Norcross & others, 2013). It is notable that, because cybertherapy occurs at a distance, these sites typically exclude people who are having thoughts of suicide. Further, confidentiality, a crucial aspect of the therapeutic relationship, cannot always be guaranteed on a website. On the plus side, though, people who are unwilling or unable to seek out face-to-face therapy may be more disposed to get help online, and studies indicate some success of Internet-based therapies (Andersson & Titov, 2014; Norcross & others, 2013). Certainly the COVID-19 pandemic nudged many psychotherapists and their clients into online rather than in-person formats (Feijt & others, 2020), which will likely increase what we know about their effectiveness.

Each chapter of *Experience Psychology* includes a **Psychology in Our World** section that demonstrates the relevance of psychology in a variety of real-world contexts, including the workplace, the media, and current events. For example, in the "Therapies" chapter, the Psychology in Our World section focuses on apps and online options for therapy. In the "Science of Psychology" chapter, the Psychology in Our World feature reviews the use of big data in psychological research.

In addition, the **Psychological Inquiry** features draw students into analyzing and interpreting figures and photos by embedding a range of critical thinking questions within the caption.

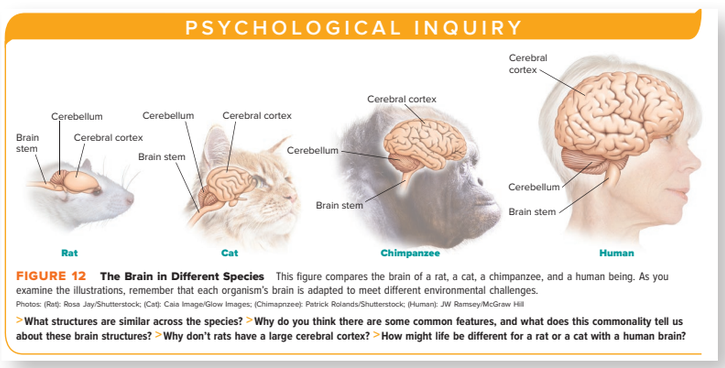


FIGURE 12 **The Brain in Different Species** This figure compares the brain of a rat, a cat, a chimpanzee, and a human being. As you examine the illustrations, remember that each organism's brain is adapted to meet different environmental challenges.

Photos: (Rat): Rosa Jay/Shutterstock; (Cat): Caia Image/Glow Images; (Chimapnzee): Patrick Rolands/Shutterstock; (Human): JW Ramsey/McGraw Hill

> What structures are similar across the species? > Why do you think there are some common features, and what does this commonality tell us about these brain structures? > Why don't rats have a large cerebral cortex? > How might life be different for a rat or a cat with a human brain?

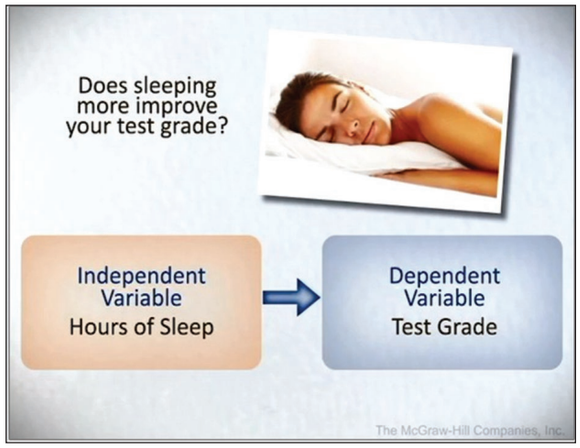
Experience Active Engagement

Do It!

Go on a caffeine hunt. Check out the ingredient lists on your favorite beverages, snacks, and painkillers. Which of these contain caffeine? You might be surprised by how much caffeine you consume every day without even knowing it.

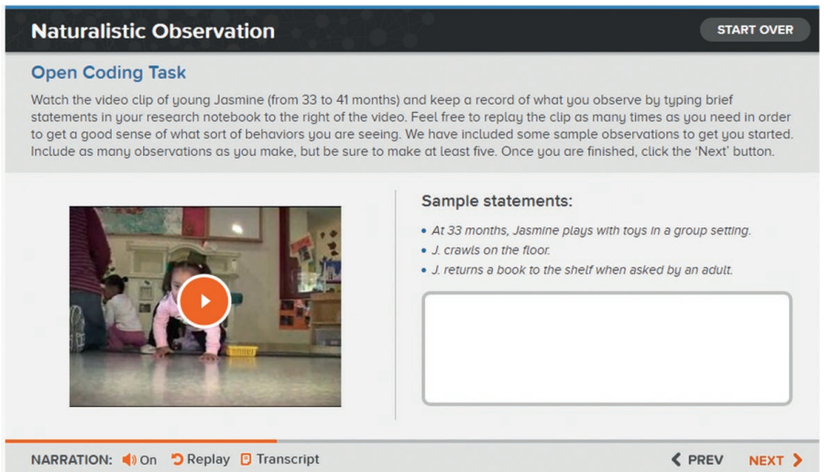
Experience Psychology offers several ways to actively engage with the course content. Through **Do It!,** a series of brief, recurring sidebar activities linked to the text reading, students get an opportunity to test their assumptions and learn through hands-on exploration and discovery. Reinforcing that the science of psychology requires active participation, Do It! selections include, for example, an exercise on conducting an informal survey to observe and classify behaviors in a public setting, as well as an activity guiding students on how to research a "happiness gene." Such exercises provide vibrant and involving experiences that get students thinking like psychologists.

McGraw Hill Connect offers several ways to actively engage students. New for the fifth edition, the **Writing Assignment** tool delivers a learning experience to help students improve their written communication skills and conceptual understanding. As an instructor you can assign, monitor, grade, and provide feedback on writing more efficiently and effectively. Writing Assignment Premium promotes student's critical thinking with auto-scored writing prompts, helping to save you time providing feedback and grading. For students, Writing Assignment is tablet ready and provides time-saving tools with a just-in-time basic writing and originality checking. **Power of Process** guides students through the process of critical reading and analysis. Faculty can select or upload content, such as journal articles, and assign guiding questions to gain insight into students' understanding of the scientific method while helping them improve upon their information literacy skills.



Concept Clips help students comprehend some of the most difficult ideas in introductory psychology. Colorful graphics and stimulating animations describe core concepts in a step-by-step manner, engaging students and aiding in retention. Concept Clips can be used as a presentation tool in the classroom or for student assessment. Concept Clips are also embedded in the ebook to offer an alternative presentation of these challenging topics.

Interactivities engage students with content through experiential activities. Topics include Explicit and Implicit Bias; Cognitive Dissonance; Correlations; Neurons; The Stages of Sleep; Levels of Processing; Naturalistic Observation; Observational Learning; Defense Mechanisms; and Heuristics.



Through the connection of psychology to students' own lives, concepts become more relevant and understandable. Located in Connect, **NewsFlash** is a multi-media assignment tool that ties current news stories, TedTalks, blogs, and podcasts to key psychological principles and learning objectives. Students interact with relevant news stories and are assessed on their ability to connect the content to the research findings and course material. NewsFlash is updated twice a year and uses expert sources to cover a wide range of topics including emotion, personality, stress, drugs, COVID-19, ableism, disability, social justice, stigma, bias, inclusion, gender, LGBTQA+, and many more.

At the Apply level of Bloom's taxonomy, expanded **Application-Based Activities** provide a means for experiential learning. These are highly interactive, automatically graded, online learn-by-doing exercises that offer students a safe space to apply their knowledge and problem-solving skills to real-world scenarios. Each scenario addresses key concepts and skills that students must use to work through and solve course-specific problems, resulting in improved critical thinking.

At the Apply and Analyze levels of Bloom's taxonomy, **Scientific Reasoning Activities** found in Connect offer in-depth arguments to sharpen students' critical thinking skills and prepare them to be more discerning consumers of psychology in their everyday lives. For each chapter, there are multiple sets of arguments accompanied by auto-graded assessments requiring students to think critically about claims presented as facts. These exercises can also be used in Connect as group activities or for discussion.

Brain and nervous system "tours" are embedded in the ebooks to encourage learners to engage with key structures. These tours provide students with practice in grasping key biological structures and processes that are essential to an appreciation of the role of science in psychology and success in the course. The digital tours are also available in the instructor's materials to be used as presentation resources.

Psychology at Work videos, assignable and assessable within McGraw Hill Connect, highlight careers in which knowledge of psychology is beneficial in the workplace. Each video introduces a person at work, who specifies how knowledge gained from taking introductory psychology in college is applied to the work environment.

Experience the Course You Want to Teach

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TEGRITY: LECTURES 24/7

Tegrity in Connect is a tool that makes class time available 24/7 by automatically capturing every lecture. With a simple one-click start-and-stop process, you capture all computer screens and corresponding audio in a format that is easy to search, frame by frame. Tegrity's unique search feature helps students efficiently find what they need, when they need it, across an entire semester of class recordings. Help turn your students' study time into learning moments immediately supported by your lecture. With Tegrity, you also increase intent listening and class participation by easing students' concerns about

note-taking. Using Tegrity in Connect will make it more likely you will see students' faces, not the tops of their heads.

PROCTORIO: REMOTE PROCTORING & BROWSER-LOCKING CAPABILITIES

Remote proctoring and browser-locking capabilities, hosted by Proctorio within Connect, provide control of the assessment environment by enabling security options and verifying the identity of the student. Seamlessly integrated within Connect, these services allow instructors to control students' assessment experience by restricting browser activity, recording students' activity, and verifying students are doing their own work. Instant and detailed reporting gives instructors an at-a-glance view of potential academic integrity concerns, thereby avoiding personal bias and supporting evidence-based claims.

TRUSTED SERVICE AND SUPPORT

McGraw Hill Education's Connect offers comprehensive service, support, and training throughout every phase of your implementation. If you're looking for some guidance on how to use Connect, or want to learn tips and tricks from super users, you can find tutorials as you work. Our Digital Faculty Consultants and Student Ambassadors offer insight into how to achieve the results you want with Connect.

OLC-ALIGNED COURSES: IMPLEMENTING HIGH-QUALITY ONLINE INSTRUCTION AND ASSESSMENT THROUGH PRECONFIGURED COURSEWARE

In consultation with the Online Learning Consortium (OLC) and our certified Faculty Consultants, McGraw Hill has created pre-configured courseware using OLC's quality scorecard to align with best practices in online course delivery. This turnkey courseware contains a combination of formative assessments, summative assessments, homework, and application activities, and can easily be customized to meet an individual's needs and course outcomes. For more information, visit https://www.mheducation.com/highered/olc.

INTEGRATION WITH YOUR LEARNING MANAGEMENT SYSTEM

McGraw Hill integrates your digital products from McGraw Hill Education with your school LMS for quick and easy access to best-in-class content and learning tools. Build an effective digital course, enroll students with ease, and discover how powerful digital teaching can be.

Available with Connect, integration is a pairing between an institution's learning management system (LMS) and Connect at the assignment level. It shares assignment information, grades, and calendar items from Connect into the LMS automatically, creating an easy-to-manage course for instructors and simple navigation for students.

Instructor Supplements

Instructor's Manual The instructor's manual provides a wide variety of tools and resources for presenting the course, including learning objectives and ideas for lectures and discussions.

Test Bank and Test Builder Organized by chapter, questions in the bank are designed to test factual, conceptual, and applied understanding. Test Builder is a cloud-based tool that enables instructors to format tests that can be printed or administered within an LMS. Test Builder offers a modern, streamlined interface for easy content configuration that matches course needs, without requiring a download. Test Builder enables instructors to:

- access all test bank content from a particular title
- easily pinpoint the most relevant content through robust filtering options
- manipulate the order of questions or scramble questions and/or answers

- pin questions to a specific location within a test
- choose the layout and spacing
- add instructions and configure default settings

Test Builder provides a secure interface for better protection of content and allows for just-in-time updates to flow directly into assessments.

PowerPoint Presentations The PowerPoint presentations, available in both dynamic, lecture-ready and accessible, WCAG-compliant versions, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.

Image Gallery The Image Gallery features the complete set of downloadable figures and tables from the text. These can be easily embedded by instructors into their own PowerPoint slides.

Chapter-by-Chapter Changes

All chapters are updated with current research and data, when available.

CHAPTER 1 THE SCIENCE OF PSYCHOLOGY

- New chapter-opening vignette, "The Art and Science of Waiting," referring to COVID-19 lock-downs and the concept of flow
- New example of counterintuitive results, based on a study of expectations about seeing *Star Wars: The Last Jedi*
- New example of forgiveness using events in the life of John Lewis
- New Challenge Your Thinking feature, "Where Is Everybody?" that looks at lack of diversity in the history of psychology
- New Psychology in Our World Feature, "Big Data in Psychological Science" that examines how big data may be used in psychological research
- New Intersection feature, "Cognitive Psychology and Health Psychology: How Can We Combat COVID-19 Misinformation Online?"
- Updated figure showing the settings in which psychologists are expected to be working in 2030
- New example of experimenter bias from research on oxytocin.
- Expanded coverage of issue of lack of diversity in research samples, with new definition of WEIRD samples
- Expanded coverage of replication

CHAPTER 2 THE BRAIN AND BEHAVIOR

- New chapter-opening vignette, "Seeing Strange Things," describing a case of a rare neurological condition (Riddoch phenomenon)
- New Intersection feature, "Neuroscience and Language: What Is a Word to a Dog?" that describes studies using fMRI in dogs
- New Challenge Your Thinking feature, "How Should We Think about Genes and Behavior?"

- Updated treatment of the human genome, traumatic brain injury, and issues with the reproducibility of genome-wide association studies
- Updated research on brain tissue implants in rats

CHAPTER 3 SENSATION AND PERCEPTION

- New chapter-opening vignette, "Is Everything Cake?" describing the popular 2020 meme
- New Psychology in Our World feature, "Are You Listening Safely?"
- New Intersection feature, "Sensation, Perception, and Social Psychology: Do False Beliefs about Race Affect Pain Treatment?"
- New Challenge Your Thinking feature, "Could You Be Fooled into Thinking You Have Six Fingers?"
- Updated discussion with new research on disparities in pain perception and on how stereotypes may affect perception
- New research on subliminal priming
- Updated treatment of person perception
- New discussion of proprioceptive drift

CHAPTER 4 STATES OF CONSCIOUSNESS

- New chapter-opening vignette, "A Star in His Own Imagination," describing a case of locked-in syndrome
- New Intersection feature, "Consciousness and Social Psychology: Could Robots Make Us Kinder to Each Other?"
- New Challenge Your Thinking feature, "Does Legalized Medical Marijuana Reduce Opioid Abuse and Overdoses?"
- Expanded treatment of theory of mind and the social nature of consciousness
- Updated and expanded treatment of sleep and memory and insomnia treatments
- New coverage of sleep problems associated with the COVID-19 pandemic
- New research on health problems associated with shift work and the impact of artificial light on sleep
- Updated statistics on drug and alcohol use and medical marijuana
- New discussion of vaping

CHAPTER 5 LEARNING

- Revised chapter-opening vignette, "Service Dogs: Helping Heroes Heal"
- New Challenge Your Thinking feature, "Do Machines Actually Learn?"
- New Intersection feature, "Learning and Social Psychology: Can Observational Learning Lead to Bias?"
- Expanded treatment of observational learning
- Updated treatment with new research on applied behavior analysis
- Updated discussion of embedded marketing

CHAPTER 6 MEMORY

- New chapter-opening vignette about the use of nostalgia to cope with COVID-19-related challenges

- New Intersection feature, "Sleep and Developmental Psychology: How Do Naps Allow Babies to Separate Episodic and Semantic Memories?"
- New Challenge Your Thinking feature, "How Can We Understand the Experience of Déjà vu?"
- Updated treatment of memory training and multitasking
- Expanded coverage of language learning and rehearsal

CHAPTER 7 THINKING, INTELLIGENCE, AND LANGUAGE

- New chapter-opening vignette on the development of the COVID-19 vaccines as an example of problem-solving
- New Challenge Your Thinking feature, "Can Artificial Intelligence Be Racist?"
- New Intersection feature, "Cognition and Motivation: Why Do People Believe in Conspiracy Theories?"
- New Psychology in Our World feature, "What Do the Words We Use on Social Media Reveal about Us?"
- Expanded and updated discussion of critical thinking in decision making
- Updated introduction to the concept of intelligence, including treatment how intelligence is defined and the history of the science of intelligence, including eugenics
- New section on genetics, intelligence, and group differences
- New discussion of the relationship between socioeconomic status and IQ test results
- Updated treatment of the role of language in cognition and consideration of the bilingual advantage
- New critique of the "30-million word gap" research
- Updated discussion of the uses of artificial intelligence

CHAPTER 8 HUMAN DEVELOPMENT

- New chapter-opening vignette featuring a senior with Alzheimer's who can still play complex piano pieces
- New Challenge Your Thinking feature, "When Is Your First Memory?"
- New Intersection feature, "Developmental Psychology and Cognitive Psychology: Can Young Children Be More Rational Than Adults?"
- Updated treatment of infant motor development, adolescent identity, and gender identity development
- More nuanced treatment of the "Sticky Mittens" studies
- Expanded discussion on the role of telomeres in aging, with new research on the impact of stress
- Updated statistics on marriage and cohabitation

CHAPTER 9 MOTIVATION AND EMOTION

- New chapter-opening vignette about visiting nurses working during the COVID-19 pandemic as an example of motivation.
- New Intersection feature, "Developmental Psychology and Social Psychology: Are There 'Boy Foods' and 'Girl Foods'?"
- New Challenge Your Thinking feature, "How Does Money Relate to Happiness?"

- Updated Psychology in Our World feature, "What's on Menus and Labels and Why It Matters"
- Updated treatment of biological and psychological factors in obesity
- Expanded discussion of mindless eating, with new coverage of mindful eating practices
- New discussion of gender stereotypes and food choices
- Expanded treatment of sexual scripts, including new discussion of affirmative consent for sexual activity
- Updated discussion of the diversity and flexibility of sexual orientations
- Expanded treatment of controversies related to Maslow's hierarchy
- Expanded section on positive emotions, with new discussion of the family tree model of positive emotions

CHAPTER 10 PERSONALITY

- New chapter-opening vignette on face transplants and how personality provides a sense of continuity of self
- New Intersection feature, "Personality and Social Psychology: Do Personality Traits Predict Prejudice?"
- New Challenge Your Thinking feature, "Does It Really Matter How Long a Child Waits for that Second Treat?"
- Updated section on the five-factor model of personality, including new research findings on each factor, cross-cultural studies, and the alternative HEXACO model
- Updated discussion of arousal regulation theory and the role of dopamine
- Updated treatment of Mischel's critique of the consistency of personality

CHAPTER 11 SOCIAL PSYCHOLOGY

- New chapter-opening vignette on the how people found ways to come together during COVID-19 stay-at-home orders, emphasizing the human need for social connections
- New Intersection feature, "Social Psychology and Motivation: What Happens When We Don't Get a Chance to Help?"
- New Challenge Your Thinking feature, "What Happened in the Stanford Prison Experiment?"
- New section on microaggressions
- New discussion and example of systemic racism
- Expanded treatment of prejudice, implicit and explicit bias, and improving intergroup relations
- Updated research on the accuracy of first impressions and its implications
- Expanded coverage of stereotype threat, including scope, impacts, and possible interventions
- Updated discussions of door-in-the-face and foot-in-the-door techniques, altruism and costly signaling theory, and factors that influence prosocial behavior
- New discussion of the need for greater diversity in close relationship research
- Updated treatment of approaches to understanding the process of attraction
- Expanded discussions of relationship satisfaction and social exchange theory

- Updated statistics on divorce
- Updated treatment of the neuroscience of conformity
- Expanded coverage of group influence

CHAPTER 12 PSYCHOLOGICAL DISORDERS

- New chapter-opening vignette featuring the example of a young man newly diagnosed with bipolar disorder, with a focus on stigma
- New Challenge Your Thinking feature, "Does Birth Month Predict ADHD Diagnosis?"
- New Intersection feature, "Clinical Psychology and Social Psychology: How Does the Stigma of Mental Illness Affect Social Interactions?"
- Updated statistics on psychological disorders and suicide
- New discussion of potential biomarkers for autism spectrum disorder
- Updated treatment of the potential origins of social phobia and OCD
- Updated discussion of biological factors in depressive disorders and risk factors for suicide

CHAPTER 13 THERAPIES

- New chapter-opening vignette focused on play therapy for children who have been exposed to trauma
- New Intersection feature, "Neuroscience and Psychotherapy: Does Oxytocin Reflect the Therapeutic Alliance?"
- Updated Psychology in Our World feature, "Seeking Therapy? There Is Probably an App for That"
- New Challenge Your Thinking feature, "Who Should Decide What Treatment Is Best for a Person?"
- Updated discussion of drug therapies, including experimental use of ketamine
- Updated treatment of ECT and transcranial magnetic stimulation, including side effects

CHAPTER 14 HEALTH PSYCHOLOGY

- New chapter-opening vignette focused on the COVID-19 pandemic, what it revealed about human psychology and how its related effects impacted physical health
- New Intersection feature, "Health Psychology and Social Psychology: Can Weight-Based Bias Affect the Health Consequences Obesity?"
- New section on stress and prejudice and their links to health disparities among the U.S. population
- Expanded discussion of public health
- Updated discussions of optimism and healthy eating
- Updated and expanded coverage of stress and its links to disease
- Updated treatment of STIs, including prevention strategies and PrEP for HIV

acknowledgments

The quality of *Experience Psychology* is a testament to the skills and abilities of so many people, and I am tremendously grateful to the following individuals for their insightful contributions during the project's development.

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1 The Science of Psychology

The Art (and Science) of Waiting

In spring 2020, the world was rocked by a global pandemic. The novel coronavirus (COVID-19) placed many lives on hold. Important events were canceled or postponed. Efforts to quell the virus meant that many people spent a great deal more time just waiting than ever before. Waiting can be stressful, especially during uncertain times.

During the pandemic, many people coped with waiting by distracting themselves with jigsaw puzzles or baking bread. The psychology of waiting shows that some distractions are better than others. The best way to wait might be to experience *flow.* Flow refers to a state of mind that happens when we engage in activities that present an optimal challenge for our abilities (Csikszentmihalyi, 1990). When we experience flow, we lose track of time and experience ourselves as at one with what we are doing. A series of studies (Rankin & others, 2019) showed that for people stuck waiting—whether it was budding lawyers awaiting bar exam results or hopeful candidates on the job market—engaging in activities that promoted flow enhanced positive emotions and lowered negative feelings. Our capacity to experience the deep pleasure that comes from engagement with challenging tasks can make a difficult, uncertain time a little easier.

You might be surprised to learn that psychologists study the best way to wait. It turns out psychologists are interested in just about everything people do. Even ordinary human behavior can become extraordinary when viewed in the right light, with a close lens. Psychologists are scientists who look at the world with just such a lens. Right now, thousands of dedicated scientists are studying things about you that you might have never considered, like how your eyes adjust to a sunny day or how your brain registers the face of a friend. There is not a single thing people do that is not fascinating to some psychologist somewhere.

Pascal Broze/Getty Images

PREVIEW

This chapter begins by defining psychology and reviewing the history of the field. Next we survey seven broad approaches that characterize psychological science today. Then, in sequence, we examine the elements of the scientific method, review the different kinds of research psychologists do, and consider the importance of conducting psychological research according to ethical guidelines. We conclude with a look at applications of psychology to daily life—a central focus of *Experience Psychology.*

1 Defining Psychology and Exploring Its Roots

What is your definition of psychology? When you think of the word psychology, what first comes to mind?

Formally defined, **psychology** is the scientific study of behavior and mental processes. Let's consider the three key terms in this definition: *science, behavior*, and *mental processes*.

psychology
The scientific study of behavior and mental processes.

As a **science**, psychology uses systematic methods to observe human behavior and draw conclusions. The goals of psychological science are to describe, predict, and explain behavior. In addition, psychologists are often interested in controlling or changing behavior, and they use scientific methods to examine interventions that might, for example, help to reduce violence or promote happiness.

science
The use of systematic methods to observe the natural world, including human behavior, and to draw conclusions.

Researchers might be interested in knowing whether individuals will help a stranger who has fallen down. The researchers could devise a study in which they observe people walking past a person who needs help. Through many observations, the researchers could come to *describe* helping behavior by counting how many times it occurs in particular circumstances. They might also try to *predict* who will help, and when, by examining characteristics of the people studied. Are happy people more likely to help? Does gender relate to helping? After the psychologists have analyzed their data, they also will want to *explain* why helping behavior occurred when it did. Finally, they might be interested in changing helping behavior, such as by devising strategies to increase helping.

behavior
Everything we do that can be directly observed.

Behavior is everything we do that can be directly observed—two people kissing, a baby crying, a college student knitting to wait out the pandemic. **Mental processes** are the thoughts, feelings, and motives that each of us experiences privately but that cannot be

mental processes
The thoughts, feelings, and motives that people experience privately but that cannot be observed directly.

Behavior includes the observable act *of two people kissing; mental processes include their* unobservable thoughts *about kissing.*
(Both): Nora Pelaez/Visual Ideas/Getty Images

observed directly. Although we cannot directly see thoughts and feelings, they are nonetheless real. They include *thinking* about kissing someone, a baby's *feelings* when its mother leaves the room, and a student's *memory* of learning to knit.

The Psychological Frame of Mind

What makes for a good job, a good marriage, or a good life? Psychologists approach these big life questions as scientists. Psychology is a rigorous discipline that tests assumptions, bringing scientific data to bear on the questions of central interest to human beings (Brinkmann, 2020; Henriques & Michalski, 2020). Psychologists conduct research and rely on that research to provide evidence for their conclusions. They examine the available evidence about some aspect of mind and behavior, evaluate how strongly the data (information) support their hunches, analyze disconfirming evidence, and carefully consider whether they have explored all possible factors and explanations. At the core of this scientific approach are four attitudes*: critical thinking, curiosity, skepticism,* and *objectivity.*

critical thinking The process of thinking deeply and actively, asking questions, and evaluating the evidence.

Like all scientists, psychologists are *critical thinkers.* **Critical thinking** is the process of thinking deeply and actively, asking questions, and evaluating the evidence (Sternberg & Halpern, 2020). Critical thinkers question and test what some people say are facts. They examine research to see how soundly it supports an idea. Critical thinking reduces the likelihood that conclusions will be based on unreliable personal beliefs, opinions, and emotions. Critical thinking also comes into play when scientists consider the conclusions they draw from research. As critical thinkers who are open to new information, scientists must tolerate uncertainty, knowing that even long-held views are subject to revision.

Critical thinking is very important as you read *Experience Psychology*. Some of what you read might fit with your beliefs, and some might challenge you to reconsider them. Actively engaging in critical thinking is vital to making the most of psychology. As you study the field, think about how what you are learning relates to your life experiences and your assumptions about human behavior.

Scientists are also *curious*. The scientist notices things in the world (a star in the sky, an insect, a happy person) and wants to know what it is and why it is that way. Science involves asking questions, even very big questions (e.g., Where did the earth come from? How does love between two people endure for 50 years?). Thinking like a psychologist means opening your mind and imagination to wondering why things are the way they are.

In addition, scientists are *skeptical.* Skeptical people require evidence before accepting something as true. Being skeptical can mean questioning what "everybody knows." There was a time when "everybody knew" that women were morally inferior to men, that race could influence a person's IQ, and that the earth was flat. Psychologists, like all scientists, look at assumptions in new and questioning ways. Psychology is different from common sense because psychologists are skeptical of commonsensical answers.

Psychological research often turns up the unexpected in human behavior. Such results are called *counterintuitive* because they contradict our intuitive impressions of how the world works. To get a sense of what counterintuitive means, consider the advice, "Don't get your hopes up." This saying suggests that if you have high hopes for an experience, you are more likely to experience great disappointment if things do not go well, or even that you might jinx the experience itself. Do you think this concern is well placed? Recent research addressed this question in the context of going to see the movie, *Star Wars: The Last Jedi* (Bonus & others, 2020). Before the movie was released, people were asked how much they thought seeing the movie would make them happy and nostalgic. (Nostalgia refers to wistful feelings for meaningful experiences from the past.) Three weeks after the film was released, the participants were asked if they saw the movie, to rate how it made them feel, and then evaluate the movie overall. Although experiencing the movie as producing less happiness than expected was

You might be wondering about the names and dates in parentheses. They are **research citations** that identify the authors of particular studies and the year each study was published. If you see an especially interesting study, you might look it up in the References and check it out online or in your school's library.

associated with negative evaluations of the film, those who expected it to be bad were least likely to enjoy it. So, high hopes may be less problematic than low ones. Knowing if what we think we know is true requires scientific evidence.

Last, practicing science also means being *objective*. Being objective involves trying to see things as they really are, not just as the observer would like them to be. Scientific knowledge ultimately is based on objective evidence. It also means that sometimes knowledge changes in the face of new evidence. Thinking like a scientist means being open to that new evidence even when it challenges our assumptions.

To gather objective evidence, scientists rely on empirical methods. The **empirical method** involves gaining knowledge by observing events, collecting data, and reasoning logically. For scientists, objectivity means waiting to see what the evidence tells them rather than going with their hunches. Does playing a new smartphone app reduce depression? A scientist would say, "That's an empirical question," meaning that hard evidence is required to answer it. An objective thinker insists on sound evidence before drawing conclusions. Like critical thinking, relying on evidence to provide the foundation for conclusions means being open to uncertainty. Empirical evidence provides the best answers to questions at any given moment.

empirical method Gaining knowledge through the observation of events, the collection of data, and logical reasoning.

This is why researchers often say that a study "supports" a particular prediction, but rarely if ever say that it "proves" anything.

Once you start to think like a psychologist, the world begins to look like a different place. Easy answers and simple assumptions will not do. As you can probably imagine, psychologists, as a group, are people with many different opinions about many different things. If a number of these critical thinkers were to gather around a table, it is a safe bet that they would have a lively conversation.

Indeed, as you will see throughout *Experience Psychology,* there are many things about which psychologists disagree, and psychology, like any science, is filled with debate and controversy. We will address many of these controversies in sections called "Challenge Your Thinking." Each of these boxes will give you a chance to think critically about a topic.

So, debate and controversy are a natural part of thinking like a psychologist. Psychology has advanced as a field because psychologists do not always agree with one another about why mind and behavior work the way they do. Psychologists have reached a more accurate understanding of human behavior because psychology fosters controversies and because psychologists think deeply and reflectively and examine the evidence on all sides. A good place to try out your critical thinking skills is by revisiting the definition of psychology.

Psychology as the Science of All Human Behavior

As you consider the general definition of psychology as the science of human behavior, you might be thinking, okay, where's the couch? Where's the mental illness? Psychology certainly includes the study of therapy and psychological disorders. Clinical psychologists are psychologists who specialize in studying and treating psychological disorders. By definition, though, psychology is a much more general science, practiced in several environments in addition to clinical settings (Figure 1). In fact, some of the common places to find psychologists are school settings. How did we end up with the idea that psychology is only about mental illness? Surely, psychological disorders are very interesting, and the media often portray psychologists as therapists. Yet the view of psychology as the science of what is wrong with people started long before television was even invented.

When they think of psychology, many people think of Sigmund Freud (1856–1939). Freud believed that most of human behavior is caused by dark, even horrific, unconscious impulses pressing for expression. For Freud, even the average person on the street is a mysterious well of unconscious desires. Certainly, Freud has had a lasting impact on psychology and on society. Consider, though, that Freud based his ideas about human nature on the patients he saw in his clinical practice—people who were struggling with psychological problems. His experiences with these patients, as well as his analysis of himself, colored his outlook on all of humanity. Freud

You have probably heard of a "Freudian slip." Freud's name has become part of our everyday language.

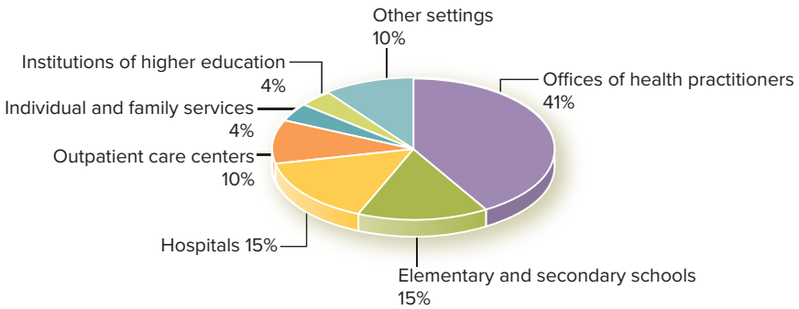
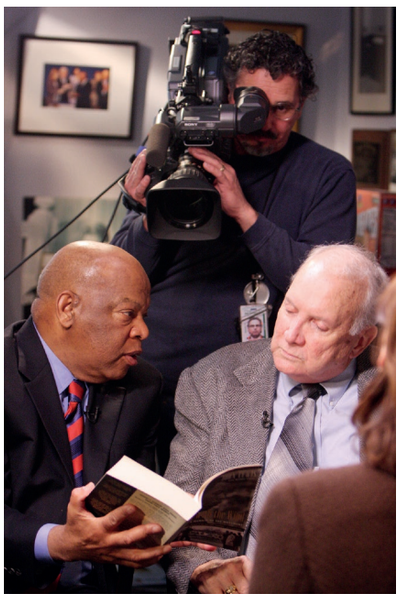


FIGURE 1 Settings in Which Psychologists Work—Projections for 2030
This figure shows the settings where individuals who have PhDs in psychology are projected to be working in 2030. As you can see, many are employed in education and medical contexts.
SOURCE: American Psychological Association. (2018). APA Fact Sheet Series on Psychologist Supply and Demand Projections 2015-2030: Demand by Employment Setting. Washington, DC: Author.

once wrote, "I have found little that is 'good' about human beings on the whole. In my experience most of them are trash" (1918/1996).

Freud's view of human nature has crept into general perceptions of what psychology is all about. Imagine, for example, that you are seated on a plane, having a pleasant conversation with the woman, a stranger, sitting next to you. At some point you ask your seatmate what she does for a living, and she informs you she is a psychologist. You might think to yourself, "Uh oh. What have I already told this person? What secrets does she know about me that I don't know about myself? Has she been analyzing me this whole time?" Would you be surprised to discover that this psychologist studies happiness? Or intelligence? Or the processes related to sight? The study of psychological disorders is a very important aspect of psychology, but it represents only one part of the science of psychology.

Psychology seeks to understand the truths of human life in *all* its dimensions, including people's best and worst experiences, and everything in between. Research on the human capacity for forgiveness demonstrates this point (Balliet & others, 2011; Costa & Neves, 2017; Harper & others, 2014; McCullough & others, 2011, 2013). Forgiveness is the act of letting go of anger and resentment toward someone who has done something harmful to us. Through forgiveness we cease seeking revenge or avoiding the person who did us harm, and we might even wish that person well (Lin & others, 2014; Tuck & Anderson, 2014).



U.S. Representative John Lewis's capacity to forgive Elwin Wilson is one of the remarkable human characteristics that fascinate psychologists. The men made many appearances together, such as this one, to spread a message of hope and healing.
Andy Burris/The Herald/AP Images

In the summer of 2020, the United States lost a civil rights hero when U.S. Representative John Lewis died (Seelye, 2020). Lewis had served 17 terms as a representative of the Atlanta area. As a young man, Lewis was a member of the Freedom Riders, civil rights activists who risked their lives protesting to end racial segregation in the United States. On May 9, 1961, a man beat Lewis to the ground. The representative's only memory of the event was white fists, punching him to the ground. Nearly 50 years later, Elwin Wilson, the man who owned those fists, visited Lewis's office to offer not violence but a sincere apology. "It was wrong for people to be like I was," he said, "but I am not that man anymore" (Dys, 2009). He said he was sorry. Without hesitation, John Lewis replied, "I forgive you. I hold no grudge. Hate is too heavy a burden to bear" (Dys, 2009).

John Lewis was an amazing person. His willingness to forgive a horrible, racist crime is both remarkable and puzzling. Can we scientifically understand the human ability to forgive even what might seem to be unforgivable? A number of psychologists have taken up the topic of forgiveness in research on racism (Brooks & others, 2020) and even genocide (Ordóñez-Carabaño & others, 2020). For John Lewis, his deep religious faith was certainly part of his capacity to embrace forgiveness (Finchman, 2020). Researchers also

have explored the personal strengths and cognitive skills required for forgiveness (Ho & others, 2020; Maier & others, 2019), how others view forgivers (Raj & others, 2020), the benefits of forgiveness for those who forgive (Rasmussen & others, 2019), and even the potential dark side of forgiveness, which might emerge, for example, when forgiveness leads an abusive spouse to feel free to continue a harmful behavior (McNulty, 2020).

Some psychologists think the field has focused too much on the negative aspects of humanity and neglected topics that reflect the best of human life (Hart, 2020; Donaldson & others, 2020; Seligman & Csikszentmihalyi, 2000). Others insist that psychology would benefit more from studying human weaknesses (Lazarus, 2003). The fact is that to be a truly general science of human behavior, psychology must address all sides of human experience. Surely, controversy is a part of any science. Healthy debate characterizes the field of psychology, and a new psychological perspective sometimes arises when one scientist questions the views of another. Such ongoing debate is a sign of a lively discipline. Indeed, the very birth of the field was marked by debate. Great minds do not always think alike, especially when they are thinking about psychology.

Psychology in Historical Perspective

Psychology seeks to answer questions that people have been asking for thousands of years—for example:

- How do we learn?
- What is memory?
- Why does one person grow and flourish while another struggles?

The notion that such questions might be answered through scientific inquiry is relatively new. From the time human language included the word *why* and became rich enough to let people talk about the past, we have been creating myths to explain why things are the way they are. Ancient myths attributed most important events to the pleasure or displeasure of the gods: When a volcano erupted, the gods were angry; if two people fell in love, they had been struck by Cupid's arrows. Gradually, myths gave way to *philosophy*—the rational investigation of the underlying principles of being and knowledge. People attempted to explain events in terms of natural rather than supernatural causes.

Western philosophy came of age in ancient Greece in the fourth and fifth centuries B.C.E. Socrates, Plato, Aristotle, and others debated the nature of thought and behavior, including the possible link between the mind and the body. Later philosophers, especially René Descartes, argued that the mind and body were completely separate, and they focused their attention on the mind. Psychology grew out of this tradition of thinking about the mind and body. The influence of philosophy on contemporary psychology persists today, as researchers who study emotion still talk about Descartes, and scientists who study happiness often refer to Aristotle (Seaborn & others, 2020; Ward & King, 2016).

Wilhelm Wundt (1832–1920)
Wundt founded the first psychology laboratory (with his two coworkers) in 1879 at the University of Leipzig in Germany.
bilwissedition/imageBROKER/REX/Shutterstock

In addition to philosophy, psychology has roots in the natural sciences of biology and physiology (Wertheimer & Puente, 2020). Indeed, it was Wilhelm Wundt (1832–1920), a German philosopher-physician, who put together the pieces of the philosophy–natural science puzzle to create the academic discipline of psychology. Some historians like to say that modern psychology was born in December 1879 at the University of Leipzig, when Wundt and his students (most notably E. B. Titchener) performed an experiment to measure the time lag between the instant a person heard a sound and when that person pressed a telegraph key to signal that he had heard it.

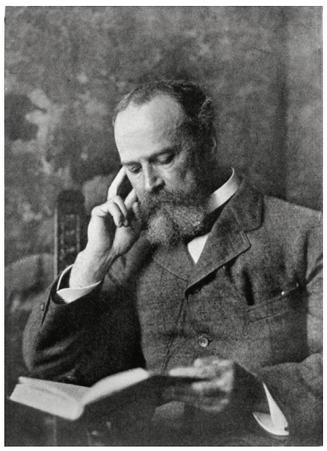
What was so special about this experiment? Wundt's study was about the workings of the brain: He was trying to measure the time it took the human

brain and nervous system to translate information into action. At the heart of this experiment was the idea that mental processes could be measured. This focus ushered in the new science of psychology.

Introspection has its limits. Many behaviors are hard to explain using introspection. Think about talking, for example. You somehow know where you are heading even as the words are tumbling out of your mouth, but you cannot say where those words are coming from.

Wundt and his collaborators concentrated on discovering the basic elements, or "structures," of mental processes. Their approach was called **structuralism** because of its focus on identifying the elemental parts or structures of the human mind. The method they used in the study of mental structures was *introspection,* which literally means "looking inside." You have likely engaged in introspection when you have thought deeply about your feelings or have sought to quietly monitor your own responses to some event. For Wundt's introspection research, a person sat in a laboratory and was asked to think (to introspect) about what was going on mentally as various events took place. For example, the individual might be subjected to a sharp, repetitive clicking sound and then might be asked to report whatever conscious feelings the clicking produced. What made this method scientific was the systematic, detailed self-reports required of the person in the controlled laboratory setting.

structuralism
Wundt's approach to discovering the basic elements, or structures, of mental processes.



William James (1842–1910)
James's approach became known as functionalism.
Historia/REX/Shutterstock

Although Wundt is most often regarded as the founder of modern psychology, it was psychologist and philosopher William James (1842–1910), perhaps more than anyone else, who gave the field an American stamp. From his perspective, the key question for psychology is not so much what the mind is (i.e., its structures) as what it is for (its purpose or function). James's view was eventually named *functionalism*.

Structuralism emphasized the components of the mind. In contrast, **functionalism** probed the functions or purposes of the mind and behavior in the individual's adaptation to the environment. Whereas structuralists were looking inside the mind and searching for its structures, functionalists focused on human interactions with the outside world to understand the purpose of thoughts. If structuralism is about the "what" of the mind, functionalism is about the "why."

functionalism
James's approach to mental processes, emphasizing the functions and purposes of the mind and behavior in the individual's adaptation to the environment.

A central question in functionalism is, why is human thought *adaptive?* When we talk about whether a characteristic is adaptive, we are concerned with how it makes an organism better able to survive. So, the functionalist asks, Why are people better off because they can think than they would be otherwise? Unlike Wundt, James did not believe in the existence of rigid structures of the mind. Instead, James saw the mind as flexible and fluid, characterized by constant change in response to a continuous flow of information from the world. Fittingly, James called the natural flow of thought a "stream of consciousness."

Functionalism fit well with the theory of evolution through natural selection proposed by British naturalist Charles Darwin (1809–1882). In 1859, Darwin published his ideas in *On the Origin of Species*. He proposed the principle of **natural selection,** an evolutionary process in which organisms that are best adapted to their environment will survive and, importantly, produce offspring. Darwin noted that members of any species are often locked in competition for scarce resources such as food. Natural selection is the process by which the environment determines who wins that competition. Darwin said that organisms with biological features that led to survival and reproduction would be better represented in subsequent generations. Over many generations, organisms with these characteristics would constitute a larger percentage of the population. Eventually this process could change an entire species. If environmental conditions changed, however, other characteristics might become favored by natural selection, moving the process in a different direction.

natural selection
Darwin's principle of an evolutionary process in which organisms that are best adapted to their environment will survive and produce offspring.

If you are unfamiliar with Darwin's theory of evolution, it is helpful to consider the simple question, Why do giraffes have long necks? An early explanation might have been that giraffes live in places where the trees are very tall, and so the creatures must stretch their necks to get their food—leaves. Lots of stretching might lead to adult giraffes that have longer necks. This explanation does not tell us, though, why giraffes

It turns out that giraffes don't eat food from tall trees. Instead, they use their long necks to fight!

are *born* with long necks. A characteristic cannot be passed from one generation to the next unless it is recorded in the *genes,* those collections of molecules that are responsible for heredity.

According to evolutionary theory, species change through random genetic mutation. This means that, essentially by accident, some members of a species are born with genetic characteristics that make them different from other members (for instance, some lucky giraffes being born with unusually long necks). If these changes are adaptive (e.g., if they help those giraffes compete for food, survive, and reproduce), they become more common in members of the species. So, presumably long, long ago, some giraffes were genetically predisposed to have longer necks, and some giraffes were genetically predisposed to have shorter necks. Only those with the long necks survived to reproduce, giving us the giraffes we see today. The survival of the giraffes with long necks is a product of natural selection. Evolutionary theory implies that the way we are, at least partially, is the way that is best suited to survival in our environment.

Darwin's theory continues to influence psychologists today because it is strongly supported by observation. We can make such observations every day. Right now, for example, in your kitchen sink, various bacteria are locked in competition for scarce resources in the form of those tempting food particles from your last meal. When you use an antibacterial cleaner, you are playing a role in natural selection, because you are effectively killing off the bacteria that cannot survive the cleaning agents. However, you are also letting the bacteria that are genetically adapted to survive that cleaner take over the sink. The same principle applies to taking an antibiotic medication at the first sign of a sore throat or an earache. By killing off the bacteria that may be causing the illness, you are creating an environment where their competitors (so-called antibiotic-resistant bacteria) may flourish. These observations powerfully demonstrate Darwinian selection in action.

Wundt and James are recognized as the twin founders of psychological science. Everyone who holds a PhD in psychology today can trace their intellectual family tree back to one of these two men. These two founders of psychology are both similar in an important way—they are both white men. Psychology has long struggled to be a truly diverse science. To read about this issue, see the Challenge Your Thinking.

If structuralism won the battle to be the birthplace of psychology, functionalism won the war. To this day, psychologists continue to talk about the adaptive nature of human characteristics. Indeed, from these beginnings, psychologists have branched out to study more aspects of human behavior than Wundt or James might have imagined. We now examine various contemporary approaches to the science of psychology.

self-quiz

1. Which of the following statements is correct?
   A. There are many controversies in the field of psychology.
   B. Psychologists on the whole agree among themselves on most aspects of the field.
   C. Psychologists do not engage in critical thinking.
   D. There are few controversies in the field of psychology.

2. Of the following, the characteristic that is *not* at the heart of the scientific approach is
   A. skepticism.
   B. critical thinking.
   C. prejudging.
   D. curiosity.

3. Charles Darwin's work is relevant to psychology because
   A. Darwin's research demonstrated that there are few differences between humans and animals.
   B. Darwin's principle of natural selection suggests that human behavior is partially a result of efforts to survive.
   C. Darwin stated that humans descended from apes, a principle that allows psychologists to understand human behavior.
   D. Darwin created functionalism.

APPLY IT! 4. Two psychologists, Clayton and Sam, are interested in studying emotional expressions. Clayton wants to determine whether emotional expression is healthy and if it has an influence on well-being. Sam is interested in describing the types of emotions people express and building a catalog of all the emotions and emotional expressions that exist. In this example, Clayton is most like _____ and Sam is most like _____.
   A. Wilhelm Wundt; William James
   B. William James; Wilhelm Wundt
   C. Wilhelm Wundt; Sigmund Freud
   D. Sigmund Freud; Wilhelm Wundt

Challenge YOUR THINKING

Where Is Everybody?

Wundt, James, Darwin—those recognized as the founders of psychology—are not a diverse group. Where are the women? Where are the people of color? Women and people of color faced the barrier of discrimination in seeking to contribute to psychology. Yet, they did contribute. For instance, Mary Whiton Calkins (pictured below) studied with William James at Harvard. She completed all the requirements for a PhD. Harvard University refused to award her the degree because she was a woman. Still, Calkins contributed to the early science of psychology. She wrote four books and over a hundred scholarly articles on memory, dreams, and a person's sense of self. She was the first woman president of the American Psychological Association (APA, 2011).

Racism also prevented many talented people from contributing to psychology in its early days. Charles Henry Turner, who received a PhD in zoology in 1907, is often recognized as the first Black person to conduct psychological research. He was interested in insect behavior and learning, especially the perceptual capacities of honeybees. He published 70 scholarly articles (Abramson, 2009). Sadly, this brilliant scholar was never able to secure a faculty position in a research-oriented university.

Wellesley College Archives, photographer Charles W. Hearn

It was not until 1933 that the first Black American woman received a PhD in psychology. Inez Beverly Prosser was forced to leave her home state of Texas to seek a PhD because of segregation (Benjamin & others, 2005). Although she died just a year after receiving her degree, her legacy remains in the students whose lives she improved and in her existence as a role model for those who came after her.

There has been progress, but even today psychology remains marred by a lack of diversity among the scientists creating knowledge (Eagly, 2020; Roberts & others, 2020), the ideas tested (that largely reflect Western and European conceptions of mind and behavior) (Brennan & Houde, 2017), and the people studied (Henrich & others, 2010). We know less about human behavior because we have not listened to diverse voices and benefited from their contribution.

Psychologists ask complex, difficult questions. That is why it is vital that everyone with something to contribute—regardless of gender, gender identity, race/ethnicity, disability status, or sexual orientation—has a place at the table. Creating a truly representative science of human behavior remains a continuing goal. Consider yourself invited to imagine how you, personally, might change our science. Who knows what the next William James might look like?

What Do You Think?

- When you think of a typical psychologist, what does that person look like?
- Do you think it is especially important for psychology to be a diverse field? Why or why not?

2 Contemporary Approaches to Psychology

In this section we survey seven different approaches—biological, behavioral, psychodynamic, humanistic, cognitive, evolutionary, and sociocultural—that represent the intellectual backdrop of psychological science.

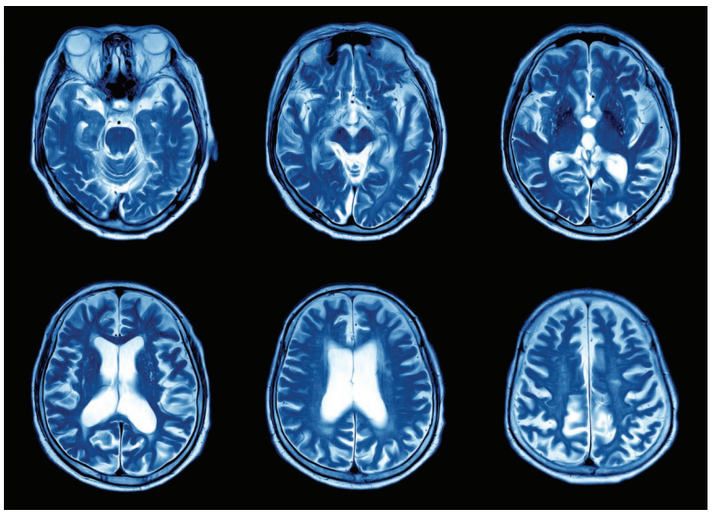
The Biological Approach

biological approach
An approach to psychology focusing on the body, especially the brain and nervous system.

Some psychologists examine behavior and mental processes through the **biological approach,** which is a focus on the body, especially the brain and nervous system. For example, researchers might investigate the way your heart races when you are afraid or how your hands sweat when you tell a lie. Although a number of physiological systems may be involved in thoughts and feelings, perhaps the largest contribution to physiological psychology has come through the emergence of neuroscience.

neuroscience
The scientific study of the structure, function, development, genetics, and biochemistry of the nervous system, emphasizing that the brain and nervous system are central to understanding behavior, thought, and emotion.

Neuroscience is the scientific study of the structure, function, development, genetics, and biochemistry of the nervous system. Neuroscience emphasizes that the brain and



Magnetic resonance imaging allows scientists to get a view of different "slices" of the brain in a living person.
AkeSak/Shutterstock

nervous system are central to understanding behavior, thought, and emotion. Neuroscientists believe that thoughts and emotions have a physical basis in the brain. Electrical impulses zoom throughout the brain's cells, releasing chemical substances that enable us to think, feel, and behave. Our remarkable human capabilities would not be possible without the brain and nervous system, which constitute the most complex, intricate, and elegant system imaginable. Although biological approaches might sometimes seem to reduce complex human experience to simple physical structures, developments in neuroscience have allowed psychologists to understand the brain as an amazingly complex organ, perhaps just as complex as the psychological processes linked to its functioning.

The Behavioral Approach

The **behavioral approach** emphasizes the scientific study of observable behavioral responses and their environmental determinants. It focuses on an organism's visible behaviors, not thoughts or feelings. The psychologists who adopt this approach are called *behaviorists*. Under the intellectual leadership of John B. Watson (1878–1958) and B. F. Skinner (1904–1990), behaviorism dominated psychological research during the first half of the twentieth century.

behavioral approach An approach to psychology emphasizing the scientific study of observable behavioral responses and their environmental determinants.

Skinner (1938) emphasized that psychology should be about what people do—their actions and behaviors—and should not concern itself with things that cannot be seen, such as thoughts, feelings, and goals. He believed that rewards and punishments determine our behavior. For example, a child might behave in a well-mannered fashion because her parents have rewarded this behavior. We do the things we do, say behaviorists, because of the environmental conditions we have experienced and continue to experience.

Contemporary behaviorists still emphasize the importance of observing behavior to understand an individual, and they use rigorous methods advocated by Watson and Skinner. They also continue to stress the importance of environmental determinants of behavior. However, not every behaviorist today accepts the earlier behaviorists' rejection of thought processes, which are often called *cognition*.

Sigmund Freud (1856–1939) *Freud was the founder of the psychodynamic approach.*
Bettmann/Getty Images

The Psychodynamic Approach

The **psychodynamic approach** emphasizes unconscious thought, the conflict between biological drives, such as the drive for sex, and society's demands, and early childhood family experiences. Practitioners of this approach believe that sexual and aggressive impulses buried deep within the unconscious mind influence the way people think, feel, and behave.

psychodynamic approach An approach to psychology emphasizing unconscious thought, the conflict between biological drives (such as the drive for sex) and society's demands, and early childhood family experiences.

Sigmund Freud, the founder of the psychodynamic approach, theorized that early relationships with parents shape an individual's personality. Freud's theory (1917) was the basis for the therapeutic technique that he called *psychoanalysis,* which involves an analyst's unlocking a person's

unconscious conflicts by talking with the individual about childhood memories, dreams, thoughts, and feelings. Certainly, Freud's views have been controversial, but they remain a part of contemporary psychology. Today's psychodynamic theories tend to place less emphasis on sexual drives and more on cultural or social experiences as determinants of behavior (Eagle, 2020; Hogan & Sherman, 2020; Lane, 2020).

According to humanistic psychologists, warm, supportive behavior toward others helps us to realize our tremendous capacity for self-understanding.
Blend Images/Alamy Stock Photo

The Humanistic Approach

humanistic approach
An approach to psychology emphasizing a person's positive qualities, the capacity for positive growth, and the freedom to choose any destiny.

The **humanistic approach** emphasizes a person's positive qualities, the capacity for positive growth, and the freedom to choose one's destiny. Humanistic psychologists stress that people have the ability to control their lives and are not simply controlled by the environment (Maslow, 1971; Rogers, 1961). They theorize that rather than being driven by unconscious impulses (as the psychodynamic approach dictates) or by external rewards (as the behavioral approach emphasizes), people can choose to live by higher human values such as *altruism* (an unselfish concern for another person's well-being) and free will. Many aspects of this optimistic approach appear in research on motivation, emotion, and personality psychology (Lynch & Sheldon, 2020; Pritchard & others, 2020; Sheldon & others, 2020).

The Cognitive Approach

cognitive approach
An approach to psychology emphasizing the mental processes involved in knowing: how we direct our attention, perceive, remember, think, and solve problems.

According to cognitive psychologists, your brain houses a "mind" whose mental processes allow you to remember, make decisions, plan, set goals, and be creative. The **cognitive approach,** then, emphasizes the mental processes involved in knowing: how we direct our attention, perceive, remember, think, and solve problems. For example, cognitive psychologists want to know how we solve math problems, why we remember some things for only a short time but others for a lifetime, and how we can use our imaginations to plan for the future.

Cognitive psychologists view the mind as an active and aware problem-solving system. This view contrasts with the behavioral outlook, which portrays behavior as controlled by external environmental forces. From the cognitive perspective, an individual's mental processes are in control of behavior through memories, perceptions, images, and thinking.

The Evolutionary Approach

evolutionary approach
An approach to psychology centered on evolutionary ideas such as adaptation, reproduction, and natural selection as the basis for explaining specific human behaviors.

Although arguably much of psychology emerges out of evolutionary theory, some psychologists emphasize an **evolutionary approach** that uses evolutionary ideas such as adaptation, reproduction, and natural selection as the basis for explaining specific human behaviors. Evolutionary psychologists argue that just as evolution molds our physical features, such as body shape, it also influences our decision making, level of aggressiveness, fears, and mating patterns (Buss & others, 2020). Thus, evolutionary psychologists say, the way we are is traceable to problems early humans faced in adapting to their environments (Cosmides, 2011).

Evolutionary psychologists believe that their approach provides an umbrella that unifies the diverse fields of psychology. Not all psychologists agree with this conclusion, however. For example, some critics stress that the evolutionary approach provides an inaccurate explanation of gender and social roles, and it does not adequately account for cultural diversity and experiences (Eagly & Wood, 2013). Yet keep in mind that even psychologists who disagree with the application of the evolutionary approach to psychological characteristics still agree with the general principles of evolutionary theory.

Human beings originally evolved long ago in a very different environment than we occupy today. The survivors were those who were most able to endure extremely difficult circumstances, struggling to find food, avoid predators, and create social groups. What do you think were the most adaptive traits for these early people? To what specific environments are humans adapting even now?

The Sociocultural Approach

The **sociocultural approach** examines the influences of social and cultural environments on behavior. Socioculturalists argue that understanding a person's behavior requires knowing about the cultural context in which the behavior occurs. (*Culture* refers to the shared knowledge, practices, and attitudes of groups of people and can include language, customs, and beliefs about what behavior is appropriate and inappropriate.) The sociocultural approach often includes *cross-cultural* research, meaning research that compares individuals in various cultures to see how they differ on important psychological attributes. Cross-cultural research is important for testing the assumption that findings for one culture also generalize to other cultural contexts, and as such it allows psychologists to test for the possibility that some characteristics are universal.

sociocultural approach An approach to psychology that examines the ways in which social and cultural environments influence behavior.

The sociocultural approach focuses not only on comparisons of behavior across countries but also on the behavior of individuals from different ethnic and cultural groups within a country. In light of rising cultural diversity in the United States in recent years, there has been increasing interest in understanding the behavior of African Americans, Latinos, and Asian Americans, especially in terms of the factors that have restricted or enhanced their ability to adapt and cope with living in a predominantly non-Latino white society.

Summing Up the Seven Contemporary Approaches

These seven approaches to studying psychology provide different views of behavior, and therefore each may contribute uniquely valuable insights. Think about the simple experience of sleeping, something we all do. Scientists from the biological approach might probe the brain processes that help us fall asleep, stay asleep, and wake up. Behaviorists might be interested in how rewards and punishers in our environment promote sleep or wakefulness. Psychodynamic thinkers might be most interested in our dreams during sleep and what they reveal about unconscious desires. Humanistic psychologists might study the role of sleep in self-care and how we can create a world that allows people to get enough sleep. The cognitive approach might examine the role that sleep plays in memory consolidation. Evolutionary psychologists might seek to explain the function of sleep and why it is better for members of our species to sleep when and how they do. Finally, the sociocultural approach might probe cultural customs around sleep, such as whether a child sleeps alone or with others in a "family bed."

Although these approaches differ from each other, they all fit under the umbrella of the **biopsychosocial approach**. From this perspective, behavior is influenced by biological factors (such as genes), psychological factors (such as childhood experiences, learning histories, thoughts, and emotions), and sociocultural factors (such as gender, ethnicity, or socioeconomic status). Taking a biopsychosocial approach means acknowledging that all of these factors can combine and influence one another and behavior. From the biopsychosocial perspective, biological, psychological, and social factors are all significant ingredients in producing behavior.

biopsychosocial approach A perspective on human behavior that asserts that biological, psychological, and social factors are all significant ingredients in producing behavior. All of these levels are important to understanding human behavior.

These broad approaches are reflected in the variety of specialties within which psychologists work (Figure 2). Many of these specialties are represented by chapters in *Experience Psychology*. As you read, keep in mind that psychology is a science in which psychologists work together collaboratively to examine a wide range of research questions. Indeed, many times scholars from different specialties within psychology join forces to understand some aspect of human behavior. It is the purpose of the "Intersection" feature to review research that represents a collaboration among scientists from different specialties to answer the same question.

Specialization	Focus of Specialists
Behavioral Neuroscience	Behavioral neuroscience focuses on biological processes, especially the brain's role in behavior.
Sensation and Perception	Sensation and perception researchers focus on the physical systems and psychological processes of vision, hearing, touch, and smell that allow us to experience the world.
Learning	Learning specialists study the complex process by which behavior changes to adapt to shifting circumstances.
Cognitive	Cognitive psychology examines attention, consciousness, information processing, and memory. Cognitive psychologists are also interested in cognitive skills and abilities such as problem solving, decision making, expertise, and intelligence.
Developmental	Developmental psychology examines how people become who they are, from conception to death, concentrating on biological and environmental factors.
Motivation and Emotion	Researchers from a variety of specializations are interested in these two aspects of experience. Motivation researchers examine questions such as how individuals attain difficult goals. Emotion researchers study the physiological and brain processes that underlie emotional experience, the role of emotional expression in health, and the possibility that emotions are universal.
Personality	Personality psychology focuses on the relatively enduring characteristics of individuals, including traits, goals, motives, genetics, and personality development.
Social	Social psychology studies how social contexts influence perceptions, social cognition, and attitudes. Social psychologists study how groups influence attitudes and behavior.
Clinical and Counseling	Clinical and counseling psychology, the most widely practiced specialization, involves diagnosing and treating people with psychological problems.
Health	Health psychology emphasizes psychological factors, lifestyle, and behavior that influence physical health.
Industrial and Organizational (I/O)	I/O psychology applies findings in all areas of psychology to the workplace.
Community	Community psychology is concerned with providing accessible care for people with psychological problems. Community-based mental health centers are one means of delivering such services as outreach programs.
School and Educational	School and educational psychology centrally concerns children's learning and adjustment in school. School psychologists in elementary and secondary school systems test children, make recommendations about educational placement, and work on educational planning teams.
Environmental	Environmental psychologists explore the effects of physical settings in most major areas of psychology, including perception, cognition, and learning, among others. An environmental psychologist might study how different room arrangements influence behavior or what strategies might be used to reduce human behavior that harms the environment.
Psychology of Women	Psychology of women stresses the importance of integrating information about women with current psychological knowledge and applying that information to society and its institutions.
Forensic	Forensic psychology applies psychology to the legal system. Forensic psychologists might help with jury selection or provide expert testimony in trials.
Sport	Sport psychology applies psychology to improving sport performance and enjoyment of sport participation.
Cross-Cultural	Cross-cultural psychology studies culture's role in understanding behavior, thought, and emotion, with a special interest in whether psychological phenomena are universal or culture specific.

FIGURE 2 **Areas of Specialization in Psychology** Psychology has many overlapping subfields.

self-quiz

1. The approach to psychology that is most interested in early childhood relationships is
   A. evolutionary psychology.
   B. cognitive psychology.
   C. psychodynamic psychology.
   D. behavioral psychology.
2. The approach to psychology that views psychological distress as a result of persistent negative thoughts is
   A. the humanistic approach.
   B. the behavioral approach.
   C. the sociocultural approach.
   D. the cognitive approach.
3. The approach to psychology that focuses on self-fulfillment, altruism, and personal growth is
   A. the cognitive approach.
   B. the behavioral approach.
   C. the psychodynamic approach.
   D. the humanistic approach.

APPLY IT! 4. In 2007 a father posted a video clip of his young sons on YouTube. Widely known as "Charlie Bit My Finger," the clip, which quickly went viral, shows a British baby laughing hysterically as he bites his crying brother's finger. The clip is still one of the most popular videos on YouTube. If you haven't seen it, take a look: www.youtube.com/watch?v=_OBlgSz8sSM. What explains the clip's enduring appeal? Each of the contemporary approaches we have reviewed might offer an explanation. Which of the following is most like what a *psychodynamic* thinker might say?

A. Human beings have been *rewarded* for watching children bite each other.
B. Adorable children are *universally* loved.
C. Human beings have an *unconscious* desire to harm their siblings, which is disguised by the humor of the clip.
D. This clip demonstrates that cuteness is an important *adaptation*. Cute kids are more likely to survive and reproduce.

3 Psychology's Scientific Method

Science is not defined by *what* it investigates, but by *how* it investigates. Whether you study photosynthesis, butterflies, Saturn's moons, or happiness, the *way* you study your question of interest determines whether your approach is scientific. The scientific method is how psychologists gain knowledge about mind and behavior. A key theme in the scientific method is that knowledge comes from empirical research.

It is the use of the scientific method that makes psychology a science. Indeed, most of the studies psychologists publish in research journals follow the scientific method, which may be summarized in these five steps (Figure 3):

1. Observing some phenomenon
2. Formulating hypotheses and predictions
3. Testing through empirical research
4. Drawing conclusions
5. Evaluating conclusions

1. OBSERVING SOME PHENOMENON

The first step in conducting a scientific inquiry involves observing some phenomenon in the world. The critical thinking, curious psychologist sees something and wants to know why or how it is the way it is. Inspiration for scientific inquiry can come from contemporary social problems, current events, personal experiences, and more. The phenomena that scientists study are called variables, a word related to the verb *to vary*. A **variable** is anything that can change.

variable
Anything that can change.

For example, one variable that interests psychologists is happiness. Some people seem to be happier than others. What might account for these differences? As scientists consider answers to such questions, they often develop theories. A **theory** is a broad idea or set of closely related ideas that attempts to explain observations. Theories seek to explain why certain things are as they are or why they have happened. Theories can be used to make predictions about future observations. For instance, some psychologists theorize that the most important human need is the need to belong to a social group (Leary, 2020; Hudson & others, 2020). This theory would seek to explain human

theory
A broad idea or set of closely related ideas that attempts to explain observations and to make predictions about future observations.

PSYCHOLOGICAL INQUIRY

1
Observing Some Phenomenon

We feel good when we give someone a gift. However, do we genuinely feel better giving something away than we might feel if we could keep it? Elizabeth Dunn, Lara Aknin, and Michael Norton (2008) decided to test this question.

2
Formulating Hypotheses and Predictions

These researchers hypothesized that spending money on other people would lead to greater happiness than spending money on oneself.

3
Testing Through Empirical Research

In an experiment designed to examine this prediction, the researchers randomly assigned undergraduate participants to receive money ($5 or $20) that they had to spend either on themselves or on someone else by 5 P.M. that day. Those who spent the money on *someone else* reported greater happiness that night.

4
Drawing Conclusions

The experiment supported the hypothesis that spending money on others can be a strong predictor of happiness. Money might not buy happiness, the researchers concluded, but spending money in a particular way, that is, on other people, may enhance happiness.

5
Evaluating Conclusions

The experimental results were published in the prestigious journal *Science*. Now that the findings are public, other researchers might investigate related topics and questions inspired by this work, and their experiments might shed further light on the original conclusions.

FIGURE 3 Steps in the Scientific Method: Is It Better to Give Than to Receive? This figure shows how the steps in the scientific method were applied in a research experiment examining how spending money on ourselves or others can influence happiness (Dunn, Aknin, & Norton, 2008). The researchers theorized that although money does not typically buy happiness, the way we spend it might well predict happy feelings.

(Gift): Stockbyte/Getty Images; (Multiple faces): Flashpop/Getty Images; (Woman with money): JUPITERIMAGES/Brand X/Alamy Stock Photo

> For each step in the process, what decisions did the researchers make, and how did those decisions influence the research? > Are the findings counterintuitive or not? > This study was inspired by the saying, "It is better to give than to receive." Does the study do a good job of evaluating that cliché? How else might a researcher have addressed this question?

behaviors through the need to belong, and scientists might expect that when our need to belong is not met we should be especially distressed. For instance, a recent study showed that those whose belongingness needs were not met during the COVID-19 pandemic were at higher risk of suicide. Compared to concerns about job loss, thwarted belongingness was a stronger predictor of suicide risk (Gratz & others, 2020).

A scientist must be able to anticipate being wrong and remain open to that possibility.

A key characteristic of a scientific theory is that it must be *falsifiable,* meaning that even a scientist who believes that a theory is true must be able to generate ideas about research that would prove the theory wrong and test those ideas. This is what separates scientific theories from beliefs and opinions.

2. FORMULATING HYPOTHESES AND PREDICTIONS

hypothesis
A testable prediction that derives logically from a theory.

The second step in the scientific method is stating a hypothesis. A **hypothesis** is a testable prediction that derives logically from a theory. A theory can generate many hypotheses. If more and more hypotheses related to a theory turn out to be true, the theory gains in credibility. So, a researcher who believes that social belonging is the most important aspect of human functioning might predict that people who belong to social groups will be happier than

others, or might hypothesize that individuals who are excluded by a social group will be more aggressive. Each of these hypotheses would lead to specific predictions within a particular empirical study.

3. TESTING THROUGH EMPIRICAL RESEARCH

The next step in the scientific method is to test the hypotheses by conducting empirical research (i.e., by collecting and analyzing data). At this point, it is time for the researcher to design a study that will test predictions. We will review the specifics of various research methods for testing predictions later in this chapter. Whatever the method used to test a prediction, the first thing a researcher needs in order to conduct a study is a concrete way to measure the variables of interest.

An **operational definition** provides an objective description of how a variable is going to be measured and observed in a particular study. Such a definition eliminates the fuzziness that might creep into thinking about a problem. Imagine, for example, that your psychology class is asked to observe a group of children and to keep track of kind behaviors. Do you think that everyone will define "kind behaviors" in the same way? An operational definition allows the class to be sure that everyone agrees on what a variable means. To measure personal happiness, for example, prominent psychologist Ed Diener and his students (Diener & others, 1985) devised a self-report questionnaire that measures how satisfied a person is with life, called the Satisfaction with Life Scale. You will get a chance to complete the questionnaire later in this chapter. Scores on this scale are then used as measures of happiness. Research using this scale and others like it has shown that certain specific factors are strongly related to being happy: marriage, religious faith, purpose in life, and good health (Jebb & others, 2020; Tay & others, 2013).

operational definition
A definition that provides an objective description of how a variable is going to be measured and observed in a particular study.

Try operationally defining the following variables: generosity, love, aggression, liberal, conservative, exhaustion, stress, attractiveness. What are some things that you find interesting that you think a psychologist should study? How might you operationally define these variables?

Importantly, there is not just one operational definition for any variable. For example, in a study that examined happiness as a predictor of important life outcomes, Harker and Keltner (2001) looked at the yearbook pictures of college women who had graduated three decades earlier. They coded the pictures for the appearance of *Duchenne smiling*—that is, genuine smiling, the kind that creates little wrinkles around the outer corner of the eyes. Duchenne smiling has been shown to be a sign of genuine happiness. (If you want to see whether someone in a photograph is smiling genuinely, cover the bottom of the person's face. Can you still tell that the person is smiling? A genuine smile can be seen in the eyes, not just the mouth.) So, while Diener and colleagues operationally defined happiness as a score on a questionnaire, Harker and Keltner operationally defined happiness as Duchenne smiling. Harker and Keltner found that happiness, as displayed in these yearbook pictures, predicted positive life outcomes, such as successful marriages and satisfying lives, some 30 years later. Other research has used smiling in photos as a predictor of life outcomes, including success in science (Kaczmarek & others, 2018) and preventive health behaviors (Cross & Pressman, 2018).

Researchers have identified Duchenne smiling (notice the wrinkles) as a sign of genuine happiness.
Maridav/123RF

Coming up with operational definitions for the variables in a study is a crucial step in designing psychological research. To study anything, we must have a way to see it or measure it. Clearly, to devise an operational definition for any variable, we first must agree on what it is that we are trying to measure. If we think of happiness as something that people know about themselves, then a questionnaire score might be a good operational definition of the variable. If we think that people might not be aware of how happy they are (or are not), then facial expression might be a better operational definition. In other words, our conceptual definition of a variable must be set out

clearly before we operationally define it. An operational definition is how a variable is defined in a particular study. Whether that operational definition fully captures the variable of interest outside the study may be an important matter of debate.

Because operational definitions allow researchers to measure variables, they have a lot of numbers to deal with once they have conducted a study. A key aspect of the process of testing hypotheses is *data analysis*. *Data* refers to all the information (all those numbers) researchers collect in a study—say, the questionnaire scores or the behaviors observed. Data analysis means "crunching" those numbers mathematically to see if they support predictions. In other words, data analysis involves applying mathematical procedures to understand what the numerical information means (Carlson & Winquist, 2018). Many psychology students are surprised to learn that much of psychologists' work relies heavily on sophisticated *statistics,* numbers that help them describe what the data have to tell them.

Let's pause and examine an example that demonstrates the first three steps in the scientific method. One theory of motivation is *self-determination theory* (Ryan & Deci, 2011, 2020). This theory states that people are likely to feel fulfilled when their lives meet three important needs: relatedness (warm relations with others), autonomy (independence), and competence (mastering new skills).

One hypothesis that follows logically from this theory is that people who value money, material possessions, prestige, and physical appearance (i.e., extrinsic rewards) over the needs of relatedness, autonomy, and competence (i.e., intrinsic rewards) should be less fulfilled, less happy, and less well adjusted. In a series of studies entitled, "The Dark Side of the American Dream," researchers Kasser and Ryan asked participants to complete self-report measures of values and of psychological and physical functioning (Kasser & Ryan, 1993, 1996; Kasser & others, 2004). Thus, the operational definitions of values and psychological functioning were questionnaire scores. The researchers found that individuals who value material rewards over intrinsic rewards do indeed tend to suffer as predicted, and similar findings have emerged in nations throughout the world (Dittmar & others, 2014).

4. DRAWING CONCLUSIONS

Based on the results of the data analyses, scientists then draw conclusions from their research. If the results of a study (or a series of studies) support predictions, then a theory may gain credibility. A theory, however, is always open to revision. Before a theory is accepted or changed, the scientific community must establish that the research can be replicated, or repeated, by other scientists using different methods. **Replication** means that one scientist tries to reproduce a study to get the same result. The replicator can be the same scientist who originally produced the results or a different scientist altogether. If a particular research finding is demonstrated again and again across different researchers and different methods, it is considered *reliable*—in other words, it is a dependable result. Whether the results of psychological experiments are typically replicable has been a recent issue in the field and one that we will return to later in this chapter.

replication
The process in which a scientist attempts to reproduce a study to see if the same results emerge.

5. EVALUATING CONCLUSIONS

The final step in the scientific method, evaluating conclusions, is one that never ends. Researchers submit their work for publication, and it undergoes rigorous review. Afterward, the published studies are there for all to see, read, and evaluate continually.

Although the published research literature represents the current state of scientific knowledge about various topics and areas, the research community maintains an active conversation about this knowledge and constantly questions conclusions. Inspired by published studies, a scientist might come up with a new idea to be tested, one that will eventually change the thinking on some topic. Steps 3, 4, and 5 in the scientific method are thus part of an ongoing process. That is, researchers go back and do more research, revise their theories, hone their methods, and draw and evaluate their new conclusions.

Because scientists are skeptical and critical thinkers, published studies often lead to alternative theories and hypotheses that are themselves tested.

self-quiz

1. Any changeable phenomenon that a scientist studies is called a
   A. differential.
   B. predictor.
   C. variation.
   D. variable.
2. The statement, "I believe this research will demonstrate that students who study in groups will get better grades than those who study alone" is an example of
   A. a theory.
   B. an observation.
   C. a conclusion.
   D. a hypothesis.
3. The last step in the scientific method, and one that never ends, is
   A. drawing conclusions.
   B. evaluating conclusions.
   C. testing through empirical research.
   D. running a statistical analysis.

APPLY IT! 4. Paul believes that physically attractive people are selfish. He conducts a study to see if he is right. He goes up to five people he thinks are good-looking and asks them for spare change. They all turn him down. Paul concludes, "Aha! I knew it all along." The operational definition of selfish in Paul's study is
   A. physical attractiveness.
   B. whether people gave Paul spare change.
   C. whether Paul thought the person was attractive.
   D. asking for spare change.

BONUS: As you practice thinking like a scientist and learn about research design, give further thought to Paul's study. Can you spot at least four big problems with it?

4 Types of Psychological Research

The five steps of the scientific method are reflected differently in three types of research commonly used in psychology. *Descriptive research* involves finding out about the basic dimensions of some variable (e.g., What is the average level of happiness of people in the United States?). *Correlational research* is interested in discovering relationships between variables (e.g., Are married people happier than single people?). *Experimental research* concerns establishing causal relationships between variables (e.g., If people smile, are they perceived as more attractive?). Let's examine each of these types of research.

Descriptive Research

Just as its name suggests, descriptive research is about describing some phenomenon—determining its basic dimensions and defining what this thing is, how often it occurs, and so on. By itself, descriptive research cannot prove what causes some phenomenon, but it can reveal important information about people's behaviors and attitudes. Descriptive research methods include observation, surveys and interviews, and case studies.

Public opinion polls are a type of descriptive research.

OBSERVATION

Imagine that you are going to conduct a study on how children who are playing a game resolve conflicts that arise during the game. The data that are of interest to you concern conflict resolution. As a first step, you might go to a playground and simply observe what the children do (i.e., how often you see conflict resolution occur and how it unfolds). You would likely keep careful notes of what you observe.

This type of scientific observation requires an important set of skills. Unless you are a trained observer and practice your skills regularly, you might not know what to look for, you might not remember what you saw, you might not realize that what you are looking for is changing from one moment to the next, and you might not communicate your observations effectively. Furthermore, it might be important to have one or more others do the observations as well, to develop a sense of how accurate your observations are. For observations to be effective, they must be systematic. You must know whom you are observing, when and where you will observe, and how you will make the observations. Also, you need to know in advance in what form you will document them: in writing, by sound recording, or by video.

SURVEYS AND INTERVIEWS

Sometimes the best and quickest way to get information about people is to ask them for it. One technique is to interview them directly. A related method that is especially useful when information from many people is needed is the *survey,* or questionnaire. A survey presents a standard set of questions, or *items,* to obtain people's self-reported attitudes or beliefs about a particular topic.

Although surveys can be a straightforward way to measure psychological variables, constructing them requires care. For example, surveys can measure only what people think about themselves. Thus, if we are interested in studying a variable that we think is unconscious, like a psychodynamic drive, we cannot use a survey. Furthermore, people do not always know the truth about themselves. If you were answering a survey that asked, "Are you a generous person?" how might your answer compare to that of a friend who is asked to make that same rating about you? One particular problem with surveys and interviews is the tendency of participants to answer questions in a way that will make them look good rather than in a way that communicates what they truly think or feel. Another challenge in survey construction is that when questionnaires are used to operationally define variables, it is crucial that the items precisely probe the specific topic of interest and not some other characteristic. The language used in surveys therefore must be clear and understandable if the responses are to reflect the participants' actual feelings.

Surveys and interviews can cover a wide range of topics, from religious beliefs to sexual habits to attitudes about gun control. Some survey and interview questions are unstructured and open-ended, such as "How fulfilling would you say your marriage is?" Such questions allow for unique responses from each person surveyed. Other survey and interview questions are more structured and ask about quite specific things. For example, a structured question might ask, "How many days have you talked with your partner about a personal problem in the past month: 0, 1–2, 3–5, 6–10, 11–30, every day?"

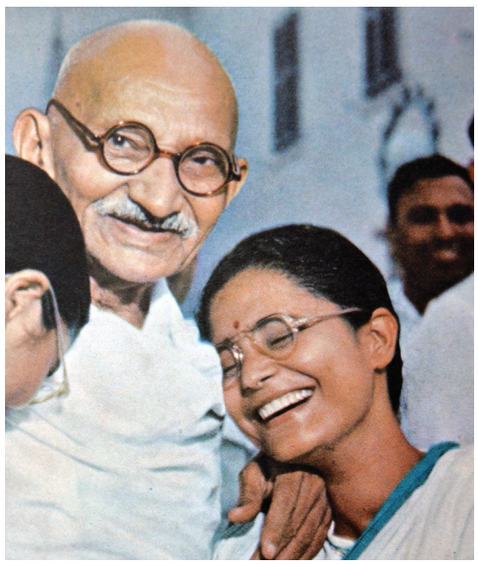
case study or case history
An in-depth look at a single individual.

CASE STUDIES

A **case study** or **case history** is an in-depth look at a single individual. Case studies are performed mainly by clinical psychologists when, for either practical or ethical reasons, the unique aspects of an individual's life cannot be duplicated and tested in other individuals. A case study provides information about one person's goals, hopes, fantasies, fears, traumatic experiences, family relationships, health, or anything else that helps the psychologist understand the person's mind and behavior. Case studies can also involve in-depth explorations of particular families or social groups.

An example of a case study is the analysis of India's spiritual leader Mahatma Gandhi (1869–1948) by psychodynamic theorist Erik Erikson (1969). Erikson studied Gandhi's life in great depth to discover insights into how his positive spiritual identity developed, especially during his youth. In piecing together Gandhi's identity development, Erikson described the contributions of culture, history, family, and various other factors that might affect the way other people form an identity.

Case histories provide dramatic, detailed portrayals of people's lives, but researchers must be cautious about applying what they learn from one person's life to other people. The subject of a case study has a unique genetic makeup and personal history that no one else shares. Case studies nevertheless can be very valuable at the first step of the scientific method, in that they often provide vivid observations that can then be tested in a variety of ways in psychological research.



Mahatma Gandhi was the spiritual leader of India in the middle of the twentieth century. Erik Erikson conducted an extensive case study of his life to determine what contributed to his identity development.
Universal History Archive/UIG/REX/Shutterstock

THE VALUE OF DESCRIPTIVE RESEARCH

Descriptive research allows researchers to get a sense of something but cannot answer questions about how and why things are the way they are. Such research can nonetheless be intriguing, such as descriptive

research on the experience of happiness in different cultures. Before reading about that research, complete the measure below. Using the 7-point scale, indicate your agreement with each item that follows.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Agree	Strongly Agree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

You have just completed the Satisfaction with Life Scale (or SWLS; Diener & others, 1985), one operational definition of happiness. To find out your score, add up your ratings and divide by 5. This average rating could be considered your level of general happiness. A broad range of studies in many different countries have used this scale and others like it to measure happiness levels. Based on such research, Diener and Diener (1996) concluded that most people are quite happy because they score above the midpoint, 4, on the scale you just completed. However, research on happiness in various cultures has generally centered on relatively industrialized countries. What about nonindustrialized cultures?

One study examined levels of happiness in groups of people who have not generally been included in psychological studies (Biswas-Diener & others, 2005). The research included three groups: the Inuits of Greenland, the Maasai of southern Kenya, and American Old Order Amish. All three groups completed measures essentially the same as the one you just did.

The Inuit group studied—the *Inughuits*—live at 79 degrees latitude (very far north), in the harshest climate inhabited by a traditional human society. The landscape consists of rocks, glaciers, and the sea. Farming is impossible. The Inughuits have some modern conveniences, but they generally adhere to a traditional hunting culture. It is not uncommon to find an Inughuit hunter carving a seal or caribou on the kitchen floor while children watch TV in the next room. Most of us might feel a little blue in the winter months when gloomy weather stretches on day after day. For the Inughuits, however, the sun never rises throughout the winter months, and in the summer it never sets. How happy could an individual be in such a difficult setting? Pretty happy, it turns out, as the Inughuits averaged a 5.0 on the SWLS.

The Maasai are an indigenous (native) African nomadic group who live in villages of about 20 people, with little exposure to the West. The Maasai are fierce warriors, and their culture has many traditional ceremonies built around a boy's passage from childhood to manhood. Boys are circumcised between the ages of 15 and 22, and they are forbidden from moving or making a sound during the procedure. Girls also experience circumcision as they enter puberty, a controversial ritual involving removal of the clitoris and other genital cutting, which can cause childbirth complications and other health problems. The Maasai practice child marriage and polygamy. Maasai women have very little power and are generally expected to do most of the work. How happy could an individual be in this context? Maasai men and women who completed the measure orally in their native tongue, averaged a 5.4 on the SWLS (Biswas-Diener & others, 2005).

Notice that these first two studies involve examining two different cultures, while the last one focuses on a culture within a culture. These studies exemplify the sociocultural approach.

How does your score compare with the score of the Inughuits, the Maasai, and the Old Order Amish? Is the Satisfaction with Life Scale a good measure of happiness? Why or why not?

Finally, the Old Order Amish of the midwestern and northeastern United States belong to a strict religious sect that explicitly rejects modern aspects of life. The Amish separate themselves from mainstream society and travel by horse and buggy. The women wear bonnets, and the men sport beards, dark clothes, and dark brimmed hats. The Amish farm without modern machinery and dedicate their lives to simplicity—without radios, TVs, CDs, DVDs, iPods,

smartphones, washing machines, and cars. Still, the Amish are relatively happy, averaging 4.4 on the 7-point happiness scale (Biswas-Diener & others, 2005).

Like a host of other studies in industrialized nations, these results indicate that most individuals are pretty happy. Such descriptive findings provide researchers on well-being a foundation for further examining the processes that lead to feelings of happiness in different cultural settings. If a researcher wanted to examine, for example, what predicts happiness within these different groups, they would use a correlational design.

Correlational Research

correlational research
Research that examines the relationships between variables, whose purpose is to examine whether and how two variables change together.

We have seen that descriptive research tells us about the basic dimensions of a variable. In contrast, **correlational research** tells us about the relationships between variables, and its purpose is to examine whether and how two variables *change together*. That is, correlational research looks at a co-relationship. For instance, if one of the variables increases, what happens to the other one? When two variables change together, we can predict one from the other, and we say that the variables are correlated.

Correlational research is so named because of the statistical technique, *correlation,* that is typically used to analyze this type of data. The key feature of a correlational study is that the variables of interest are measured or observed to see how they relate. If we wanted to know whether shy people are happy, we might give the same people two questionnaires, one that measures shyness and another that measures happiness. For each person we would have two scores, and we would then see whether shyness and happiness relate to each other in a systematic way.

The degree of relationship between two variables is expressed as a numerical value called a *correlational coefficient,* which is most commonly represented by the letter *r*. The correlation coefficient is a statistic that tells us two things about the relationship between two variables—its strength and its direction. The value of a correlation always falls between −1.00 and +1.00. The number or magnitude of the correlation tells us about the *strength* of the relationship. The closer the number is to ±1.00, the stronger the relationship. The sign (+ or −) tells us about the *direction* of the relationship between the variables. A positive sign means that as one variable increases, the other also increases, or as one decreases the other does as well. When variables are positively correlated, they change in the same direction. A negative sign means that as one variable increases, the other decreases. Negatively correlated variables change together but do so in the opposite direction. A zero correlation means that there is no systematic relationship between the variables. Examples of *scatter plots* (a type of graph that plots scores on the two variables) showing positive and negative correlations appear in Figure 4. Note that every dot in this figure represents both scores for one person.

CORRELATION IS *NOT* CAUSATION

Look at the terms in bold type in the following news headlines:

Researchers **Link** Coffee Consumption to Happiness

Scientists Find **Connection** Between Ear Hair and Heart Attacks

Psychologists Discover **Relationship** Between Marital Status and Health

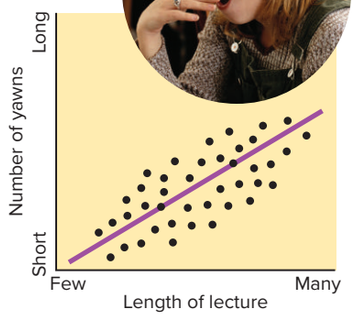
third variable problem
The circumstance where a variable that has not been measured accounts for the relationship between two other variables. Third variables are also known as *confounds*.

From these headlines a reader might conclude that coffee causes happiness, ear hair causes heart attacks, and so on. The words in bold type are synonymous only with correlation, however, not with causality. *Correlation does not equal causation.* Remember, correlation means only that two variables change together. Being able to predict one event based on the occurrence of another event does not necessarily tell us anything about the cause of either event. Sometimes some other variable that has not been measured accounts for the relationship between two others. Researchers refer to this circumstance as the **third variable problem.** Third variables are also known as *confounds*.

PSYCHOLOGICAL INQUIRY

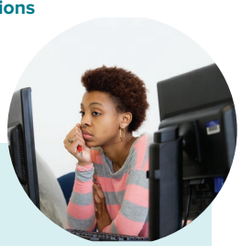
Positive Correlations

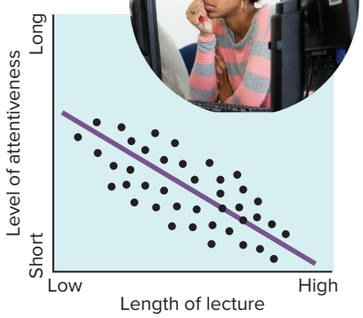
The longer the lecture, the more you yawn.



Negative Correlations

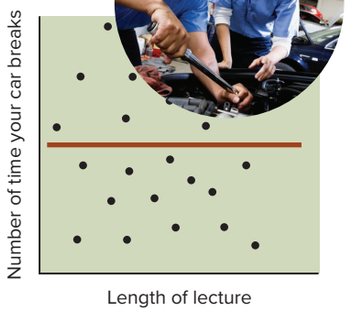
The longer the lecture, the lower your attentiveness.



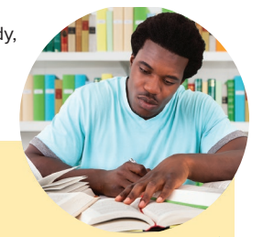


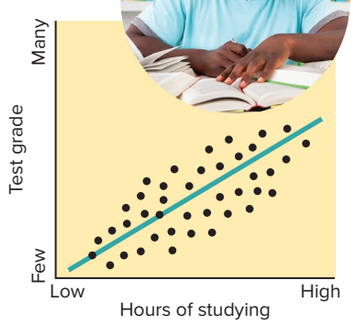
Zero Correlations

Lecture length and your car breaking down.

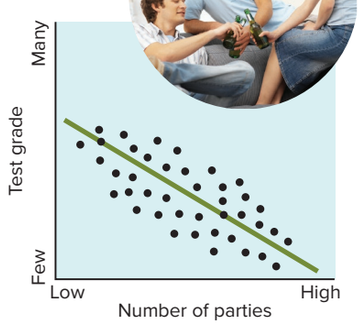


The more you study, the higher your test grade.





The more you party, the lower your test grade.



How much milk you drink and your test grade.

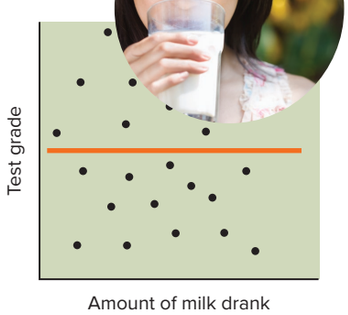


FIGURE 4 Scatter Plots Showing Positive and Negative Correlations A positive correlation is a relationship in which two factors vary in the same direction, as shown in the two scatter plots on the left. A negative correlation is a relationship in which two factors vary in opposite directions, as shown in the two scatter plots on the right. Note that each dot on these graphs represents one person's (or one class's) score on the two variables of interest.

(Yawning): Doug Menuez/Getty Images; (Attentiveness): Ariel Skelley/Blend Images LLC; (Mechanics): ColorBlind Images/Getty Images; (Male): Andriy Popov/123RF; (Group): Stockbyte/Getty Images; (Female): JGI/Blend Images LLC

For each graph, consider these questions:
> How might one of these variables cause the other? Can you imagine a way that the causal direction could be reversed? > What is a possible third variable that might account for these relationships? > Identify two variables that you think are positively correlated and two that are negatively correlated. > What would the graphs look like if the two variables were not systematically related?

Crime, then, is probably also "linked" to air-conditioner sales and repair profits, as well as swimsuit sales.

To understand the third variable problem, consider the following example. A researcher measures two variables: the number of ice cream cones sold in a town and the number of violent crimes that occur in that town throughout the year. The researcher finds that ice cream cone sales and violent crimes are positively correlated, to the magnitude of +.50. This high positive correlation would indicate that as ice cream sales increase, so does violent crime. Would it be reasonable for the local paper to run the headline "Ice Cream Consumption Leads to Violence"? Should concerned citizens gather outside the local Frosty Freeze to stop the madness? Probably not. Perhaps you have already thought of the third variable that

might explain this correlation—heat. Research has shown that crime goes up when the temperature rises (Miles-Novelo & Anderson, 2019), and, as any ice cream shop manager will tell you, ice cream sales are higher when it is warm outside. Given the potential problems with third variables, why do researchers conduct correlational studies? Three important reasons are as follows:

- Some important questions can be investigated *only* by using a correlational design. Such questions may involve variables that can only be measured or observed, such as personality traits, genetic factors, and ethnic background.
- Sometimes the variables of interest are real-world events that influence people's lives, such as the global COVID-19 pandemic.
- Finally, for some research questions it would be unethical to do the research in any other way. For example, it would be unethical for an experimenter to direct expectant mothers to smoke varying numbers of cigarettes to see how cigarette smoke affects birth weight and fetal activity. Instead a correlational study might measure these variables.

C Squared Studios/Photodisc/Getty Images

Although we have focused on relationships between just two variables, researchers often measure many variables in their studies. This way, they can examine whether a relationship between two variables is explained by a third variable (or a fourth or fifth variable). An interesting research question that has been addressed in this fashion is, do happy people live longer? In one study, 2,000 Mexican Americans aged 65 and older were interviewed twice over the course of 2 years (Ostir & others, 2000). In the first assessment, participants completed measures of happiness but also reported about potential third variables such as diet, physical health, smoking, marital status, and distress. Two years later, the researchers contacted the participants again to see who was still alive. Even with these many potential third variables taken into account, happiness predicted who was still living 2 years later.

Correlational studies are useful, too, when researchers are interested in everyday experience. For example, some correlational researchers use the *experience sampling method (ESM)* to study people in their natural settings. This approach involves having people report on their daily experiences in a diary a few times a day or complete measures of their mood and behavior whenever they are beeped by an electronic organizer or smartphone.

LONGITUDINAL DESIGNS

longitudinal design
A special kind of systematic observation, used by correlational researchers, that involves obtaining measures of the variables of interest in multiple waves over time.

One way that correlational researchers can deal with the issue of causation is to employ a special kind of systematic observation called a **longitudinal design**. Longitudinal research involves observing and measuring the same variables periodically over time. Longitudinal research can suggest potential causal relationships because if one variable is thought to cause changes in another, it should at least come before that variable in time (Grimm & others, 2017).

One intriguing longitudinal study is the Nun Study, conducted by Snowdon and other scholars (Mortimer & others, 2009; SantaCruz & others, 2011; Snowdon, 2003; Weinstein & others, 2019). The study began in 1986 and has followed a sample of 678 School Sisters of Notre Dame ever since. The nuns ranged in age from 75 to 103 when the study began. These women completed a variety of psychological and physical measures annually. This sample is unique in many respects. However, some characteristics render the participants an excellent group for correlational research. For one thing, many potential extraneous third variables are relatively identical for all the women in the group. Their gender, living conditions, diet, activity levels, marital status, and religious participation are essentially held constant, providing little chance that differences in these variables can explain results.

In one study, researchers examined the relationship between happiness and longevity using this rich dataset. All of the nuns had been asked to write a spiritual autobiography when they entered the convent

Do It!

Pull out some old "sent messages" in your email from as far back as you can find. Count up your positive emotion words and negative emotion words. How do the themes in those messages reflect your life at that time and today? Does looking at your old emails change the way you might think about the results of the Nun Study? Explain.