

Module 17

Influences on Perception

Module Learning Objectives

- 17-1** Explain how our expectations, contexts, emotions, and motivation influence our perceptions.
- 17-2** List the claims of ESP, and discuss the conclusions of most research psychologists after putting these claims to the test.

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Perceptual Set

- 17-1** How do our expectations, contexts, emotions, and motivation influence our perceptions?

As everyone knows, to see is to believe. As we less fully appreciate, to believe is to see. Through experience, we come to expect certain results. Those expectations may give us a **perceptual set**, a set of mental tendencies and assumptions that greatly affects (top-down) what we perceive. Perceptual set can influence what we hear, taste, feel, and see.

Consider: Is the image in the center picture of **FIGURE 17.1** a young woman's profile or an old woman's? What we see in such a drawing can be influenced by first looking at either of the two unambiguous versions (Boring, 1930).

Everyday examples of perceptual set abound. In 1972, a British newspaper published unretouched photographs of a "monster" in Scotland's Loch Ness—"the most amazing

perceptual set a mental predisposition to perceive one thing and not another.



Figure 17.1
Perceptual set Show



pictures ever taken,” stated the paper. If this information creates in you the same expectations it did in most of the paper’s readers, you, too, will see the monster in a similar photo in **FIGURE 17.2**. But when a skeptical researcher approached the photos with different expectations, he saw a curved tree limb—as had others the day the photo was shot (Campbell, 1986). With this different perceptual set, you may now notice that the object is floating motionless, with ripples outward in all directions—hardly what we would expect of a lively monster. Once we have formed a wrong idea about reality, we have more difficulty seeing the truth.

Perceptual set can also affect what we hear. Consider the kindly airline pilot who, on a takeoff run, looked over at his depressed co-pilot and said, “Cheer up.” Expecting to hear the usual “Gear up,” the co-pilot promptly raised the wheels—before they left the ground (Reason & Mycielska, 1982).

Figure 17.2

Believing is seeing What do you perceive? Is this Nessie, the Loch Ness monster, or a log?



Hulton Archive/Getty Images

Try This

When shown the phrase
Mary had a
a little lamb
many people perceive what they expect, and miss the repeated word. Did you?

“We hear and apprehend only what we already half know.”
—HENRY DAVID THOREAU, *JOURNAL*, 1860

Perceptual set similarly affects taste. One experiment invited some bar patrons to sample free beer (Lee et al., 2006). When researchers added a few drops of vinegar to a brand-name beer, the tasters preferred it—unless they had been told they were drinking vinegar-laced beer. Then they expected, and usually experienced, a worse taste. In another experiment, preschool children, by a 6-to-1 margin, thought french fries tasted better when served in a McDonald’s bag rather than a plain white bag (Robinson et al., 2007).

What determines our perceptual set? As Module 47 will explain, through experience we form concepts, or *schemas*, that organize and allow us to interpret unfamiliar information. Our pre-existing schemas for old women and young women, for monsters and tree limbs, all influence how we interpret ambiguous sensations with top-down processing.

In everyday life, stereotypes about gender (another instance of perceptual set) can color perception. Without the obvious cues of pink or blue, people will struggle over whether to call the new baby “he” or “she.” But told an infant is “David,” people (especially children) may perceive “him” as bigger and stronger than if the same infant is called “Diana” (Stern & Karraker, 1989). Some differences, it seems, exist merely in the eyes of their beholders.

Context Effects

A given stimulus may trigger radically different perceptions, partly because of our differing perceptual set, but also because of the immediate context. Some examples:



Culture and context effects

What is above the woman’s head? In a classic study from nearly a half-century ago, most East Africans perceived the woman as balancing a metal box or can on her head and the family as sitting under a tree. Westerners, for whom corners and boxlike architecture were more common, were more likely to perceive the family as being indoors, with the woman sitting under a window. (Adapted from Gregory & Gombrich, 1973.)

- Imagine hearing a noise interrupted by the words “eel is on the wagon.” Likely, you would actually perceive the first word as *wheel*. Given “eel is on the orange,” you would hear *peel*. This curious phenomenon, discovered by Richard Warren, suggests that the brain can work backward in time to allow a later stimulus to determine how we perceive an earlier one. The context creates an expectation that, top-down, influences our perception (Grossberg, 1995).
- Does the pursuing dog in **FIGURE 17.3** look bigger than the one being pursued? If so, you are experiencing a context effect.
- How tall is the shorter player in **FIGURE 17.4**?

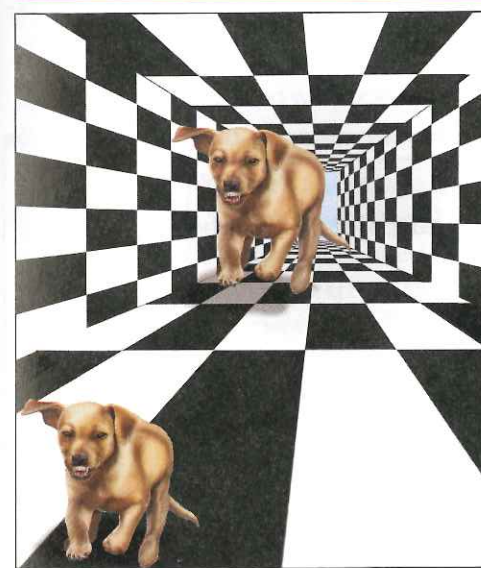


Figure 17.3

The interplay between context and emotional perception The context makes the pursuing dog look bigger than the pursued. It isn’t.



Dennis Goppert/Holland Sentinel

Figure 17.4

Big and “little” The “little guy” shown here is actually a 6’9” former Hope College basketball center who would tower over most of us. But he seemed like a short player when matched in a semi-pro game against the world’s tallest basketball player at that time, 7’9” Sun Ming Ming from China.

Emotion and Motivation

Perceptions are influenced, top-down, not only by our expectations and by the context, but also by our emotions and motivation.

Hearing sad rather than happy music can predispose people to perceive a sad meaning in spoken homophonic words—*mourning* rather than *morning*, *die* rather than *dye*, *pane* rather than *pane* (Halberstadt et al., 1995).

Researchers (Proffitt, 2006a,b; Schnall et al., 2008) have demonstrated the power of emotions with other clever experiments showing that

- walking destinations look farther away to those who have been fatigued by prior exercise.
- a hill looks steeper to those who are wearing a heavy backpack or have just been exposed to sad, heavy classical music rather than light, bouncy music. As with so many of life's challenges, a hill also seems less steep to those with a friend beside them.
- a target seems farther away to those throwing a heavy rather than a light object at it.

Even a softball appears bigger when you are hitting well, observed other researchers, after asking players to choose a circle the size of the ball they had just hit well or poorly (Witt & Proffitt, 2005). When angry, people more often perceive neutral objects as guns (Bauman & DeSteno, 2010).

Motives also matter. Desired objects, such as a water bottle when thirsty, seem closer (Balci & Dunning, 2010). This perceptual bias energizes our going for it. Our motives also direct our perception of ambiguous images.

Emotions color our social perceptions, too. Spouses who feel loved and appreciated perceive less threat in stressful marital events—"He's just having a bad day" (Murray et al., 2003). Professional referees, if told a soccer team has a history of aggressive behavior, will assign more penalty cards after watching videotaped fouls (Jones et al., 2002).

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Emotion and motivation clearly influence how we perceive sensations. But what to make of extrasensory perception, which claims that perception can occur apart from sensory input? For more on that question, see *Thinking Critically About: ESP—Perception Without Sensation*.

Before You Move On

▶ ASK YOURSELF

Can you recall a time when your expectations have predisposed how you perceived a person (or group of people)?

▶ TEST YOURSELF

What type of evidence shows that, indeed, "there is more to perception than meets the senses"?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

"When you're hitting the ball, it comes at you looking like a grapefruit. When you're not, it looks like a blackeyed pea."

-FORMER MAJOR LEAGUE BASEBALL PLAYER GEORGE SCOTT