Emotions are psychological responses that involve an interplay among (1) physiological arousal, (2) expressive behavior, and (3) conscious experience.

James and Lange argued that we feel emotion after we notice our bodily responses. Cannon and Bard contended that we feel emotion when our body responds. Schachter and Singer’s two-factor theory states that to experience emotion, we must be aroused and cognitively label the emotion. Although emotional arousal is not as undifferentiated as Schachter and Singer believed, arousal from diverse emotions can spill over from one to another.

Although the physical arousal that occurs with the different emotions is for the most part indistinguishable, researchers have discovered subtle differences in brain circuits, finger temperatures, and hormones. In using physiological indicators to detect lies, the polygraph does better than chance but not nearly well enough to justify its widespread use.

Some emotional responses are immediate as sensory input bypasses the cortex triggering a rapid reaction outside our conscious awareness. Others, especially responses to complex emotions, require interpretation.

We decipher people’s emotions by “reading” their bodies, voices, and faces. Although some gestures are culturally determined, facial expressions, such as those of happiness and fear, are universal. Facial expressions not only communicate emotion but also amplify the felt emotion.

Carroll Izard has identified 10 basic emotions (joy, interest-excitement, surprise, sadness, anger, disgust, contempt, fear, shame, and guilt), most of which are present in infancy. In describing their emotions, people place them along two basic dimensions: arousal and valence.

This chapter examines three human emotions in detail: fear, anger, and happiness. Although we seem biologically predisposed to acquire some fears, what we learn through experience best explains the variety of human fears. Anger is most often aroused by frustrating or insulting acts that seem willful and unjustified. Expressing anger may be temporarily calming, but in the long run, it can actually arouse more anger. Happiness boosts people’s perceptions of the world and their willingness to help others. However, even significant good events seldom increase happiness for long, a fact explained by the adaptation-level and relative deprivation principles.
Theories of Emotion

1. **Identify the three components of emotion, and contrast the James-Lange, Cannon-Bard, and two-factor theories of emotion.**

An *emotion* is a response of the whole organism that involves an interplay among (1) physiological arousal, (2) expressive behaviors, and (3) conscious experience.

The *James-Lange theory* states that our experience of an emotion is a consequence of our physiological response to a stimulus; we are afraid because our heart pounds (say, in response to an approaching stranger). The *Cannon-Bard theory*, on the other hand, proposes that the physiological response and subjective experience of emotion occur simultaneously. Heart pounding and fear occur at the same time—one does not cause the other. Schachter and Singer’s *two-factor theory* of emotion focuses on the interplay of thinking and feeling, not on the timing of feelings. This theory states that to experience emotion, one must (1) be physically aroused and (2) cognitively label the arousal.

Embodied Emotion

2. **Describe the role of the autonomic nervous system during emotional arousal.**

The autonomic nervous system controls arousal. In an emergency, the sympathetic nervous system automatically mobilizes the body for fight or flight, directing the adrenal glands to release hormones that increase heart rate, blood pressure, and blood sugar level. Other physical changes include tensed muscles, dry mouth, dilated pupils, slowed digestion, and increased sweating. The parasympathetic nervous system calms the body after a crisis has passed, although arousal diminishes gradually.

3. **Discuss the relationship between arousal and performance.**

In day-to-day life, our performance on a task is usually best when arousal is moderate, though this varies with the difficulty of the task. With easy tasks, peak performance comes with relatively high arousal, which enhances the dominant, usually correct, response. With more difficult tasks, the optimal arousal is somewhat less.

4. **Name three emotions that involve similar physiological arousal.**

Similar physiological arousal occurs during fear, anger, and sexual arousal. Nonetheless, these emotions feel different. And, despite similar arousal, sometimes our facial expressions differ during these three states. For example, people may appear “paralyzed” with fear or “ready to explode” with anger.
5. Describe some physiological and brain pattern indicators of specific emotions.

Fear and rage are sometimes accompanied by differing finger temperatures and hormone secretions. Emotions may also stimulate different facial muscles. During fear, brow muscles tense. During joy, muscles in the cheek and under the eye pull into a smile. Emotions differ much more in the brain circuits they use. For example, brain scans show increased activity in the amygdala during fear. Finally, emotions activate different areas of the brain’s cortex. The right prefrontal cortex becomes more electrically active as people experience negative emotions, such as disgust. The left frontal lobe shows more activity with positive emotions.

6. Explain how the spillover effect influences our experience of emotions.

The spillover effect occurs when arousal from one event affects our response to other events. Dozens of experiments show that a stirred-up state can be experienced as different emotions depending on how we interpret and label it. Arousal fuels emotion and cognition channels it.

7. Distinguish the two alternative pathways that sensory stimuli may travel when triggering an emotional response.

Sometimes we experience unlabeled emotion. Sensory input can follow a pathway that leads via the thalamus to the amygdala, bypassing the cortex and triggering a rapid reaction that is outside our conscious awareness. Other, more complex emotions such as guilt, happiness, and love require interpretation and are routed along the slower route to the cortex for analysis.

Expressed Emotion

Lectures: Cultural Differences in Emotional Expression; “Catch the Feeling”
Exercises: The Mood Awareness Scale; Emotional Expressivity Scale; Nonverbal Communication; The Affective Communication Test; Difficulty in Detecting Deception
PsychSim 5: Catching Liars; Expressing Emotion
Videos: Video Clip 27 of Digital Media Archive: Psychology: Reading Nonverbal Communication; Video Clip 28 of Digital Media Archive: Psychology: Ekman’s Studies on Facial Expressions of Emotion
Transparencies: 134 Culture-Specific or Culturally Universal Expressions?; 135 Levels of Analysis for the Study of Emotion

8. Describe some of the factors that affect our ability to decipher nonverbal cues.

All of us communicate nonverbally as well as verbally. For example, a firm handshake immediately conveys an outgoing, expressive personality. With a gaze, an averted glance, or a stare, we can communicate intimacy, submission, or dominance. Most people can detect nonverbal cues, and we are especially sensitive to nonverbal threats. Research indicates that we read fear and anger mostly from the eyes, happiness from the mouth. Introverts are better emotion-detectors than extraverts, although extraverts are easier to read.

Experience also contributes to our sensitivity to cues as studies of abused children demonstrate.

9. Describe some gender differences in perceiving and communicating emotions.

Women generally surpass men at reading people’s emotional cues. Women’s nonverbal sensitivity gives them an edge in detecting deception. Their skill at decoding others’ emotions may also contribute to their greater emotional responsiveness in both positive and negative situations. When surveyed, women are far more likely than men to describe themselves as empathic. Gender differences also appear in the emotions that women and men express best. Women surpass men in conveying happiness, but men communicate anger better.

10. Discuss the research on reading and misreading facial and behavioral indicators of emotion.

Facial muscles reveal signs of emotions, but most people find it difficult to detect expressions of deceit. Training them to discern lying versus truth-telling boosts accuracy rates. When people are not seeking to deceive us, we do much better. In fact, our brains are rather amazing detectors of
subtle expressions. Specific interpretations of postures and gestures are risky because different expressions may convey the same emotion. Folded arms, for example, can signify either irritation or relaxation. The absence of gestures, facial expressions, and tones of voice in e-mails deprives us of an important source of information.

11. Discuss the culture-specific and culturally universal aspects of emotional expression, and explain how emotional expressions could enhance survival.

Although some gestures are culturally determined, facial expressions, such as those of happiness and fear, are common the world over. Cultures and languages also share many similarities in the ways they categorize emotions as anger, fear, etc. Children’s facial expressions, even those of blind children who have never seen a face, are also universal. Charles Darwin suggested that before our ancient ancestors communicated in words, their ability to convey threats, greetings, and submissions with facial expressions helped them survive. Emotional expressions may also enhance our survival in other ways. For example, surprise widens the eyes, enabling us to take in more information. Disgust wrinkles the nose, closing it from foul odors. Cultures differ in how much they express emotions. For example, in cultures that value individuality, intense and prolonged displays of emotion are frequent. They are frowned on in countries such as Japan.

12. Discuss the facial feedback and behavior feedback phenomena, and give an example of each.

The facial feedback hypothesis proposes that expressions amplify our emotions by activating muscles associated with specific states, and the muscles signal the body to respond as though we were experiencing those states. For example, students induced to make a frowning expression reported feeling a little angry. Students induced to smile felt happier and found cartoons funnier. Similarly, the behavior feedback hypothesis assumes that if we move our body as we would when experiencing some emotion (shuffling along with downcast eyes, as when sad), we are likely to feel that emotion to some degree.

Experienced Emotion

- Exercises: The Affect Grid; Brief Measures of Positive and Negative Affect—The PANAS Scale; Individual Differences in Emotional Complexity; The Disgust Scale; Envy and Jealousy; The Affect Intensity Measure; What Do You Fear?; The Multidimensional Anger Inventory; The Anger Discomfort Scale; What Is Satisfying about Satisfying Events?; Happiness Measures; Adaptation Level; Relative Deprivation
- Lectures: Elevation—A New Positive Emotion; The Amygdala and Fear; Scared to Death; Angry Driving; Do We Need to Vent Our Rage?; Two Dimensions of Positive Affect; Flow; Laughter
- Projects: The Relationship between Affect and Personality Traits; Monitoring Anger
- Feature Film: Fried Green Tomatoes and Expressing Anger
- Transparencies: 136 Two Dimensions of Emotion; 137 Does Money Buy Happiness?; 138 Happiness Is...

13. Name several basic emotions, and describe two dimensions psychologists use to differentiate emotions.

Carroll Izard’s investigations identified 10 basic emotions: joy, interest-excitement, surprise, sadness, anger, disgust, contempt, fear, shame, and guilt. Although other researchers argue for additional emotions, Izard contends that other emotions are combinations of these 10. When psychologists have asked people to report their experiences of different emotions, all seem to place emotions along the dimensions of pleasant versus unpleasant (the emotion’s valence) and high versus low arousal. The valence dimension can be seen in successful exam takers who—more than their less successful counterparts—label arousal as energizing rather than threatening. On the arousal dimension, “terrified” is more frightened than “afraid” and “delighted” is happier than “happy.”

14. State two ways we learn our fears.

Fear is often an adaptive response. Fear of enemies binds people together, and fear of injury protects us from harm. What we learn through experience best explains the variety of human fears. Through conditioning (associating emotions with specific situations) and observation (watching
others display fear in response to certain events or surroundings), the short list of naturally painful and frightening events multiplies into a long list of human fears.

15. Discuss some of the biological components of fear.

We seem biologically prepared to learn some fears faster than others. We quickly learn to fear snakes, spiders, and cliffs, but we are less predisposed to fear cars, electricity, bombs, and global warming. A key to fear-learning lies in the amygdala, a limbic system neural center deep in the brain. The amygdala receives information from cortical areas that process emotion, and it sends information to other areas that produce the bodily symptoms of fear. Individual differences in fearfulness are partly genetic.

16. Identify some common triggers and consequences of anger, and assess the catharsis hypothesis.

Although “blowing off steam” may temporarily calm an angry person, it may also amplify underlying hostility, and it may provoke retaliation. The catharsis hypothesis maintains that “releasing” aggressive energy through action or fantasy reduces anger. Research has not supported the catharsis hypothesis. Angry outbursts may be reinforcing and therefore habit forming. In contrast, anger expressed as a nonaccusing statement of feeling can benefit relationships by leading to reconciliation rather than retaliation. When reconciliation fails, forgiveness can reduce one’s anger and its physical symptoms.

17. Describe how the feel-good, do-good phenomenon works, and discuss the importance of research on subjective well-being.

The feel-good, do-good phenomenon refers to people’s tendency to be helpful when already in a good mood. Mood-boosting experiences make us more likely to give money, pick up someone’s dropped papers, volunteer time, and do other good deeds. After decades of focusing on negative emotions, psychologists are now actively exploring the causes and consequences of subjective well-being (self-perceived happiness or satisfaction with life). Scientific research helps us sort through the many contradictory maxims we have inherited regarding the predictors of happiness.

18. Discuss some of the daily and longer-term variations in the duration of emotions.

Positive emotion rises over the early to middle part of most days. Negative emotion is highest just after we wake up and before we go to sleep. Although stressful events trigger bad moods, the gloom nearly always lifts by the next day. Times of elation are similarly hard to sustain and, over the long run, our emotional ups and downs tend to balance. Even significant bad events, such as a serious illness, seldom destroy happiness for long. The surprising reality is that we overestimate the duration of emotions and underestimate our capacity to adapt.

19. Summarize the findings on the relationship between affluence and happiness.

Within most affluent societies, the wealthy are somewhat happier than those who struggle to afford life’s basic needs. At a basic level, money helps us to avoid pain by enabling better nutrition, health care, and education, which in turn increase happiness. Sudden increases in wealth can also increase happiness in the short term. However, in the long run, increased affluence hardly affects happiness. For example, during the last four decades, the average U.S. citizen’s buying power more than doubled, yet the average American is no happier. Research does not show an increase in happiness accompanying affluence at either the individual or national level.

20. Describe how adaptation and relative deprivation affect our appraisals of our achievements.

The adaptation-level phenomenon describes our tendency to judge various stimuli relative to those we have previously experienced. If our income or social prestige increases, we may feel initial pleasure. However, we then adapt to this new level of achievement, come to see it as normal, and require something better to give us another surge of happiness. This helps explain why, despite the realities of triumph and tragedy, million-dollar winners and people who are paralyzed report similar levels of happiness.
Relative deprivation is the perception that one is worse off relative to those with whom one compares oneself. As people climb the ladder of success, they mostly compare themselves with those who are at or above their current level. This explains why increases in income may do little to increase happiness.

21. Summarize the ways that we can influence our own levels of happiness.

Research suggests that we can increase our own level of happiness by (1) realizing that enduring happiness doesn’t come from financial success; (2) taking control of our time; (3) acting happy; (4) seeking work and leisure that engages our skills; (5) exercising regularly; (6) getting adequate sleep; (7) giving priority to close relationships; (8) focusing beyond oneself; (9) being grateful for what we have; and (10) nurturing our spiritual selves.