

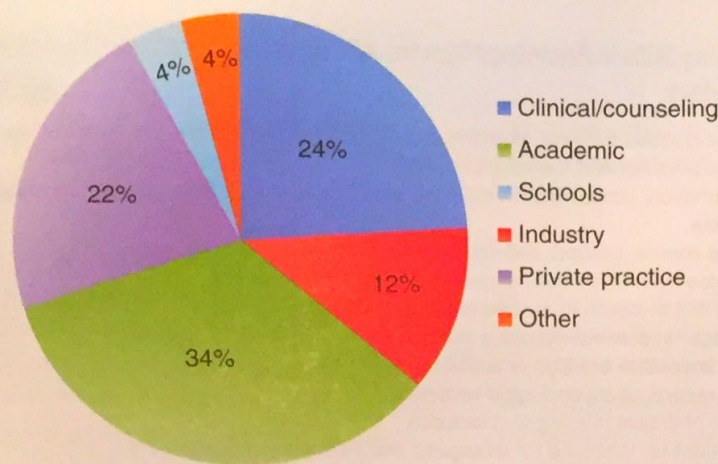


FIGURE 1-12 Settings in which psychologists work.

Source: Data from 2009 Doctorate Employment Survey, APA Center for Workforce Studies, March 2011.

CONCEPT LEARNING CHECK 1.3

Contemporary Perspectives and Settings in Psychology.

1. Choose a psychological topic that interests you. Then briefly describe how each of four contemporary perspectives in psychology suggests that one might investigate and analyze the topic.
2. Zoe tells her friend she wants to go to school to become a psychologist. Her friend quips, "You want to be a therapist in a private practice?" Outline a response summarizing at least four areas and three settings in which you are likely to find a psychologist but that do not involve therapy or private practice.

1.4 Critical Thinking and Multiple Influences

An understanding of the science of psychology requires critical thinking.

- Examine the role of critical thinking in the field of psychology.
- Illustrate the five criteria for critical thinking.

Good psychology, like all science, demands a certain way of thinking. This way of thinking includes an ability to take in information and decide how credible it is. Not all evidence is equal, and sometimes things can sound convincing or scientific even when they are not.

Critical Thinking

How do you determine what evidence to believe? Critical thinking is important in this process. **Critical thinking** involves identifying and evaluating evidence to guide thoughts and decision making. Critical thinking also helps you to analyze what you have learned and apply this information to unfamiliar situations. Rather than just believing what seems right, critical thinking encourages you to look for problems, assumptions, and biases in the evidence and to make the most reasoned judgments from the evidence. There are many guidelines and tips for critical thinking such as the ones offered by the American Psychological Association in **TABLE 1-3**. Although critical thinking is an important life skill, it is not always easy to apply. As you encounter information, keep the following five criteria (LEARN) of critical thinking in mind.

Critical thinking

Identification and evaluation of evidence to guide thoughts and decision making.

Five Criteria for Critical Thinking in Psychology (LEARN)

1. **Look for multiple influences.** Often there are many causes for behavior and mental processes. Indeed, there are many levels of analysis, or various ways of examining the same psychological phenomenon.
2. **Examine alternatives.** It may be possible that other explanations exist. Do not just accept the one that is given or adopt the first one that comes to mind. Keep in mind that many conclusions can be drawn from the same set of circumstances.

TABLE 1-3 Critical Thinking Skills in Psychology from the *APA Guidelines for the Undergraduate Psychology Major*

Respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.

Evaluate the quality of information, including differentiating empirical evidence from speculation and the probable from the improbable.

- Identify and evaluate the source, context, and credibility of behavioral claims
- Challenge claims that arise from myth, stereotype, or untested assumptions
- Use scientific principles and evidence to resolve conflicting claims
- Recognize and defend against common fallacies in thinking
- Avoid being swayed by appeals to emotion or authority
- Evaluate popular media reports of psychological research
- Demonstrate an attitude of critical thinking that includes persistence, open-mindedness, tolerance for ambiguity, and intellectual engagement
- Make linkages or connections between diverse facts, theories, and observations

Engage in creative thinking.

- Intentionally pursue unusual approaches to problems
- Recognize and encourage creative thinking and behaviors in others
- Evaluate new ideas with an open but critical mind

Use reasoning to recognize, develop, defend, and criticize arguments and other persuasive appeals.

- Identify components of arguments (e.g., conclusions, premises/assumptions, gaps, counterarguments)
- Distinguish among assumptions, emotional appeals, speculations, and defensible evidence
- Weigh support for conclusions to determine how well reasons support conclusions
- Identify weak, contradictory, and inappropriate assertions
- Develop sound arguments based on reasoning and evidence

Approach problems effectively.

- Recognize ill-defined and well-defined problems
- Articulate problems clearly
- Generate multiple possible goals and solutions
- Evaluate the quality of solutions and revise as needed
- Select and carry out the best solution

Source: From *APA Guidelines for the Undergraduate Psychology Major* <http://www.apa.org/ed/precollege/about/psymajor-guidelines.pdf>

3. **Analyze the evidence.** All evidence should be looked at carefully. Rather than accepting it at face value, inspect evidence for weaknesses, flaws, and shortcomings.
4. **Reasoned skepticism.** This is a tough one. As Carl Sagan said, “Keep an open mind, but not so open that your brains fall out” (Sagan, 1986). It is important to be open minded, but if something seems incredible, it might not be credible.
5. **Notice assumptions.** Sometimes we accept evidence because it supports what we already believe. Notice your own assumptions about the supporting evidence as well as the assumptions of the person providing the evidence.

Critical thinking will help you reduce the effects of personal bias when examining evidence. The Critical Thinking Applications in each chapter will ask you to analyze a new question, problem, or situation and use critical thinking techniques to explore and better understand concepts you have studied in the chapter.

The Importance of Multiple Influences

Critical thinking suggests that in psychology it is important to consider multiple influences. Why? Often, a singular perspective is not enough to get the full picture of what is going on. For example, how much of a person's behavior and mental processes are inherited and how much is learned? The relative contributions of nature vs. nurture is a long debate and is older than psychology as an independent discipline. Are people born the way they are, or does what happens to them influence who they are? Those who believe that it is nature, or biology, genes, and evolution, would suggest that those aspects determine behavior and mental processes. On the other hand, those who suggest that nurture is responsible, would explain our behavior and mental processes as being determined by nurture, meaning our environment, learning, and culture.

CRITICAL THINKING APPLICATION

Complete the following quiz on psychological facts and myths, then compute your score by giving yourself one point for each item answered correctly.



Test your Psychology IQ

1. Jet lag is worse going from Hawaii to New York than from New York to Hawaii.
2. Hypnosis is valuable in helping witnesses recall details of a crime.
3. The world's most popular drug is alcohol.
4. People use only about 10% of their brain's capacity.
5. It is not possible to make a gay person heterosexual through psychotherapy.
6. During a full moon, people commit more crimes and behave more abnormally.
7. A few people can use their minds to influence, for example, the way that dice will fall.
8. If two things correlate highly, this does not prove that one causes the other.
9. Hypnosis can reduce the pain of surgery or childbirth.
10. Inside our brains are memories for everything we have experienced.
11. The average IQ in the USA is only about 100.
12. The moon looks much bigger on the horizon than overhead because the atmosphere acts like a magnifying glass.
13. Schizophrenia means split personality.
14. Mentally ill or retarded persons are no more likely to be violent than normal people.
15. Research shows that no significant learning occurs when information is given repeatedly during sleep.
16. As people age, they sleep less.
17. Through hypnosis, some people can remember things from the first 6 months of life.
18. Most German Nazis showed no evidence of serious psychiatric disorders.
19. Among the range of animals, the larger the brain, generally the greater the intelligence.
20. Clear evidence exists to show that a very small percentage of people can receive thoughts of others and predict the future.

Answers: 1. T, 2. F, 3. F, 4. F, 5. T, 6. F, 7. F, 8. T, 9. T, 10. F, 11. T, 12. F, 13. F, 14. T, 15. T, 16. T, 17. F, 18. T, 19. T, 20. F

Source: Standing, L. G. & Huber, H. (2003). Do Psychology Courses Reduce Belief in Psychological Myths? *Social Behavior and Personality*, 31(6), 585–592. © Society for Personality Research (Inc.).

How did you do? The maximum score is 20, which indicates you do not believe any of the myths. Do not worry if you did not answer all the questions correctly. The score of the average person who has not taken a psychology course is about 13.

Evaluate

1. What was your reaction to some of the answers? Were your answers based on your own experience, scientific research, or a personal theory?
2. Research a few of the topics in several ways. Try an Internet search as well as using scientific journals and psychology books to find the answers. Do you find differences in the evidence presented? Use critical thinking techniques, such as those mentioned above, to reexamine the questions and evaluate the evidence that supports the answers. What conclusions can you draw about your own answers to the quiz? What questions, if any, do you have about your research into some of the topics?

Summary of Multiple Influences on Psychology

Sometimes single perspectives offer flat explanations. More depth occurs when you combine the approaches, as demonstrated by two fluffy cats that share something special with each other. Take a look at the adult cat, Rainbow, and 7-week-old CC in [FIGURE 1-13](#). Cute, are they not? Besides being fluffy, Rainbow and CC have something very special in common: CC (short for copy cat) is a clone of Rainbow. In other words, despite looking very different, Rainbow and CC are genetically identical. If you are wondering how two

FIGURE 1-13 Rainbow (left) is an adult calico cat, CC (right) is genetically identical to Rainbow although she looks different. CC has a spot above her left paw, for example, while Rainbow does not.



genetically identical cats can look so different, the answer lies in the multiple influences between nature and nurture. While genetics or nature influences the fact that CC is a calico, biology only tells part of the story **FIGURE 1-14**. The influence of CC's growth also influences her calico pattern, but environmental influence cannot explain the pattern either **FIGURE 1-15**. The exact pattern of her calico is influenced by an analysis of both genetic and environmental factors (Shin et al., 2002) **FIGURE 1-16**.

FIGURE 1-14 Biology alone can not explain why Rainbow and CC's calico patterns are different.

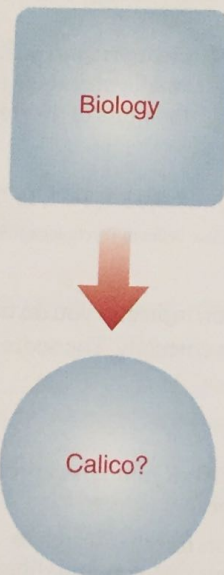


FIGURE 1-15 Environmental forces alone can not explain why Rainbow and CC's calico patterns are different.

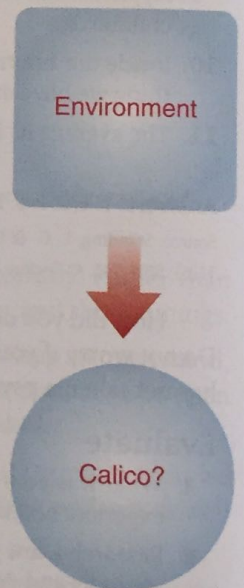
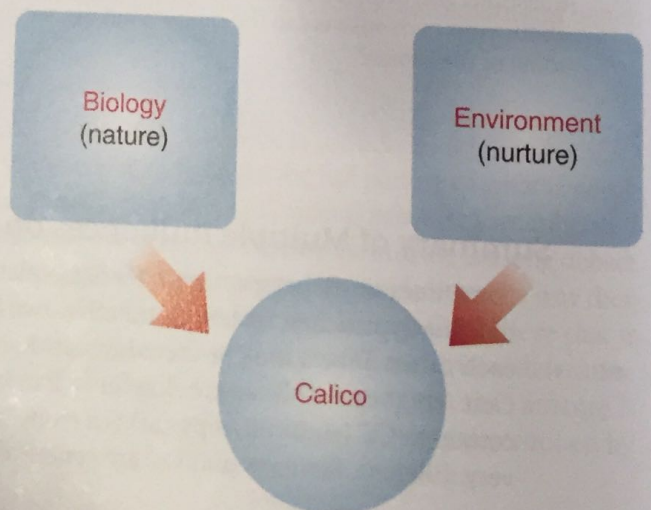


FIGURE 1-16 The multiple influences of biology and environment can provide a more complete explanation than one factor alone.



We wrote this book to include information from various sources, including biological, experiential, and cultural. We consider evidence from several types of research, looking at genetics, evolution, biology, environment, social interaction, and culture—integrated throughout the book within each topic. The end of each chapter summarizes this content. You will see a section called “Summary of the Multiple Influences” that highlights a few of the influences on the chapter’s topics.

CONCEPT LEARNING CHECK 1.4**Applying the Criteria of Critical Thinking**

Harvey has just read an article on the Internet about the influence of the zodiac on personality that suggests that all Tauruses are stubborn and that all Capricorns are hard workers. Use the LEARN approach to critical thinking to analyze and evaluate Harvey’s statement.

1. Look for multiple influences:
2. Examine alternatives:
3. Analyze the evidence:
4. Reasoned skepticism:
5. Notice assumptions: