**Chapter 14**

**Objective 1| Identify some behavior-related causes of illness and death, and describe health psychology’s contribution to the field of behavioral medicine.**Our behaviors, such as smoking, regular exercise, nutrition, and exposure to prolonged stress, can affect our susceptibility to heart disease, cancer, stroke, and chronic lung diseases(currently the four leading causes of death), as well as making us more vulnerable to high blood pressure, skin rashes, and other illnesses. The field of behavioral medicine is based on the understanding that mind and body interact. Within that field, health psychology studies the ways our attitudes, emotions, behaviors, and personality influence our health, well-being, and risk of disease.

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**Objective 2| Discuss the role of appraisal in the way we respond to stressful events.**Stress is not an action or a condition; instead, it is the process by which we respond to stressful events (stressors). An important part of that process is our appraisal of an event as threatening, challenging, or unimportant. Our appraisals help determine whether our response will be healthy feelings of energized and directed arousal, or overwhelming feelings of distress.

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**Objective 3|** **Describe the dual-track system by which our body responds to stress, and identify the three phases of the general adaptation syndrome.**Our response to stress is a prime example of mind-body interaction. The first (and faster) track of the stress-response system is the fight-or-flight response, identified by Walter Cannon, in which the sympathetic nervous system responds to a stressor on several fronts: The inner parts of the adrenal glands pour out epinephrine and norepinephrine, heart and respiration rates increase, blood flows away from digestive organs and toward skeletal muscles, sensations of pain diminish, and the body releases stored sugar and fat. On the slower track of the system, the cerebral cortex, perceiving a stressor, stimulates the hypothalamus and the pituitary gland to trigger the release of glucocorticoid stress hormones, such as cortisol, from the outer part of the adrenals. The three stages of the general adaptation syndrome, Hans Selye’s concept of the body’s response to stress, are alarm (temporary shock state in which the body mobilizes resources), resistance (period of coping with the stressor), and exhaustion (depletion of reserves following prolonged stress)

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**Objective 4| Discuss the health consequences of catastrophes, significant life changes, and daily hassles.**Large-scale catastrophic events can increase depression and anxiety and cause problems with concentrating and sleeping. Significant personal life events, such as losses (death of a loved one, a divorce, losing a job) or even changes (marriage, leaving home) may leave people vulnerable to disease. But daily hassles—the continuing series of small, everyday stressors—are the most significant sources of stress for most people and can damage health (by, for example, raising blood pressure) and well-being.

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**Objective 5| Discuss the role of stress in causing coronary heart disease, and contrast Type A and Type B personalities.**Stress can increase the risk of coronary heart disease. The vital link in this stress-disease path is negative emotions—depression, pessimism, but especially anger. The Friedman-Rosenman study, the first to show the anger–heart-disease link, contrasted Type A personalities (competitive, hard-driving, impatient, and anger-prone) with Type B personalities (easygoing and relaxed).Under stress, Type A people are physiologically more reactive, with an outpouring of hormones that accelerate the buildup of plaque on artery walls, leading to high blood pressure and increased risk of strokes and heart attacks.

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**Objective 6|** **Distinguish between a psychophysiological illness and hypochondriasis.**Psychologists use the term psychophysiological illness to describe stress-related physical illnesses, such as hypertension (high blood pressure) and some headaches. These real illnesses differ from hypochondriasis, or misinterpreting normal physical sensations as symptoms of a disease.

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**Objective 7|** **Describe the effect of stress on immune system functioning.** The immune system’s B lymphocytes (formed in bone marrow) release antibodies that fight bacterial infections. The T lymphocytes (formed in the thymus and lymphatic tissue) fight cancer cells, viruses, and foreign substances. Other immune-system agents, the macrophages, ingest harmful invaders, worn-out cells, and other internal debris. Stress does not directly cause disease, but when energy is diverted away from immune system activities and redirected toward the stress-response system, we become more vulnerable to infections and disease.

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**Objective 8|** **Discuss the findings on the link between stress and AIDS.** AIDS is caused by the HIV virus, not by stress. But stress and negative emotions may accelerate the progression from viral infection to actual AIDS. HIV-positive individuals benefit more from drug treatments, but programs that reduce stress do seem to help somewhat.

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**Objective 9| Discuss the findings on the link between stress and cancer.** Stress does not create cancer cells. Researchers disagree on whether stress influences the disease’s progression, but they do agree that avoiding stress and maintaining a hopeful and determined attitude cannot reverse the destructive processes under way in advanced cancer.

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**Objective 10|** **Describe the impact of learning on immune system functioning.** Researchers have conditioned immune system suppression in laboratory experiments. Encouraged by these results, others are working on ways to condition immune-system enhancement. Pages: 559-560

**Objective 11|** **Contrast problem-focused coping and emotion focused coping.** When we use problem-focused coping, we attempt to reduce stress directly by changing the events that trigger stress reactions or by changing the way we react to those events. We tend to use emotion-focused coping (putting distance between ourselves and a stressor, or attending to our own emotional needs) when we believe—rightly or wrongly—that we cannot change a stressful situation.

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**Objective 12|** **Describe how a perceived lack of control can affect health.** A perceived lack of control has been associated with higher than normal susceptibility to bacterial infections, cardiovascular disease, and, possibly, a shorter life span due to elevated levels of stress hormones and diminished immune system responses.

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**Objective 13|** **Discuss the links among explanatory style, stress, and health.** Compared with people with a pessimistic explanatory style, optimists tend to feel they have more control over stressors, cope better with stressful events, enjoy better moods, have stronger immune systems, and live longer than pessimists. Laughter (but not sarcasm) may reduce stress and strengthen the immune system.

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**Objective 14|** **Describe some of the ways that social support acts as a stress buffer.**Supportive family members, marriage partners, close friends, and companionable pets help people cope with stressful events. Social support fosters stronger immune functioning, calms the cardiovascular system, and lowers blood pressure.

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**Objective 15|** **Discuss the advantages of aerobic exercise as a technique for managing stress and fostering well-being.** Stress-management programs often include aerobic exercise (sustained exercise that increases heart and lung fitness), which raises energy levels, increases self-confidence, lowers tension, and may alleviate depression and anxiety. Studies have linked aerobic exercise to lowered blood pressure, increased arousal, higher levels of neurotransmitters that boost moods (such as norepinephrine, serotonin, and the endorphins),enhanced cognitive abilities, and (in mice) the growth of new brain cells.

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**Objective 16|** **Compare the benefits of biofeedback and relaxation training as stress-management techniques, and discuss meditation as a relaxation technique.** Biofeedback techniques have helped people control tension headaches, but simple relaxation exercises have been equally effective in combating hypertension, anxiety, and insomnia, and in lowering rates of recurring heart attacks. Some have searched for relief from stress and illnesses in complementary and alternative medicine. Studies of people while meditating have shown increased left frontal lobe activity and improved immune functioning, compared with their counterparts in control groups.

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**Objective 17|** **Discuss the correlation between religiosity and longevity, and offer some possible explanations for this link.** Regular religious attendance has been a reliable predictor of a longer life span. Researchers trying to determine the cause-effect relationship have isolated three intervening variables: (1) Religiously active people have healthy lifestyles (smoking and drinking less, for example). (2) Faith communities often function as social support networks and often encourage marriage (which, when happy, is associated with better health and longer life span). (3) Religious attendance—with its accompanying coherent worldview, sense of hope for the future, feelings of acceptance, and relaxed meditative state—may enhance feelings of positive emotions (such as hope and optimism) and decrease feelings of stress and anxiety.

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**Objective 18|** **Explain why people smoke.** Smoking’s allure for teens comes in part from social rewards—identifying with or being accepted by “cool” people. Depending on their genetic inheritance, one in three early smokers will develop a physiological addiction to nicotine, as hard to break as an addiction to heroin or cocaine. By triggering a release of epinephrine, norepinephine, dopamine, and the opioids, nicotine takes away unpleasant cravings and delivers rewards.

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**Objective 19|** **Discuss ways of helping smokers to quit smoking—or preventing young people from ever starting.** Many approaches offer short-term quitting help for smokers, but long-term rates are less successful. Helpful pointers for quitting include setting a quit date, informing family and friends of the decision, removing all cigarettes, reviewing successful strategies learned in previous attempts, using a nicotine patch or gum, abstaining totally from smoking, abstaining from alcohol, avoiding places where others are likely to smoke, and exercising. Programs that successfully discourage young people from smoking (1) provide information about the effects of smoking; (2) educate young people about the influence of peers, parents, and the media; and (3) use modeling and role playing to train young people in refusal skills. Raising taxes on cigarettes also effectively cuts consumption.

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**Objective 20|** **Discuss the adaptive advantages and modern-day disadvantages of a body that stores fat.**Fat is a concentrated fuel reserve, and a body that can store this reserve can use it during times of famine. But this tendency, which was adaptive for our ancestors who gatheredand hunted their food, is maladaptive for modern humans in a world of easily accessible food. Combined with a lack of exercise, the abundance of high-calorie food has led to high rates of obesity (defined as a body mass index of 30 or more),with increased risks of diabetes, high blood pressure, heart disease, gallstones, arthritis, sleep disorders, and certain types of cancer.

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**Objective 21|** **Describe some of the social effects of obesity.**Obesity threatens psychological well-being as well as physical health. Obese people, particularly obese women, encounter weight discrimination when seeking employment (where they encounter bias in hiring, placement, promotion, compensation, discipline, and discharge), searching for a romantic relationship, and interacting with family (bias sometimes extends to those seen with an obese person).

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**Objective 22|** **Discuss some research findings on the role of heredity and environment in determining body weight.** Studies of twins and adopted children indicate that being overweight is at least in part an inherited trait. But genes influence body weight—they don’t determine it. For example, some people are genetically predisposed to have more fat cells and larger fat cells than others, but in an obese person, the original fat cells double or triple in size and then divide(or trigger nearby immature fat cells to divide), which is an irreversible environmental effect. Individuals also differ in their resting metabolic rates, but once someone gains weight in the form of fat tissue, less energy is needed to maintain that tissue than is needed to maintain muscle tissue. Environmental factors, such as frequently eating high-calorie foods and living a sedentary life, also matter, as comparisons of similar people from different generations or different locations indicate. Genes mostly determine why one man is heavier than another, but environment mostly determines why the same man is heavier than his grandfather was at the same age.

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**Objective 23|** **Discuss the chances of success for an overweight person who wants to lose weight.**Participants in structured weight-loss programs do experience a very high rate of failure, but these individuals may represent a group at especially high risk (they may have been unable to help themselves before joining the program). Moreover, surveys indicate that 25 to 60 percent of people who were once significantly overweight have successfully lost weight and kept it off for at least one year, and some for five years. Some overweight people, realizing that obesity is not a matter of willpower, choose to accept their weight. Others who want to lose weight can improve their chances: Begin a weight-loss program only when feeling motivated and self-disciplined; minimize exposure to tempting food cues; boost energy expenditure through exercise; set realistic and moderate goals; eat healthy foods; space small meals throughout the day; and forgive yourself (rather than giving up) if you have a lapse, remembering that occasional lapses will occur when you are making a lifelong change in eating patterns.

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