

PSYCHOLOGY

Why We Smile, Strive, and Sing



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Illustrated by Tom Casteel

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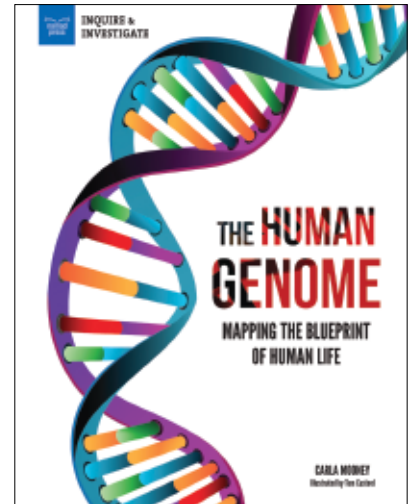
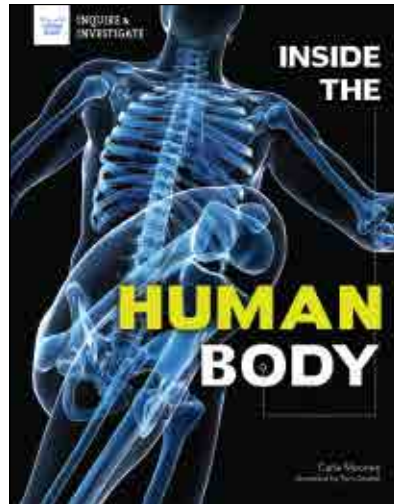
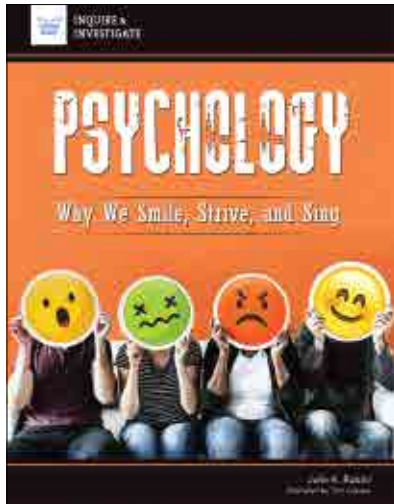
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If the QR code doesn't work, try searching the internet with the Keyword Prompts to find other helpful sources.

 human behavior

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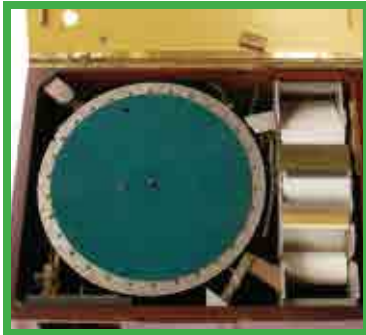
TIMELINE



Fourth century BCE: Often regarded as the father of psychology, Aristotle writes his book, *De Anima (On the Soul)*, the first book of psychology.

1600s: René Descartes formulates the connection between the mind and the body.

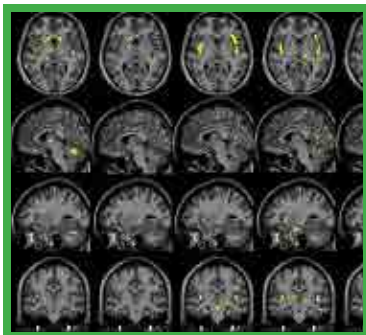
1859: Charles Darwin proposes in his book, *On the Origin of the Species*, that all of our traits are inherited.



1872: Charles Darwin publishes *The Expression of the Emotions in Men and Animals*, suggesting that behaviors are adapted through evolution.

1879: Dr. Wilhelm Wundt establishes the first laboratory of experimental psychology in Germany.

1905: Mary Whiton Calkins becomes the first female president of both the American Psychological Association and the American Philosophical Association.



1920: Dr. John B. Watson conducts his infamous “Little Albert” experiments.

1920: Dr. Francis Cecil Sumner becomes the first African American to receive a Ph.D. in psychology.

1923: Melanie Klein, considered one of the founding figures in psychoanalysis, analyzes her first child patient.



1939: Mamie Katherine Phipps Clark uses black and white dolls to study racial awareness in African American preschool children and finds they tend to select the white dolls.

1948: Dr. Burrhus Frederic (B.F.) Skinner creates the Skinner Box and experiments with rats to support his theories on the impact of the environment on behavior.



1960: Dr. Walter Mischel at Stanford University conducts the “Marshmallow Effect” experiments on delayed gratification.

1961: Dr. Albert Bandura conducts the Bobo doll experiments to support his hypothesis that childhood aggression is a learned behavior.

1967: Dr. Diana Blumberg Baumrind publishes a paper on the research she conducted, describing three different parenting styles.



1977: Dr. Gordon G. Gallup presents his research on the freeze response in “fight, flight, or freeze” in an article published in *The Psychological Record*.

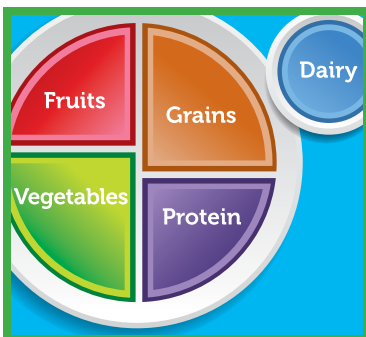
1991: Functional magnetic resonance imaging (fMRI) begins to be used on humans.



2013: The term “fear of missing out,” or FOMO, is added to the *Oxford English Dictionary*.

2013: The Pew Research Center releases a study on impacts of internet use and social media on stress levels.

2015: Two studies of adults 65 years and older report a link between loneliness and mental and physical debilitation.



2016: More than 190 researchers around the world analyze data on 300,000 people and determine there are genetic links to happiness and depression.

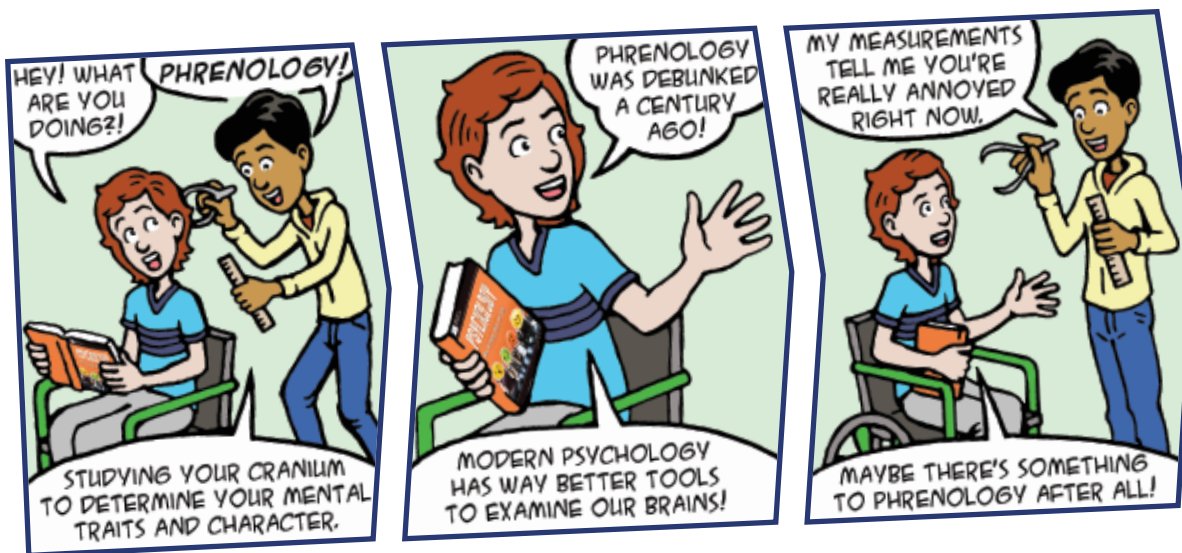
2019: Researchers at the University of Illinois at Chicago identify brain circuitry differences that might be associated with suicidal behavior with individuals with mood disorders.

Introduction ▶

What Is Human Psychology?



What are some things that influence human behavior?



Human behavior is incredibly complex and many different factors contribute to it, including the brain, genetics, hormones, environment, and more!

When you feel anxious about a test, do you stay up late studying or do you stay up late playing video games, figuring you're going to fail anyway? If you witness a group of friends bullying a new kid at school, do you join in or step up? Do you prefer to spend a lot of time on your own or do you like to be constantly surrounded by other people?

All of your decisions, actions, and reactions are part of what we study when we learn about psychology. Human behavior is a fascinating subject—it's all about you and how you fit into the world.

Psychology also studies what people do in response to certain stimuli.

Why does one person react to test anxiety by studying harder while another person assumes they'll do badly and gives up? What makes one person join a group doing the wrong thing as another person steps in to do what is right?



Behavior depends on many things—childhood experiences and upbringing, genetics, hormones, the actions of your peers, and your own special blend of attitudes and values. But it all starts with your brain!

WHERE IT ALL BEGINS

The brain is at the center of your thoughts, actions, and responses to situations. The brain is where you process the consequences of your behavior. Are you feeling nervous, excited, sad, or satisfied? You can thank your brain.

Scientists did not always realize that the brain was critical to the study of human behavior. Many early cultures believed that thoughts and feelings originated in other organs, such as the heart, stomach, or lungs.

Test anxiety!

The Project for Babies is a series of five educational videos about brain development. Check it out! What repercussions does an individual's brain development have on the larger society?



 CEED project babies



PS

PRIMARY SOURCES

Primary sources come from people who were eyewitnesses to events. They might write about the event, take pictures, post short messages to social media or blogs, or record the event for radio or video. The photographs in this book are primary sources, taken at the time of the event. Paintings of events are usually not primary sources, since they were often painted long after the event took place.

What other primary sources can you find? Why are primary sources important? Do you learn differently from primary sources than from secondary sources, which come from people who did not directly experience the event?

In ancient Egypt, embalmers tossed out the brains of dead people as they prepared bodies for burial, but carefully preserved the heart, which they believed was the source of a person's good or evil temperament. The famous ancient Greek philosopher Aristotle (384–322 BCE) thought the brain served only as a kind of temperature control device to keep the body's heat regulated—but it does much more!

It wasn't until 1649 that a French philosopher named René Descartes (1596–1650) announced that the brain had some control over behavior. However, he believed animal spirits in the brain were responsible for most higher mental processes.

Eventually, people began to notice that behavior and personality sometimes changed after a head injury. Perhaps there was a link between the brain and a person's thoughts, feelings, and reactions!

It was difficult to study the brains of living people before the invention of today's technology. German physician Franz Joseph Gall (1758–1828) leaped over this hurdle in 1796 by concluding that a person's skull was reflective of their character. Phrenology links certain personality traits with specific areas of a person's head. All one had to do to know a person's behavior was to feel the lumps and bumps under their hair.

After gaining popularity for a time in the 1800s, the practice of phrenology was debunked. It was an important step in the development of modern neuroscience and psychology, however. People were beginning to think more critically about the links between behavior and the brain.

PHINEAS GAGE

In 1848, an American railroad worker named Phineas Gage (1823–1860) was injured when an explosion sent a large iron rod through his head. Much of his brain's left frontal lobe was damaged in the accident.

Although Gage survived, his behavior changed dramatically. Before the accident, Gage was polite and thoughtful. After the accident, he was rude and reckless. Friends of Gage said that he was no longer the same person. Doctors believe that the changes in Gage's personality were a result of brain damage.

His case was one of the first to demonstrate that brain damage to the frontal lobes can affect social and moral judgment. Decades later, a reconstruction of Gage's injuries showed that the areas of his brain linked to moral sensitivity were damaged in his accident.

Phineas Gage, holding the iron rod that hurt him

Today, powerful tools help scientists view the brain's detailed anatomy, even in living humans. We are able to create maps of the brain and pinpoint which areas contribute to certain types of behaviors.

The more we know about the brain, the more we know about developing healthy habits, taking care of our psychological health, and treating mental illness.



One interesting thing about your brain is that it changes as you grow and develop, just like the rest of your body. That means the way you think and behave changes, too. The thoughts and reactions you have as a 12-year-old are not going to be the same when you're 16, 25, or 40 years old.

In fact, your prefrontal cortex, one of the areas of your brain that is directly connected with your ability to make judgments, isn't fully developed until you are in your mid-20s. So, if someone asks you, "What were you thinking?" the answer is, quite simply, you weren't! Your brain isn't fully grown yet and can't do some kinds of thinking.

Of course, people younger than 25 are still expected to make good choices.

BEYOND THE BRAIN

External influences are important factors in the development of healthy behavior. Were you exposed to different experiences such as travel and family outings? Did you always have a place to stay at night? Was there always food to eat and people with you to help with homework, fears you might have had, and problems you needed to talk about?

Everyone's early childhood experiences are different. Some young people have caregivers that offer love, trust, and security, while other kids have to seek out people who will fulfill these basic needs. Experiences such as homelessness, hunger, abuse, and grief can all be powerful influences.

SCIENTIFIC METHOD

The scientific method is the process scientists use to ask questions and find answers. Keep a science journal to record your methods and observations during all the activities in this book. You can use a scientific method worksheet to keep your ideas and observations organized.

Question: What are we trying to find out? What problem are we trying to solve?

Research: What is already known about this topic?

Hypothesis: What do we think the answer will be?

Equipment: What supplies are we using?

Method: What procedure are we following?

Results: What happened and why?

PSYCH!



Psychology is the science of human behavior. Biology is the science of life. Neurology is the study of the brain. Neuroendocrinology studies the interactions between the nervous system and the endocrine system. All play a role in understanding human behavior.

TEXT TO WORLD

What kinds of behavior do you see from your friends? Does this behavior change in group settings?

Protest gatherings, such as this one in Hong Kong in 2019, offer opportunities to witness human behavior in a group.



Both positive and negative early experiences affect your emotional development. However, the important thing to remember is that people ultimately make choices about behavior, no matter their environment and upbringing.

In addition to brains and environments, there are other influencing factors on behavior.

Has anyone ever blamed your behavior on hormones? Well, they could be right. Everyone is born with hormones, but certain hormones begin to work only when you reach puberty, when your brain experiences them for the first time. Hormones are chemical messengers that travel through your body and have both physical and emotional consequences.

Genetics is another thing that plays a major role in behavior. You are who you are and behave the way you do partly because you were born this way.

Outside the body, whether or not you are surrounded by other people can have an effect on your behavior, too. You might think that how you act when you're alone is how you act all the time. Studies have shown though—and you might have witnessed this yourself at school or other places where there are lots of people—people do have different standards of behavior depending on their surroundings.

In *Psychology*, we'll take a closer look at the brain and how it affects behavior. We'll examine the teenage brain, genes and the environment, behavior in groups, and how we can help ourselves stay emotionally healthy. Psychology is a fascinating science that can teach you a lot about both yourself, your friends, and the world!

KEY QUESTIONS

- **What is your own general behavior like, day to day?**
- **What causes a significant reaction in your own behavior? Why?**
- **Why did it take so long for people to make a connection between the brain and behavior?**

VOCAB LAB

There is a lot of new vocabulary in this book. Turn to the glossary in the back when you come to a word you don't understand. Practice your new vocabulary in the VOCAB LAB activities in each chapter.



VOCAB LAB



Write down what you think each word means.

What root words can you find to help you?

What does the context of the word tell you?

behavior, genetics, hormones, personality, and psychology.

Compare your definitions with those of your friends or classmates. Did you all come up with the same meanings? Turn to the text and glossary if you need help.

HI, I'M . . .

When you meet a new person, what's the first thing you tell them? Usually, it's your name! What might happen if you started with a characteristic instead? Try it and find out! This activity is best at the start of a new school year or in a group where participants don't know each other too well.

- **Everyone walks around the room, introducing themselves to the others.** However, instead of introducing yourselves by name, choose one of these introductions:
 - What you ate for breakfast
 - Your favorite color
 - Your favorite activity
- **For example, someone might say,** "Hi, I'm Instant Breakfast and a banana. Who are you?"
- **Discuss your observations as a group.** What did you notice about people as they introduced themselves this way? What was the most popular choice of introduction? Did the choices seem to fall along gender, age, or other identifying lines? Why might this be so?

To investigate more, repeat this activity with people who are close and know each other very well. Use different introductions that people might not know about each other. Does anything surprising come up?