

# Stress, Health, and Human Flourishing

## Chapter Preview

Stress is the process by which we appraise and respond to challenging or threatening events, or stressors. Stressors may be catastrophes, significant life changes (positive or negative), and daily hassles. Walter Cannon viewed our response to stress as a fight-or-flight system. Hans Selye saw it as a three-stage general adaptation syndrome. Another subfield, psychoneuroimmunology, focuses on mind-body interactions.

Exposure to prolonged stress can increase our susceptibility to serious illness. Health psychology provides psychology's contribution to behavioral medicine. Modern research assesses the health consequences of various life experiences. Stress may affect the progression of several serious illnesses, including AIDS and cancer. Coronary heart disease has been linked with the anger-prone Type A personality.

Several factors affect our ability to cope with stress, including our feelings of personal control, our basic outlook on life, and our supportive connections. Stress management programs include training in aerobic exercise, biofeedback, meditation, and relaxation. Although biofeedback can sometimes help people control tension headaches, simple relaxation exercises offer some of the same benefits. Researchers seek to identify "intervening variables" that may link spirituality and health.

Positive psychology is the scientific study of human flourishing. Happy people live healthier and more energized and satisfied lives. 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.

## Chapter Guide

*Introductory Exercise: Fact or Falsehood?*

The correct answers to Handout 11–1 are as follows: 1. T 2. F 3. F 4. T 5. T 6. T 7. F 8. T 9. T 10. F

## Stress and Health

- ▶ Project: Constructing a Family Health History (p. 740)

### 11-1. Identify events that provoke stress responses, and describe how we respond and adapt to stress.

When pollsters asked collegians how often they experienced stress, 85 percent recalled experiencing stress during the last three months. When short-lived or perceived as a challenge, stressors can have positive effects. Prolonged stress increases our risk for serious illness and death.

- ▶ Exercises: Stress Level and Vulnerability to Stress (p. 741); Stress Symptoms (p. 741); The Stress Appraisal Measure (p. 742)
- ▶ Lectures: Early Stress at Home and Later Physical Problems (p. 740)
- ▶ Worth Video Anthology: *What Is Stress?; Stress; Stress on the Job*

**Stress** is not just a stimulus or a response; rather, it is the process by which we appraise and respond to a threatening or challenging event. When perceived as challenges, *stressors* can arouse and motivate us to conquer problems. When perceived as threats, prolonged stressors can harm us and increase the risk of illness.

- ▶ Exercises: College Undergraduate Stress Scale (p. 742)
- ▶ Lectures: Hassles and Uplifts (p. 743); Stress and Economic Change (p. 745)
- ▶ PsychSim 5: All Stressed Out (p. 740)

Catastrophic floods, hurricanes, and fires can result in significant damage to emotional and physical health. Those who experience significant life changes, such as the death of a spouse, divorce, or loss of a job, are vulnerable to disease. Experiencing a cluster of such crises puts one even more at risk. Daily hassles, such as rush-hour traffic, long lines at the store, aggravating housemates, and e-mail spam, may be the most significant sources of stress. Over time, these little stressors take a toll on our health and well-being.

- ▶ Worth Video Anthology: *Selye's Stress Response Studies; Measuring Stress While Running With the Bulls; The Stress Response*

Walter Cannon observed that, in response to stress, the sympathetic nervous system activates the secretion of stress hormones, triggers increased heart rate and respiration, diverts blood from digestion to skeletal muscles, and releases sugar and fat from the body's stores, all to prepare the body for either *fight or flight*.

In Hans Selye's **general adaptation syndrome (GAS)**, the body's adaptive response to stress is composed of three stages. In Phase 1, we experience an *alarm reaction* due to the sudden activation of our sympathetic nervous system. Heart rate increases and blood is diverted to the skeletal muscles. With our resources mobilized, we then fight the challenge during Phase 2, *resistance*. Temperature, blood pressure, and respiration remain high, and there is a sudden outpouring of stress hormones. If the stress is persistent, it may eventually deplete our body's reserves during Phase 3, *exhaustion*. With exhaustion, we are more vulnerable to illness or even, in extreme cases, collapse and death.

- ▶ Lecture: Tend and Befriend (p. 743)

People deal with stress in various ways. A common response to a loved one's death is to withdraw, thus conserving energy. A more common stress response in women is **tend and befriend**.

- ▶ Lecture/Lecture Break: Stress Affects Cancer Treatment, Too! (p. 745)
- ▶ Worth Video Anthology: *Stress and the Immune System: Caretakers and Risk; Fighting Cancer: Mobilizing the Immune System*

### 11-2. Describe how stress makes us more vulnerable to disease.

By studying how our emotions and personality influence our risk of disease, the effects of stress, and the promotion of healthier living, **health psychologists** contribute to *behavioral medicine*, the interdisciplinary field that integrates behavioral and medical knowledge. **Psychoneuroimmunology** studies how psychological, neural, and endocrine processes together affect our immune system and resulting health.

The secretion of stress hormones suppresses the immune system's white blood cells, called lymphocytes. *B lymphocytes* are important in fighting bacterial infections, and T lymphocytes fight cancer cells, viruses, and foreign substances. Two other agents of the immune system are the *macrophage* and the *natural killer cells (NK cells)*. When animals are physically restrained, given unavoidable electric shocks, or subjected to noise, crowding, cold water, social defeat, or maternal separation, they become more susceptible to disease. Studies suggest that stress similarly depresses the human immune system, making us more vulnerable to illness. The immune system can err in two directions: overreacting it may attack the body's own tissues, or underreacting it may allow a virus to erupt.

Stress and negative emotions correlate with a progression of HIV infection to AIDS and with the speed of decline in those infected. Efforts to reduce stress also help somewhat to control the disease. Educational initiatives, bereavement support groups, cognitive therapy, relaxation training, and exercise programs that reduce distress have all had positive consequences for HIV-positive individuals.

Although stress does not produce cancer cells, some researchers have reported that people are at risk for cancer a year or so after experiencing depression, helplessness, or bereavement. A large Swedish study found that people with a history of workplace stress had greater risk of colon cancer than those who reported no such problems. Although a relaxed, hopeful attitude may enhance the body's natural defenses against a few proliferating cancer cells, merely maintaining a determined attitude is not likely to derail the powerful biological forces at work in advanced cancer or AIDS.

- ▶ Lectures: Broken Heart Syndrome (p. 745); Type A and Type B Personalities (p. 746); Type D Personality (p. 747)
- ▶ Exercise: Hostility and Its Alleviation (p. 746)

11-3. *Explain why some of us are more prone than others to coronary heart disease.*

Stress can increase the risk of **coronary heart disease**, the leading cause of death in North America. It has been linked with the competitive, hard-driving, and impatient **Type A** personality. The toxic core of Type A is negative emotions, especially the anger associated with an aggressively reactive temperament. Under stress, the sympathetic nervous system of the Type A person redistributes bloodflow to the muscles and away from internal organs, such as the liver, which removes cholesterol and fat from the blood. The resulting excess cholesterol later gets deposited around the heart. The more easygoing **Type B** personality is less physiologically reactive when harassed or given a difficult challenge and less susceptible to coronary heart disease. Pessimism and depression also can have a toxic effect on a person's health.

- ▶ Exercise: The Anger Discomfort Scale (p. 700)
- ▶ Lectures: Angry Driving (p. 699); Do We Need to Vent Our Rage? (p. 700)
- ▶ Exercise/Project: The Multidimensional Anger Inventory (p. 698)
- ▶ Project: Monitoring Anger (p. 698)
- ▶ Feature Film: *Fried Green Tomatoes* and Expressing Anger (p. 697)
- ▶ Worth Video Anthology: *Rage: One Man's Story and Treatment*; *Rage: One Woman's Story and Treatment*

11-4. *Describe some healthful ways to cope with anger.*

Although "blowing off steam" may temporarily calm an angry person, it may also amplify underlying hostility, and it may provoke retaliation. Individualistic cultures encourage people to vent their rage. This presumes that we can achieve emotional release, or **catharsis**, through aggressive action or fantasy. Anger can be temporarily calming if it does not leave us feeling guilty or anxious. However, anger tends to breed more anger, and it may provoke retaliation. Also, angry outbursts may be reinforcing and therefore habit forming.

Experts recommend first that you wait until you calm down. Second, express your anger as a non-accusing statement of feeling. This can benefit relationships by leading to reconciliation rather than retaliation. When reconciliation fails, forgiveness can reduce one's anger and its physical symptoms.

## Coping With Stress

- ▶ Lectures: The Health Belief Model (p. 748); The Theory of Reasoned Action (p. 748); Stress, Positive Emotion, and Coping (p. 750)
- ▶ Exercises: Differences in Thinking Styles (p. 748); Coping With Health Injuries and Problems Scale (p. 749); Assessing Coping Strategies (p. 749)
- ▶ Exercise/Critical Thinking Break: Reflecting on What We Really Do When We Are Stressed (p. 748)

### 11-5. *Identify two ways that people cope with stress.*

We **cope** with stress by finding emotional, cognitive, or behavioral ways to alleviate it. Through **problem-focused coping**, we attempt to alleviate stress by changing the stressor or the way we interact with that stressor. We tend to use problem-focused strategies when we think we can change the situation, or at least change ourselves to more capably deal with the situation. We tend to use **emotion-focused coping** when we believe we cannot change a situation. For example, we may attempt to gain emotional distance from a damaging, discontinued relationship.

- ▶ Lecture/Exercise: Locus of Control (p. 751)
- ▶ Exercises: Perceived Control (p. 750); Savoring (p. 752); Assessing Self-Control (p. 753); Satisficers Versus Maximizers (p. 753)
- ▶ PsychSim 5: Helplessly Hoping (p. 754)
- ▶ Feature Film: *The Shawshank Redemption*, Perceived Control, and Reciprocal Determinism (p. 752)

### 11-6. *Describe how a perceived lack of control can affect health.*

Rats that experience uncontrollable shock are more susceptible to ulcers and experience a lowered immunity to disease. Feeling helpless and oppressed may lead to a state of passive resignation called **learned helplessness**. Both animal and human studies show that loss of control provokes the strongest stress response (provoking an outpouring of stress hormones), which can contribute to health problems. Control may help explain the well-established link between economic status and longevity.

- ▶ Lecture: Social Relationships and Health (p. 756)
- ▶ Lecture/Project: Writing About Life Goals (p. 757)
- ▶ Exercises: The Life Orientation Scale and Optimism (p. 754); Defensive Pessimism (p. 754); Unrealistic Optimism About Life Events (p. 755); The Hardiness Scale (p. 756); Social Support Scale (p. 756); Self-Concealment Scale (p. 756)
- ▶ Worth Video Anthology: *Companionship and Support: Pets Fill the Void*

### 11-7. *Discuss the links among basic outlook on life, social support, stress, and health.*

Optimism and pessimism influence stress vulnerability. Optimists perceive more control, cope better with stressful events, and enjoy better health. Compared with pessimists, optimists report less fatigue; have fewer coughs, aches, and pains; and respond to stress with smaller increases in blood pressure. Optimists also tend to outlive pessimists.

Feeling liked, affirmed, and encouraged by intimate friends and family promotes both happiness and health. Compared with those who have few social ties, people supported by close relationships are less likely to die prematurely. Carefully controlled studies also indicate that people in low-conflict marriages live longer, healthier lives than the unmarried. Social support strengthens immune functioning, calms the cardiovascular system, and lowers blood pressure and stress hormones. Close relationships provide an opportunity to confide painful feelings. Even companionable pets help people cope with stressful events.

## Reducing Stress

- ▶ Worth Video Anthology: *Experience and Exercise: Generating New Brain Cells*

### 11-8. *Discuss the advantages of aerobic exercise as a way to manage stress and improve well-being.*

**Aerobic exercise**, sustained exercise that increases heart and lung fitness, can reduce stress, depression, and anxiety. It strengthens the heart, increases bloodflow, keeps blood vessels open,

and lowers both blood pressure and the blood pressure reaction to stress. Research has linked aerobic exercise to higher levels of neurotransmitters that boost moods and to enhanced cognitive abilities. And it may foster *neurogenesis*.

- ▶ Exercise: The Relaxation Response (p. 758)
- ▶ Exercise/Project: Meditation (p. 759)
- ▶ Project/Exercise: Biodots and Biofeedback in the Classroom (p. 758)
- ▶ Exercise/Critical Thinking Break: Health Benefits of Time Spent in Natural Settings (p. 758)
- ▶ Worth Video Anthology: *Stress Management: The Relaxation Response*

11-9. *Describe how relaxation and meditation might influence stress and health.*

*Biofeedback*, a system of recording, amplifying, and feeding back information about subtle physiological responses, enables people to control specific physiological responses. Research suggests that biofeedback works best on tension headaches. Simpler methods of relaxation produce many of the technique's same benefits. For example, research indicates that relaxation procedures can help alleviate headaches, hypertension, anxiety, and insomnia. In Type A heart-attack survivors, relaxation lowers rates of recurring attacks. Those experienced in meditation assume a comfortable position, breathe deeply, relax their muscles, close their eyes, and focus on a simple repeated phrase. Research on *mindfulness meditation* found that it is associated with increased left frontal lobe activity and improved immune functioning and has been shown to lessen anxiety and depression.

- ▶ Lectures: Religion's Costs and Benefits (p. 760); Spirituality and Health (p. 761)

11-10. *Describe what is meant by the faith factor, and offer some possible explanations for the link between faith and health.*

Research indicates that those who attend religious services regularly live as many as 8 years longer than nonattenders. Investigators who attempt to explain this *faith factor* have isolated three intervening variables. (1) Religiously active people have healthier lifestyles; for example, they smoke and drink less. (2) Faith communities provide social support networks and often encourage marriage, which, when happy, is linked with better health and a longer life span. (3) Attendance at religious services is often accompanied by a coherent worldview, sense of hope for the future, feelings of acceptance, and a relaxed meditative state. These may enhance positive emotions and immune functioning and decrease feelings of stress and anxiety.

## Happiness

- ▶ Exercises: What Is Satisfying About Satisfying Events? (p. 702); Happiness Measures (p. 702); Flourishing: Beyond Positive Emotions and Pleasure (p. 703); Orientations to Happiness and Life Satisfaction (p. 703); Adaptation Level (p. 706); Relative Deprivation (p. 706)
- ▶ Exercise/Lecture Break: A Positive Spin on Things (p. 702)
- ▶ Lectures: Two Dimensions of Positive Affect (p. 701); Can Money Buy Happiness? (p. 704); Rising Happiness and Freedom of Choice (p. 705); Laughter (p. 707)
- ▶ Worth Video Anthology: *A Happiness Trait?: The Search for Happiness*

11-11. *Describe the main effects of being happy.*

A good mood boosts people's perceptions of the world and their willingness to help others (the ***feel-good, do-good phenomenon***). Mood-boosting experiences make us more likely to give money, pick up someone's dropped papers, volunteer time, and do other good deeds.

11-12. *Define subjective well-being, and describe the topics explored by positive psychology researchers, noting the three "pillars" of the movement.*

***Subjective well-being*** refers to self-perceived happiness or satisfaction with life. Humanistic psychology emphasized human fulfillment; today's ***positive psychology*** focuses on positive emotions, positive health, positive neuroscience, and positive education. The three "pillars" of this movement are positive well-being, positive character, and positive groups, communities, and cultures.

► Exercises: Adaptation Level (p. 706); Relative Deprivation (p. 706)

- 11-13. *Discuss how our happiness levels are affected by time, wealth, adaptation, and comparison.*

Positive emotion rises over the early to middle part of most days. 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 resiliency and capacity to adapt.

At a basic level, money helps us to avoid misery, but having it is no guarantee of happiness. Sudden increases in wealth such as winning a state lottery only increase happiness in the short term. In the long run, increased affluence hardly affects happiness, partly because of the *diminishing returns* phenomenon. For example, during the last four decades, the average U.S. citizen's buying power almost tripled, yet the average American is no happier. More generally, research indicates that economic growth in affluent countries has not boosted morale or social well-being. Ironically, those who strive hardest for wealth tend to experience lower well-being. What matters more is intimacy, personal growth, and contribution to the community.

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.

**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.

- 11-14. *Identify some predictors of happiness, and discuss how we can be happier.*

High self-esteem, close friendships or a satisfying marriage, and meaningful religious faith are among the predictors of happiness. Age, gender, parenthood, and physical attractiveness are among the factors unrelated to happiness.

Although happiness is genetically influenced, research provides some suggestions for improving your mood and increasing your satisfaction with life: Realize that enduring happiness may not come from financial success, take control of your time, act happy, seek work and leisure that engage your skills, exercise and sleep well, nurture your closest relationships, focus beyond the self, count your blessings, and nurture your spiritual self.



## HANDOUT 11-1

## Fact or Falsehood?

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|-----|---|
| T F | 1. For some people, the everyday annoyances add up and take a toll on health and well-being.  |
| T F | 2. Researchers agree that stress creates cancer cells.  |
| T F | 3. Occasionally blowing off steam seems to reduce anger and aggression in the long run.   |
| T F | 4. Compared with others, pessimists are more than twice as likely to develop heart disease.   |
| T F | 5. Only 1 in 4 people in the United States exercise for at least a half-hour on five or more days of the week.                            |
| T F | 6. Religious faith and health show a strong positive correlation.   |
| T F | 7. Humanistic psychology and positive psychology both emphasize the scientific study of human flourishing.                                |
| T F | 8. Kidney dialysis patients report being just as happy as healthy nonpatients.  |
| T F | 9. Over the past half-century, the average U.S. citizen's buying power has almost tripled, but the average American is not a bit happier. |
| T F | 10. People with children tend to be happier than those who have no children.  |

