

Social Psychology and Health

Sy was a classic “couch potato.” He was overweight and overwrought. He had a stressful job, full of deadlines and impossible demands. He was paid very well but was often very angry about the pressure he was under at work.

Sy didn't have much of a social life; he was divorced and socially isolated. His job gave him little time to develop friendships. When it came to a choice between spending time with a friend or “catching up” on work, it was no contest: Sy felt compelled to work.

Sy didn't pay much attention to what he ate, but he loved fatty foods. His favorite food was a hot dog wrapped in bacon. When he wasn't eating, he had a cigarette in his hand. His physician and friend, Bill, told Sy he needed to lose weight, get more exercise, quit smoking, and reduce the stress in his life or he could expect, before long, to “wake up dead.”

One day Sy saw an advertisement for a liquid diet concoction that promised safe, easy weight loss. The photo of a well-known sports personality appeared in the ad with the words, “If I can do it, so can you.” Sy was inspired. He bought the drink and began to lose weight. Then he began to exercise. He started to run, and he bought the newest, most fashionable exercise clothes. When he saw Bill again, he was proud of his new condition. Bill was pleased too but suggested that Sy have a stress test to make sure exercising was safe for him. He asked Sy if he had experienced any shortness of breath or chest pain while running.

Sy's answer -- “No, not really” -- concerned Bill, so he did some blood work on his friend and set up an appointment for him to take an exercise stress test at a local hospital. The results of the blood tests suggested that Sy was probably healthy but ought to have the stress test anyway. Sy called the day before he was to take the stress test, saying he had to go to New Mexico on business and would reschedule when he got back. Bill cautioned Sy not to push himself and to be sure to reschedule.

Several months later, Sy returned to Bill's office for further testing. Bill was pleased with the results of these blood tests. He told Sy that although he could not give him a blanket assurance that he had nothing to worry about, he thought Sy was probably healthy. But suddenly, after months of avoiding tests, Sy asked for rigorous treatment. Bill was surprised, but he quickly scheduled a stress test. It was too late. Before the scheduled stress test, in the early hours of a promising spring morning, Sy felt a crushing pain in the center of his chest. It felt like someone had dropped a concrete block on top of him.

It turned out that Sy had experienced symptoms for months -- chest pain, some numbness in his hand, an odd tingling in his left arm, pain along his jaw line and neck. He asked his friends if they had ever experienced those sensations. Some said yes. Sy was reassured, thinking that if others had the same symptoms, they probably weren't too serious. He had also read an article in *Runner's World* suggesting that runners are at low risk for heart disease. Besides, Sy “knew” that only “old fat guys” had heart attacks.

When Sy began to feel the crushing pain in the center of his chest, along with waves of nausea,

feelings of dread, and a sense of certainty that he was about to die, he still denied that he was having a heart attack. A co-worker rushed to call the paramedics, but Sy stopped him. He wanted to prove that he was really all right, so he did 30 pushups. Then he passed out. He died in the hospital 3 days later of a second massive heart attack. He was 43 years old.

Although Sy's premature death from heart disease was not entirely his fault, he did have control over some of what happened to him. What aspects of his life might he have changed? He could have eaten healthier foods and lost weight earlier in life, and he could have quit smoking. He also could have followed his physician's advice and gotten the stress test.

Sy's case is not particularly unusual. Stress, denial of symptoms, lack of adherence to medical advice, and the inability to change an unhealthy lifestyle all contribute to a variety of diseases. Conditions that have been shown to be affected by such factors include heart disease, cancer, gastrointestinal disorders, hypertension (high blood pressure), obesity (defined as being 20% or more above the upper limit for weight on a height-weight table), and a number of other physical disorders (Spacapan, 1988a).

Unmanaged stress and other lifestyle factors also have an effect on the immune system, as verified by substantial scientific evidence. Studies have shown that negative moods and feelings, such as depression, anxiety, fear, and anger, are associated with a decline in immune functioning, at least temporarily. The connections take place through a complex communication system involving the brain, the endocrine system (glands and hormones), and the immune system. The immune system is the body's first line of defense against illness. When it breaks down, the body becomes vulnerable to disease and death.

It is probable that roughly half of all modern diseases have a significant preventable component. Smoking cigarettes, for example, contributes heavily to lung cancer and heart disease. It has been estimated that changes in behavior, as well as early detection and treatment, would prevent 45% of deaths from heart attacks and strokes, 23% of deaths from cancer, and 50% of deaths from diabetes (Fanning, 1990).

The social psychology of health is concerned with the relationships among the biological, psychological, and social factors that influence health and illness (Gatchel, Baum, & Krantz, 1989). The related field of behavioral medicine is concerned with the application of the scientific findings of health psychology to the prevention of behaviors harmful to health (Gatchel et al., 1989).

In this chapter we focus on three areas of social psychology and health - stress, lifestyle factors in disease, and strategies to prevent disease and injuries. We ask, What is stress, and how does it affect the health of a person like Sy? Why did he deal with his symptoms the way he did? What lifestyle factors played a role in his heart disease, and why was he unable to change them? Indeed, how can people be persuaded to make any changes in their lives? And what are the best approaches to improving people's health, on both an individual level and a societal level? These are some of the questions addressed in this chapter.

THE NATURE OF STRESS

There are several ways of defining and thinking about stress (Bishop, 1994). One way, referred to as the stimulus definition of stress, focuses on the stimuli that produce stress. Stress is defined in terms of what is happening in the environment. According to this way of looking at stress, different people respond pretty much the same way to given events. Any individual who experienced a great deal of work-related stress, for example, would probably become ill, in this view.

A second way of defining stress, the response definition of stress, focuses on how people react, both physiologically and psychologically, when they are in stressful situations. The response of the body in stressful situations has been studied extensively by Hans Selye (1976), a pioneer in the area of stress and physiology. Selye proposed a three-step model called the general adaptation syndrome describing the reaction of the body to a stressor - any event or situation that requires that a person make an adjustment (Figure 15-1). Stage 1 of this model is the alarm stage, in which the body reacts to the stressor with an instinctive, automatic response. A branch of the autonomic nervous system (a part of the nervous system that operates independently of conscious thought) releases hormones into the bloodstream that prepare the body for "fight or flight." Heart rate accelerates, bronchi dilate to allow more air into the lungs, the liver releases sugar for extra energy, digestion halts, perspiration increases to cool the skin, hearing and vision become more acute, and endorphins are released to provide pain relief in case of injury (Insel & Roth, 1994).

The body resists such dramatic change, however, and as soon as possible it initiates the adjustments needed to restore balance. Stage 2 is the resistance stage, in which the alarm reaction is halted and the body attempts to restore normal functioning. However, if the stressful situation persists, or if there is a series of such events, the organism has difficulty returning to normal. Both the alarm reaction and the resistance stage require a considerable amount of energy. If these stages go on for too long, reserve stores of energy are depleted and the third stage, exhaustion, sets in. This is not the everyday kind of exhaustion; rather it is a profound, life-threatening physiological exhaustion that may be accompanied by such symptoms as distorted thinking and perceptions (Insel & Roth, 1994). At this point the person becomes vulnerable to disease or death (Spacapan, 1988a).

A third definition of stress, the one used in social psychology, focuses on the observation that stress is a transaction between the individual and the environment. In this perspective, the most critical aspect of stress is the way in which the individual perceives and responds to the stressful event (Bishop, 1994). The experience of stress is mediated by the individual's judgment of the situation and her ability to cope with that situation. Implied in this definition is the idea that the experience of stress is subjective. Stress is in the eye of the beholder. If individuals perceive that the demands made of them exceed their ability to cope with those demands, then the situation is stressful for them (Cohen, Tyrrell, & Smith, 1993). If individual resources exceed the demands of the situation, however great those demands may be, then the situation will not be perceived or experienced as stressful.

Life Stressors and Illness

In the early 1960s, two physicians working at the naval air base in San Diego began to notice

that many of the sailors who visited the infirmary had undergone stressful life events in the previous few months (Holmes & Rahe, 1967). The two doctors began to keep track of the events - they called them life stressors - that appeared to affect the health of the sailors. Many of these stressors were marital and sexual problems, but others were successes, such as promotions; failures, such as being passed over for a promotion; worries over mortgages and rents; parking tickets; and other stuff of daily life.

To study the relationship between stress and health, the two physicians devised a questionnaire called the Schedule of Recent Events, which was later modified and published as the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967). An adapted version of this scale is shown in Table 15-1. Holmes and Rahe told their subjects to use marriage as their base and to assume that it was worth 50 (stress) points. They then asked subjects to rate the other life events on the list in comparison to marriage. They found that the more points sailors accumulated in one year, the more likely they were to get sick. Accumulating 300 points or more, a really bad year, was virtually a guarantee of illness.

Now, there are two things to note about the list of life events. First, both good and bad events are considered stressful; getting married is almost as stressful as going to jail. Second, it may not be that the stressful event causes illness; a person may already be getting sick and therefore be experiencing some of these difficulties. People who do not feel well may be more likely to have sexual problems, for example, or to get low grades in school, or to experience problems at work. Therefore, although there may not always be a causal relationship between stressful life events and disease, it is not surprising that scores on the SRRS correlate with subsequent illness.

Sources of Stress

Sources of stress tend to be cumulative. They build until they reach a level that may overwhelm the individual's ability to cope. And, as we have seen in the work of Holmes and Rahe, there are many potential sources of stress. Let's consider just two sources: everyday hassles and on-the-job stress.

Everyday Hassles

There are indications that everyday hassles are excellent predictors of susceptibility to disease. These include such frustrating and irritating daily events as worrying about one's weight, not having enough time to get homework done, standing in line, and arguing with roommates or family members (Lazarus & Folkman, 1984).

One group of researchers devised a "hassle scale" that organizes hassles into categories (DeLongis, Folkman, & Lazarus, 1988):

- Household hassles, such as preparing meals
- Health hassles, such as getting the flu
- Financial hassles, such as bouncing a check
- Work hassles, such as being dissatisfied on the job
- Time-pressure hassles, such as not having enough time to do everything you want or need to
- Environmental hassles, such as worrying about crime and personal safety

As it turns out, scores on the hassle scale are highly related to health problems.

Many of the daily hassles we experience are actually self-produced. Consequently, the stress associated with them is self-produced. Such hassles as having a quarrel with a landlord or contracting a sexually transmitted disease can be blamed, at least in part, on the individual experiencing them. Other hassles are not self-produced, such as the death of a close friend or relative. Most of the total stress we face is of the first kind, events that we have a hand in producing (Epstein & Katz, 1992). This means that we have some control over these sources of stress. How we deal with various situations in life is thus critical to our health.

Job Stress

No matter what job you have, or will get in the future, you can count on some stress associated with it. In a 1979 survey by the American Academy of Family Physicians, 80% of business executives, 66% of teachers and secretaries, 44% of garment workers, and 38% of farmers reported that they “usually” or “always” work under stress (Veninga & Spradley, 1982). Respondents reported four kinds of stressors: pressure from supervisors, work overload, deadlines, and low salaries. Jobs do vary in the amount of stress associated with them, of course. Police officers and firefighters, for example, who face the prospect of being injured on the job, are likely to experience more stress than computer programmers. Sometimes working conditions make a job unbearable. For a closer look at what can happen in this case, see the featured discussion “Stressed Out on the Job.”

Job stress manifests itself in a variety of ways. A worker experiencing job stress may not have more health problems and a higher rate of absenteeism than one not experiencing job stress. If left unchecked, job stress may lead to a phenomenon known as burnout, a psychological condition in which energy and motivation are sapped (Veninga & Spradley, 1982). Burnout means that people have depleted energy reserves, lowered resistance to illness, increased dissatisfaction and pessimism, and increased absenteeism and inefficiency at work.

But job stress does not always lead to illness and burnout. An individual’s personality characteristics may determine how well job stress is handled. Richard Lawrence (1984) suggested that reactions to job stress are a function of three factors: personality factors (e.g., aggressiveness, defensiveness), stressors (e.g., danger, problems with supervisors), and behavioral responses (e.g., coping mechanisms, denial). Lawrence conducted a study to investigate his personality-stress response model using 104 police officers. Each officer took a battery of tests including a standard personality measure and the Police Stress Inventory. The Police Stress Inventory indicated that there are four main stressors inherent in police work: court procedures/decisions, administration, equipment, and community relations (Lawrence, 1984, p. 256). Lawrence found that response to a stressor depended on the individual officer’s personality. For example, officers who were “suspicious and threat-sensitive” were most upset when they had to appear in court and were disturbed by the decisions made by the courts. Officers who were “controlled and compulsive, outgoing, and easily upset” were most bothered by faulty equipment, such as radios that didn’t work or squad cars that broke down.

Another variable that interacts with job stress is gender. Women experience certain job stresses

that men don't (Gutek, 1990). Women have a variety of roles and obligations, often both at work and at home. A satisfying job may help a woman deal with the stresses of home life, but difficulties in both the home and the work place make for very high stress levels (Gutek, 1990).

Other significant sources of job stress for women are pay inequalities and sexual harassment. Research shows that at least 10% of working women have experienced sexual harassment at work (Gutek, 1990). Women who complain about harassment may find promotion blocked, experience less job satisfaction, and have to deal with serious emotional problems that stem from the incidents, thus adding to whatever "normal" levels of job stress exist.

Both men and women bring work stress home. Men, however, are more likely to let stress at home affect their work. Women's traditional abilities to deal with socio-emotional problems help them cope with problems at home more effectively than men. In fact, many working women protect their working husbands from the demands of home life. This may be why marriage correlates with improved emotional adjustment for men but not for women (Gutek, 1990). In fact, unmarried women appear to show more positive psychological adjustment than do married women (Bishop, 1994).

STRESSED OUT ON THE JOB

John Taylor worked as a letter carrier with the U.S. Postal Service. His job was one that many would "kill" for, a civil service position with good pay and job security. But one day in August, 1989, Taylor entered the post office in Escondido, California, carrying a rifle instead of his letter bag. He proceeded to go on a shooting rampage, killing two of his fellow postal workers and his wife. He eventually turned the rifle on himself, committing suicide.

John Taylor's shooting spree was not unique in post office history, nor was it the worst. Similar scenarios have been played out over the past several years. In Michigan, a fired postal worker went on a rampage like Taylor's killing several postal workers. In New Orleans, a postal worker killed his supervisor by shooting him in the face and then wounded three others. In Boston, an angry postal worker strafed the city from a stolen helicopter with an AK-47 assault rifle. And on May 6, 1993, two unhappy postal workers - one in southern California, another in Dearborn, Michigan - both harboring grievances, killed and wounded fellow postal workers. Between 1983 and 1993, 34 postal workers and supervisors were shot to death by fellow employees on the job. In fact, up to December 1989, there had been 355 attacks of postal employees on their supervisors and 183 attacks by supervisors on the workers (*Time*, December, 1989).

While violent events occur in many different work settings, the postal service seems especially vulnerable to violence. Why? Apparently, the seemingly serene post office is a hotbed of job stress and poor labor-management relations. For example, in ever-increasing attempts to speed up the mail, the postal service has installed new optical sorting machines. These machines pass up to 30,000 pieces of mail per hour by the eyes of postal workers. The worker must code the first three digits of the ZIP code into the machine as the letter passes. The worker has about a second to read the code and key it into the machine. The machine is relentless, and supervisors are not tolerant of errors. In fact, an inquiry found that postal supervisors often use an overly harsh style of management.

Behind the scenes at the post office is a cauldron of seething emotions; job stress, draconian management practices, and violence. An enormous number of grievances are filed by postal workers every year (sometimes 150,000 per year), and disciplinary actions are common (*Time*, December, 1989). The oppressive atmosphere sometimes creates unbearable job stress and leads to explosions of violence like John Taylor's rampage.

If stress is a transaction between the individual and the situation, what personality factors and what situational factors would account for these violent events? Why do you think the perpetrators are always males and never females? How could these kinds of events be prevented?

COPING WITH STRESS

Although stress has been associated with many physical and psychological disorders, not everyone who experiences stress is afflicted. Some people develop effective mechanisms to cope with the stress that they experience. These coping mechanisms help individuals lessen and manage both the causes and the effects of stress (Baum, Grunberg, & Singer, 1982). In this section we look at the mechanisms people use to cope with stress. In the next two sections we consider how people cope with trauma and with illness.

Perceived Control and Self-Efficacy Beliefs

A person's ability to cope with stress depends to a large extent on the degree of control the individual thinks he or she has over the stress-producing events. Perceived control is important to any coping response; it indicates that the person believes she has power over what happens in her life. When the life events on the Holmes and Rahe scale are broken down into "controllable" and "uncontrollable," only the uncontrollable events correlate highly with future illness (Thompson, Cheek, & Graham, 1988). Even the trivial everyday hassles that drive us crazy are those that have an uncontrollable quality to them, such as the painter who says he will be at your house on Tuesday at 9 a.m. and doesn't show up until Wednesday at noon.

People who believe that they have some degree of control over what happens to them also feel that they can effectively cope with stressful or threatening events (Affleck, Tennen, Pfeiffer, & Fifield, 1987). These individuals usually express feelings of self-efficacy, the notion that one can do what one sets out to do (Bandura, 1986). People who have strong feelings of self-efficacy are likely to respond to stress by throwing more effort and resources into coping with the threat.

One study found that 27% of the individuals who felt at risk for AIDS had thoughts about suicide (Schneider, Taylor, Hammen, Kemeny, & Dudley, 1991). These thoughts had little to do with their actual physical condition but were an attempt to cope with the probability that they would soon develop and subsequently die of AIDS. As we saw in Chapter 2, suicide and suicidal thoughts can be seen as an attempt to exercise some control over the future. By thinking that they had an "out" if they had to experience pain and suffering, they were actually increasing their sense of control over their lives.

Another study of the effects of perceived control and self-efficacy beliefs on health status was conducted with patients in a nursing home as subjects (Langer & Rodin, 1976). Typically, when people enter nursing homes, they are expected to allow the home's staff to run their lives. Meals

are planned and scheduled, as are visiting hours. All rooms are furnished exactly alike. In fact, families expect that when they place a relative in a nursing home, all the person's needs will be met.

In this study, patients on one floor of a high-quality nursing home were given a modest increase in control over their lives. They were told they could arrange their rooms the way they liked, choose how to spend their spare time, and decide when or if they watched TV, listened to the radio, or engaged in other activities. This was the experimental group. Patients on the other floors of the nursing home - the control groups - were told that the staff would arrange for all their needs. Since patients were randomly assigned to different floors, there was no reason to believe that any floor had healthier or unhealthier individuals.

Eighteen months later, the mortality rates of the two groups were compared. The researchers found that 15% of the patients on the experimental floor had died and 30% of the patients on the other floors had died. Why the difference? The researchers suggest that those patients who perceived that they had some control over their environment were more positive, more sociable, and generally happier than other patients. This translated into better health and lower mortality rates.

The Effects of Positive Mood

Positive moods also affect the way both sick and healthy people deal with stress. In one study, researchers made groups of ill or healthy subjects feel sad, happy, or neutral (Salovey & Birnbaum, 1989). Subjects who were sad reported more general aches and pain than did happy subjects. A positive mood increased the subjects' belief that they could lessen their symptoms and cope so that they carry on daily activities. Mood may also influence the course of illness (Salovey & Birnbaum, 1989). A sad, depressed mood often leads to feelings of fatigue and weakness. People may tend to interpret these symptoms as part of their "physical" illness. Such a misinterpretation of symptoms may slow recovery.

Some researchers argue that there is a "disease-prone" personality, in which a persistent depressed mood plays an important role (Friedman & Booth-Kewley, 1987). There is even some evidence linking food allergies with depression (Marshall, 1993). However, allergy and depression are probably connected by some underlying neurochemical disorder that is aggravated by psychological stress. There is no evidence that food allergies cause depression.

A good mood is often expressed in laughter. The German philosopher Friedrich Nietzsche observed about humans that "the most acutely suffering animal on earth invented laughter." Research shows that laughter may play a role in altering the course of some types of illnesses. In one study, researchers looked at the effects of laughter and relaxation on the ability of subjects to withstand the discomfort produced by the inflation of a blood-pressure cuff (Cogan, Cogan, Waltz, & McCue, 1987). Subjects listened to one of three audiotapes: a humorous tape that induced laughter, a relaxation tape, or an "informative narrative." A fourth group, the control group, did not hear a tape. Subjects who heard a humorous tape were able to withstand the most discomfort, followed by the relaxation group. The other two groups were able to withstand the least discomfort.

Much of the research into the effects of positive mood on health was inspired by former magazine publisher Norman Cousins (1979, 1989). Cousins was stricken with a severe inflammation of the spine and joints, and his physicians told him that the disorder would leave him disabled. Cousins would not accept this prognosis. Day after day he watched Marx brothers movies from his hospital bed. He found that 10 minutes of solid laughter gave him 2 hours of pain-free sleep. Cousins eventually left the hospital free of pain and other symptoms.

Although laughter was good medicine, Cousins and the scientists who support his ideas do not claim that you can actually laugh your way out of serious disease. Cousins used laughter as a metaphor, a figure of speech, for all those emotions involved in hope, faith, and determination that may affect people's perception of stress and of their ability to cope (Cassilth, Lusk, Miller, & Miller, 1985). Note that the technique Cousins used permitted him to feel he had control over his illness and could be effective in doing something about it.

Cousin's account of his use of laughter in his recovery has led to some interesting developments. Some hospitals have equipped the rooms of cancer patients with TVs and stereos so that they see or hear their own equivalent of the Marx brothers. The Duke University Comprehensive Cancer Center uses humor, art, music, literature, and anything related to the patient's interests as part of the treatment, including a "laugh wagon" stocked with humorous tapes and books, which is as important as the "pill wagon" in the treatment scheme (Cousins, 1989).

Social Support

It is interesting that loss of a spouse is related to disease and death in men but not in women. The explanation for this finding may be that women have higher levels of social support, have more friends, belong to more organizations, and have better coping strategies than men (Adler, 1990). *Social support* is a network of social relationships with people who provide help (psychological, social, financial) during crises. Social support appears to act as a psychological buffer that absorbs, cushions, and thus diminishes the stress brought on by severe threat.

Social support is vital to health. In a study of heart patients completed at a major medical school, individuals who lacked a spouse or a confidant were three times as likely to die within 5 years as those who were married or had a close friend (Brody, 1992). Having someone to talk to is potent medicine. However, as you might suspect, talking to just anyone will not do. In a study of the reactions of students to taking a medical-school entrance examination, test-takers who had more "companionate" contacts - interactions with friends and neighbors in leisure activities - were best able to cope (Bolger & Eckenrode, 1991) (Figure 15-2). These contacts were discretionary; obligatory contacts appeared to increase stress. The one "obligated" contact that did help buffer stress was the contact married students had with their spouses.

Just as social support enhances health, social isolation - the lack of close social contact - endangers it. In an international study of the effects of isolation and loneliness on health, more than 37,000 people in three countries were evaluated by researchers (House, Landis, & Umberson, 1988). Socially isolated individuals - those who said that they had no one to confide in or who had less than one close contact with another person each week - were found to be at greater risk for ill health than non-isolated individuals.

Social isolation actually poses a greater mortality risk than smoking (Gatchel et al., 1989).

People with weak social ties have been found to be twice as likely to die as those with strong relationships. Recall that Sy was a social isolate at the time of his death. His isolation may have been a factor in his fate. Social isolation is more deadly to men than to women. This is probably because even when women have few social contacts, these ties are of a higher quality than those men have. Social support is not limited to interaction with other humans. For a closer look at another form of support, see the featured discussion “Pets as Stress Moderators.”

Pets as Stress Moderators

Science seems to have recently supported what (almost) every pet owner knows: Pets may play a role in buffering people from stress and illness. Research has shown that pet owners who are elderly visit the doctor less often than elderly individuals who don't own pets. In fact, pets seem to play a role in helping patients with coronary heart disease survive longer. Exactly how pets function to buffer stress has only recently been investigated.

Karen Allen, Jim Blascovich, Joe Tomaka, and Robert Kelsey (1991) asked 45 women who owned dogs to take part in a study designed to determine exactly what effects the animals had on the ability of their owners to cope with stress. The women were asked to perform a stressful mental arithmetic task in the presence of a friend or their pet or neither. The presence of their pets resulted in a lowered physiological reaction to the task. That is, when the women performed the arithmetic task with only their pet present, their pulse rate, blood pressure, and skin conductance showed less arousal than when in the presence of a friend or by themselves.

Why this reaction? Pets are comforting and nonevaluative. They don't care whether you get the right answer. Some of the subjects in this study, especially the divorced women, commented that whereas husbands may come and go, and children may grow up and leave, “a dog is forever.” These women told the experimenters that the pets “never withhold their love, never get angry and leave, and they never go out looking for new owners.” (Allen et al., 1991, p. 588).

If pets serve to reduce stress, what other events or interactions might serve the same purpose? How would you determine if having a pet is stress reducing or if people who own pets are the type of individuals who know how to reduce stress?

Personality Factors

We have seen that there is a relationship between stress and illness. We have also seen that the stressfulness of an event often depends on how the individual perceives and interprets that event. Some people are very vulnerable to stress - they are prone to interpret events in a way that makes them more stressful - and others are less vulnerable. What is it that buffers some individuals from stress?

Researchers have looked at personality factors as variables in the stress-disease connection. Psychologist Suzanne Kobasa has suggested that there is a combination of characteristics that protects individuals from stress-related illnesses (Kobasa, Maddi, Puccetti, & Zola, 1985). She refers to this combination as hardiness. People with hardy personalities see events in terms of commitment, challenge, and control. They are actively involved in family, job, and community and thus have a sense of purpose, or commitment. They see change as a challenge rather than a problem. And they feel that they have control over their lives and can influence the course of

events (Funk & Houston, 1987). In short, hardy individuals can recast potentially negative incidents to make them less stressful (Wiebe, 1991).

Kobasa (1979) developed a hardiness scale that combined measures of commitment, challenge, and control. Using responses to this scale, she was able to distinguish between hardy and nonhardy individuals. She then found that scores on the hardiness scale accurately predicted current and future health problems (Kobasa, Maddi, & Courington, 1981). Hardy individuals appear to be better at resisting stress than nonhardy individuals. One reason for this seems to be that they can tolerate frustration better than nonhardy individuals (Hull, Van Treuren, & Virnelli, 1987; Hull, Van Treuren, & Propson, 1988). They evaluate a threatening task as less stressful than do less hardy people. They also appraise potentially stressful events both more rationally and more optimistically than others.

A test measuring hardiness developed by Kobasa (1984) is presented in Figure 15-3. you might like to score yourself and see how you rate on the hardiness dimension.

Optimism Versus Pessimism

Hardy individuals are optimists. We have also seen that laughter and good moods appear to help hospitalized patients cope with their illnesses. Is it possible that a generally optimistic view of life is an effective coping strategy? Optimism is the inclination to anticipate the most favorable outcomes for events. The idea that optimism can positively affect health is not a new one. However, the idea has been systematically explored only recently.

In a study of coping styles, college students were interviewed about how they dealt with stress during the tension-filled final weeks of a semester (Scheier & Carver, 1987). Coping style reflects the characteristic manner in which a person tries to minimize the psychological and physical pain associated with disease and negative life events (Snyder, Ford, & Harris, 1987). While it may be possible to train yourself to use an optimistic style, it is probably more accurate to say that optimism or pessimism is a personality trait that is enduring. Students with an optimistic coping style reported far fewer physical symptoms than students with less optimism. Similar findings have been reported with groups of hospitalized and nonhospitalized elderly patients. Optimists reported fewer physical symptoms than pessimists and were in better condition emotionally and physically.

An optimistic coping style also appears to help individuals recover more rapidly and more effectively from coronary bypass surgery. Research has demonstrated that optimistic bypass patients had fewer problems after surgery than pessimistic patients (Scheier et al., 1986). The optimists reported more positive family, sexual, recreational, and health-related activities than pessimistic patients followed their surgery.

Many individuals react to threatening events by developing positive illusions, beliefs that include unrealistically optimistic notions about their ability to handle the threat and create a positive outcome (Taylor, 1989). These positive illusions are adaptive in the sense that people who are optimistic will be persistent and creative in their attempts to cope with the psychological and physical threat of disease. Having positive illusions is an important determinant of good mental health (Taylor et al., 1992). The use of these positive illusions is not limited to individuals

coping with disease. One way most of us construct an optimistic outlook on our lives is to convince ourselves that the future looks promising.

The tendency to display positive illusions has been shown in individuals who have tested positive for the human immunodeficiency virus (HIV, the virus that causes AIDS) but have not yet displayed any symptoms of AIDS (Taylor, Kemeny, Aspinwall, & Schneider, 1992). These individuals often expressed the belief that they had developed an immunity to the virus and that they could “flush” the virus from their systems. They acted on this belief by paying close attention to nutrition and physical fitness.

Interestingly, people who had tested negative for HIV were actually more pessimistic about developing AIDS symptoms than those who had tested positive. Illusions are clearly more important when people are already facing the actual threat. It seems that knowledge of being HIV-positive is necessary for positive illusions to form.

Why Does the Optimistic Style Work?

Positive illusions may develop because they help the threatened person successfully cope with severe threats (Taylor, 1989). Optimistic people who have had heart surgery seem to take control of their postoperative life. Optimists plan, set goals, and, perhaps most important, do not dwell on the negative and depressive aspects of the situation (Figure 15-4) (Scheir & Carver, 1987). It is likely that the relative absence of negative thoughts is the crucial key to recovery.

Optimistic cancer patients do to deny the reality of their illness, but they still manage to believe they will survive, and they do all they can to make that wish come true. They often use parallel processing - thinking about the disease on two separate tracks - to deal with their situation (Taylor et al., 1992). The first track is emotional and semi-rational; the person thinks positively about managing the disease - “It’s not that bad, I can beat it” - and envisions the best possible outcome. The second track is a rational, direct coping process in which the patient realistically deals with the day-to-day aspects of treatment, such as getting to the hospital for chemotherapy treatments. Optimistic patients, in other words, do not simply believe they are invulnerable. They know that they must carry out a rational course of action - maintaining a proper diet, exercising, getting enough rest - to positively affect their illness.

Be Happy, Don’t Worry: The Secret to Long Life?

Optimism and cheerfulness apparently are positive traits. If optimism helps us deal with a current health crisis, does it also help us live longer? Maybe not. Sy was harried and stressed out, but he was always cheerful. He thought that life would turn around for him someday. He was never prudent or careful. He believed life was to be lived to the hilt.

As it turns out, the voice of restraint may win this one. According to a 60-year study of more than 1,000 men and women, being cautious and somewhat gloomy may be the real key to a long life. IN the early 1920s, Lewis Terman began a study of over 1,000 boys and girls (average age 11) who had high I.Q.’s. Other scientists continued to study this group throughout their lives. Scientists not only studied the intellectual performance of these individuals but also tracked their personalities, measuring such aspects as their sociability, self-esteem and confidence, activity level, and cheerfulness - a combination of sense of humor and optimism (Goleman,

1993c).

Some striking findings have been reported based on these data (Friedman et al., 1993). First, individuals who were cautious and conscientious were 30% less likely to die in any given year than their “live to the hilt” peers. Those who were cheerful and outgoing as children were 6% more likely to die in any given year than their gloomy peers. Cheerfulness predicted a shorter lifespan (Friedman et al., 1993). These differences were not, as you might think, due to more accidents among the less conscientious. The less prudent individuals did not have a significantly higher accidental death rate than the more prudent (Goleman, 1993c).

How can we explain the seemingly contradictory findings that optimism helps us deal with a medical crisis and yet predicts a shorter lifespan? The contradiction may be more apparent than real. Many of the studies reporting that an optimistic coping style is beneficial to recovery from medical trauma tend to define optimism as a sense of control over the events of life (Goleman, 1993c). Remember that those who do best after a heart attack are the individuals who take control over their diet, exercise, and other aspects of their lifestyle.

The prudent and the dour know that life can go wrong. The youngster who always locks up her bike, does her homework, and practices her jump shot until it gets dark becomes the adult who plans carefully, drinks and smokes little if at all, takes only prudent risks, and plans for the worst. When the worst comes, she is ready. Such individuals may live longer largely because they have developed ways to cope with stress, illness, and trauma. Individuals who are not conscientious do things now and worry about the consequences after. They are more impulsive than conscientious individuals, less organized, and more willing to take risks to have fun (Goleman, 1993c).

Behavioral Factors: Exercise

A number of behavioral, lifestyle factors contribute to people’s ability to handle stress. One is doing relaxation exercises, such as meditation, progressive relaxation techniques, or visualization. Another is doing regular aerobic exercise. Research has shown that physically fit individuals are less vulnerable to the effects of stress than those less fit. In a study of 110 men and women tested for life stress, fitness, and mental health, findings suggested that fitness acts as a stress buffer, a kind of shock absorber, in two ways (Brown, 1991).

First, physical fitness gives people a sense of mastery (self-efficacy) and control over their lives. As we saw earlier, individuals who feel they have control over events generally have a less intense reaction to stress than those who perceive they have little control. Second, fitness activities divert attention from stressful events, at least temporarily. When people are running or playing tennis, their attention focuses on the activity and gives them a temporary respite from the day’s stresses. For example, individuals report that exercise tends to overcome sad moods and makes them have more positive thoughts (Erber & Therriault, 1993).

Of course, exercise also has physical effects, including improved functioning of body systems, favorable changes in body chemistry, higher energy levels, and greater mental alertness. As these changes occur, individuals often gain even more of a sense of control over their lives, which again helps them handle stressful events as they occur.

The Social Context of Illness

In considering the variables that influence how people cope with stress and illness, we have so far looked at cognitive factors (such as how people think about stress), personal factors (such as optimistic coping style), and behavioral factors (such as exercising). But equally or even more important than these individual factors are the social variables that determine a person's place in the social structure. These include such variables as age, socioeconomic status (SES), sex, race, and marital status (Pennebaker, 1989).

Age, of course, is related to the frequency of illness. Older adults experience more symptoms and take more medication than younger adults (Bishop, 1994). Studies have also shown that women report more illness than men, although this may be because women recall symptoms more accurately than men do (Bishop, 1994).

Marital status and living arrangements are also related to the experience of illness. Research has consistently shown that married people report fewer symptoms, take less medication, and think of themselves as being in better health than their unmarried counterparts. Individuals living with one to three others claim to be in the best health (Bishop, 1994).

SES is another potent factor in determining health status. People with high SES report fewer symptoms, take less medication, and have a more positive sense of personal health than those with lower SES (Insel & Roth, 1994). High SES means that the individual has greater resources and time to gather health-related information, obtain the best medical care, and purchase the right foods. The modest "fitness boom" that has been going on for the past 10 years or so has been largely an upper-middle-class phenomenon.

COPING WITH TRAUMA

The coping methods and styles discussed so far are those people use to deal with everyday stresses. But some stresses are so severe that they leave deep emotional and/or physical scars. People typically don't want to talk about these events and prefer to deny or repress them. These severe stresses, or traumas, require special coping techniques.

The Nature of Traumatic Experiences

What kind of events are we talking about? Two descriptions from the research of James W. Pennebaker (1989) will serve as examples. One is the experience of a student at a private university who, when she was 10 years old, was told to clean up her room in anticipation of a visit from her frail grandmother. She forgot about her task, as 10-year-olds are wont to do. While visiting, her grandmother stepped on one of the girl's toys, fell down the stairs, broke her hip, was taken to the hospital, and died shortly thereafter.

The second example is the story of a 68-year-old concentration camp survivor, recounting the last days of the Lodz ghetto, in Poland, in 1942 (Pennebaker, 1989):

They were throwing babies from the second floor window of the orphanage. I can still see the pools of blood [and hear] the screams, the thuds of their bodies. I just stood there afraid to move.

The Nazi soldiers faces us, with their grins. (p.212)

For further discussion of how people manage to cope in even the most inhumane, unbearable circumstances, see the featured discussion “Enduring the Unendurable.”

A striking aspect of the traumas reported by the student subjects in Pennebaker’s (1989) research was the extent of tragedy and shock experienced by young people, not yet 21, who seemed immensely privileged and who were attending a prestigious private university. Trauma and tragedy seem to know no social boundaries. The traumas experienced by the Holocaust survivors in the study were unspeakable. Clearly, many participants had experienced terrible psychological traumas - and had been repressing them for a long time.

ENDURING THE UNENDURABLE

Throughout history, humans have found unimaginably cruel ways to treat other humans. Such experiences stretch - and break - the endurance of many victims. Others somehow find the resources to cope with the trauma. They are the survivors.

The African slave trade was one such barbarous endeavor. People were kidnapped, put in chains, and packed into the hold of ships for an ocean voyage of many thousands of miles. After a few days the cargo hold was fouled with the smell of human waste, vomit, blood, and death. Many of the “cargo” never made it. Those who did survive found themselves in an alien world surrounded by people who looked different from anyone they had ever seen before.

Of all the experiences these Africans endured, the physical abuse and discomfort were probably the least traumatic. Far worse was being torn from a familiar existence within a social support network that included family, friends, and fellow villagers and being thrust into a totally alien existence (Huggins, 1977).

The Nazi death camps were a similarly traumatic experience for the Jews during World War II. Much like the Africans of earlier centuries, Jews were subjected to unendurable trauma: physical abuse, degradation, and, most important, being thrust into a new and hellish existence. It began with the trip to the camp. Hundreds of Jews were packed into railroad boxcars for the journey to obscure places like Auschwitz, Poland. Inside the railroad cars, the temperature became oppressive and the air filled with the odor of human excrement and vomit. In this environment the human cargo “lived” for several days. Arrival at the camp gave little relief. Inmates were forced to live under conditions not terribly different from conditions in the boxcars. How could anyone possibly survive?

Terrence Des Pres (1976) did an extensive study of life inside the barbed wire fences of the death camps. He was able to identify the conditions under which inmates lived and those under which they died. Des Pres reports that survival, for the few, involved two steps. The first step was an initial collapse under the weight of the oppressive conditions. From the time people stepped off the train, they were subjected to humiliation (they were stripped naked, their heads were shaved), physical abuse (they were beaten), and emotional trauma (they saw bodies strewn about the camp and roads) (Des Pres, 1976). These experiences led to a total collapse of the ability to cope.

However, a second phase of adjustment then ensued, in which there was a reintegration and a reestablishment of a sense of the self (Des Pres, 1976). Much like waking from a bad dream, survivors “went from withdrawal to engagement, from passivity to resistance” (Des Pres, 1976, p. 77). In short, inmates woke up to the reality of what was needed for long-term survival.

Of course, not all inmates were “survivors.” Many of those coming to the camps died very quickly. Unable to cope with the death of loved ones or with the filth, degradation, and humiliation in their new lives, these individuals simply gave up and died (Des Pres, 1976). Other nonsurvivors did not die so quickly. Some inmates remained in a state of shock and apathy for a long period of time; the situation was simply too overwhelming for them. These unfortunate souls were referred to as *Muselmanner* - the “Walking dead.” Eventually, they starved to death or found themselves in situations that led to a quick death (Des Pres, 1976). Individuals in these two categories never made it to the second stage of survival. Those who had a strong constitution and a strong will to live became the survivors of the Nazi version of hell.

Whether the experience is slavery, or living in a death camp, or some other highly traumatic experience such as being in a prisoner-of-war camp, there are those who die quickly, those who are slowly worn down, and those who survive. Survivors overcome all the odds and emerge as strong, defiant individuals. Frederick Douglass escaped from slavery and became a powerful voice for freedom. Elie Wiesel survived the death camps and later hunted down Nazi war criminals. They endured the unendurable - and transcended it.

Some people manage to survive horrendous experiences. How do you think they do it? What factors - cognitive, social, personality, situational - from the study of health psychology might help to explain why some people survive and others don't?

The Effects of Repressing Traumatic Memories

Although people want to “forget” traumatic events, there has long been a popular idea in psychology that holding back one's strong emotional reactions to these events has a negative effect on the body and the mind. The work of Pennebaker (1989) has been aimed at discovering the effects of such repression. Pennebaker has used a variety of participants in his research. As just suggested, they range from students at a private university to survivors of the Nazi concentration camps.

Pennebaker's work starts with the assumption that an important means of coping with stress is talking about it. He hypothesized that people who have experienced trauma and do not confide in others are much more likely to have health problems. To test this hypothesis, he examined the number of times individuals visited a physician in a 6-month period after the occurrence of the trauma (Pennebaker, Colder, & Sharp, 1988). Those who did not talk about their trauma had many more medical appointments than those who did. Other research has confirmed Pennebaker's thesis that disclosing past traumas results in fewer physical symptoms of ill health (Greenberg & Stone, 1992).

Participants in Pennebaker's research were asked to write or talk about the “most upsetting or traumatic experience of your entire life” (Pennebaker, 1989). The subjects wrote version after

version of these accounts over several days. The technique proved very powerful. People felt sad; they felt depressed; they cried. They told stories of deceit and adversity, misery and tragedy. Their handwriting reflected the emotional turmoil they were feeling as they related and relived their experiences. However, as they continued to write, their handwriting changed, becoming less controlled, less legible, more free form. As suggested by the samples shown in Figure 15-6, these individuals were allowing their repressed memories loose.

The Effects of Confronting Traumatic Memories

When Pennebaker measured the effects of this kind of disclosure, he found that subjects who fully revealed their feelings about terrible events showed improved immunological functioning and lowered skin-conductance rates. This latter measure reflects the fact that when there is a reduction in autonomic nervous system activity (that is, stress-related reactions), skin-conductance readings go down. The lower readings indicate a lessening of psychological tension. Subjects were “letting go” as they expressed their feelings about the long-suppressed trauma. Those who could not let go of the trauma and had trouble revealing important thoughts about the event showed heightened skin-conductance rates.

The body uses a great deal of energy to continually repress memories of negative events and all the thoughts and emotions intertwined with those memories. Confronting the trauma requires that we recall the event and experience the buried emotions associated with it. This act offers release from the prison of repression. Pennebaker’s work shows that confiding in someone protects the body from the stressful, energy-draining effects of holding on to traumatic memories.

Sometimes victims of terrible events deliberately rehearse and repeat their story so many times that they strip it of all emotion (Wegner, 1988). Holocaust survivors have been heard to explain, in clinical detail and without a trace of emotion, how the Nazis carried out their tortures. This is not “letting go.” Talking alone is not the same as “confronting,” which involves experiencing the emotions associated with the event.

In an experiment designed to investigate this distinction, subjects saw a movie that vividly reenacted woodworking accidents (Mendolia & Kleck, 1993). Some subjects were encouraged to report their emotions as they saw the film; others were asked to just recount the facts. The “emotion” subjects were more physically upset than the “facts” subjects when they initially talked about the film. But 2 days later, the subjects were shown the movie again, and this time the “emotion” subjects were less upset than the “facts” subjects. For the “emotions” subjects, arousal decreased over time, but a similar effect had not occurred for the “facts” subjects. This finding is similar to Pennebaker’s finding that arousal decreased as subjects wrote about their memories over 4 separate days (Pennebaker & Beall, 1986).

COPING WITH ILLNESS

Why Sy’s physician asked him if he had experienced any chest pain while running, Sy answered, “No, not really.” But in fact, he had had this and other symptoms of heart disease. Why did he deny his symptoms, both to his physician and to himself? What made him act in such a counterproductive way?

Appraising Symptoms

Sy's response to his symptoms was fairly typical. When people detect an unexplained bodily change, they compare that change with what they believe to be the symptoms of various diseases, often by talking to other people (Cacioppo, Andersen, Turnquist, & Tassinari, 1989). This is exactly what Sy did. Some of Sy's friends told him that they too had experienced similar symptoms.

When Sy assessed his symptoms, he considered his age, the experiences recounted to him by his friends, the article in *Runner's World*, and his own stereotype of heart attack victims as older and heavier than he was. This process of symptom appraisal led him to conclude that he was not a likely candidate for a heart attack. Sy then tried to confirm his "diagnosis" by searching for other information to support his conclusion.

With different input, Sy's appraisal of his symptoms could have led to a different conclusion. For example, if *Runner's World* had published an article suggesting that symptoms like Sy's required immediate attention, he might have reevaluated his ideas. Or if his symptoms had been clearer or more typical, he might have acted differently. The more uncertain the symptom, the greater the likelihood that the person will make an error in evaluating that symptom. This misappraisal is due to the fact that vague symptoms conjure up several plausible explanations (Cacioppo et al., 1989). Recall that some of Sy's symptoms were vague, such as pain along the jaw and neck line. Such symptoms might be caused by a dental problem, a stiff neck, or, as Sy thought, too many hours in front of the computer.

Denial and Minimization

When people suddenly receive new information that suggests a negative change in their health status, such as a negative medical diagnosis, their initial reaction is typically defensive. In a series of experiments designed to explore how individuals deal with such information, healthy subjects were asked to complete a health-related questionnaire and then to take several "newly developed" medical tests (Croyle & Ditto, 1990). One of these tests supposedly measured an enzyme called TAA that played a role in pancreatic functioning. TAA and the test were fictional. All subjects, of course, were told of the true nature of the research afterward. To measure their TAA, subjects rinsed their mouth with a mouthwash and then wet the tip of a test paper with their tongue. Subjects were told that if the paper turned green, it indicated that they lacked TAA. The absence of TAA would signify susceptibility to a "complex of mild but irritating pancreatic disorders." The test paper actually turned green because of something in the mouthwash.

Subjects were then asked to evaluate the trustworthiness of the test. Those who believed they had the TAA deficiency rated the test as untrustworthy. In similar studies, subjects also recalled that the test paper was not very green or that it was less green than that of other subjects (Ditto & Jemmott, 1989). This is an example of the minimization effect - the tendency to react to unexpected bad news about one's health by downplaying the seriousness of the threat.

People also seem to believe that if a disease is widespread, it is less threatening than a disease that is rare (Croyle & Ditto, 1990). When subjects thought that only one in five tested positively for the TAA disease, they rated the deficiency as much more serious than when they thought that

four out of five had it (Jemmott, Croyle, & Ditto, 1988). Recall that Sy was reassured when some of his friends said they had had similar symptoms. He thought that if many people experienced such symptoms, then they probably weren't serious. Of course, there are many serious diseases that are widespread.

In another study, subjects demonstrated the same tendencies to deny or minimize medical diagnoses when they were told they had high blood pressure (Croyle & Williams, 1991). These subjects rated high blood pressure as a less serious problem than those subjects who did not get such information about their health status. Given that high blood pressure is a stroke, these findings are surprising. Further, when individuals find out that their cholesterol levels are above normal (another risk factor for heart disease), they tend to misremember their readings (Croyle and Williams, 1991). For example, a person who was told that his cholesterol reading was 243 (in the high-risk range) might recall his score as 216. Again, we see that people are motivated to minimize the extent of the potential threat to their health.

Downward Comparison

People also protect themselves against a health threat, or any threat to their self-esteem, by downward comparison, the process of comparing ourselves with others who are worse off than we are. Breast cancer patients, for example, who have a lumpectomy (removal of the lump or tumor) tend to compare themselves with women who had a mastectomy (removal of the entire breast). Those who have mastectomies compare themselves with women whose cancer had spread into the lymph system (Wills, 1987). Downward comparison is a social and cognitive process people often use to cope with stressful circumstances and distressing information. By comparing themselves with people who are less fortunate, they can feel more positive about their own situation and maintain their self-esteem.

Coping on Two Levels

Recall our discussion earlier in the chapter of parallel processing. Optimistic cancer patients cope by dealing with their disease on two tracks. The first is a semirational approach to dealing with the emotional distress; the second is a coolly rational approach to dealing with symptoms and the logistics of treatment.

People confronting new and threatening health-related symptoms have also been found to operate on two levels (Croyle & Hunt, 1991). On one level, they have to deal with their distress, and they do this by such mechanisms as minimizing the seriousness of their symptoms or of the disease, or, as we saw earlier, developing positive illusions about their health status. This tactic satisfies their need to cope in the short term and gives them time to develop a long-term coping strategy. Over the long term, they will need to arrange for treatment and make other appropriate changes in their behavior. This is the second, highly rational level of coping with their illness.

It may be that the people who are best at this kind of long-term planning are the prudent, somewhat dour individuals who have been found to live longer. Unlike Sy, who refused to recognize his symptoms for what they were and who did not plan ahead, these individuals are conscientious in their health habits; they believe they can deal with the illness (this sense of control may lead researchers to label them "optimistic"); and yet they also know that events may take a bad turn, so they are prepared for the worst as well.

Dealing with an Uncertain Diagnosis

Often, a diagnosis is uncertain. How people feel, think, and act in response to a diagnosis depends on the inferences they make about it (Cioffi, 1991). Sy was put off by his physician's rather ambiguous interpretation of his blood tests. In essence, Sy was told that he was "probably" well. It was at that point that Sy suddenly, after months of delaying, asked for further tests and treatment. Why? What are the effects of an uncertain "wellness" diagnosis on people's health-related beliefs and behavior?

In an experiment designed to address this question, subjects were asked to take a test to determine the effectiveness of "at-home medical tests" (Cioffi, 1991). The test was the same one used in the experiment described earlier, the TAA enzyme-deficiency test (Croyle & Ditto, 1990). As in the earlier study, the deficiency was described as potentially leading to mild but irritating pancreatic disorders later in life. In this study, some subjects were given a clear disease diagnosis - they were told they definitely lacked the enzyme that prevented the disease. Others were given a clear no-disease diagnosis - they had the enzyme needed to prevent the disease. A third group received an unclear disease diagnosis - they might or might not have a problem, and a fourth group was given an unclear no-disease diagnosis - they were "probably" okay.

All the subjects had to report on their confidence in the test results and their confidence in their current health status. Generally, in keeping with other findings on symptom appraisal, people interpreted the results of the test in such a way as to diminish the threat to themselves. Those given a clear no-disease diagnosis had no doubts that the test was valid. Those given a clear disease diagnosis thought they might have a problem but also thought the test might be invalid. Those given an unclear disease diagnosis thought that the enzyme deficiency might not really be a problem. Those in the final group, those given an uncertain no-disease diagnosis, differed from all the other groups in their interpretation of the diagnosis. After a while, these subjects became more convinced that they were ill and showed an increasing desire to be treated for TAA deficiency.

The problem for patients seems to be the ambiguous nature of an unclear wellness diagnosis (Cioffi, 1991). These individuals have no symptoms to deal with and therefore none to minimize. We saw earlier that men who had tested negative for HIV were more concerned and more pessimistic about their health than those who had tested positive (Taylor et al., 1992). It seems that individuals who aren't sick but also aren't sure they're well have the most difficulty. In the absence of certainty, they cannot produce positive illusions to protect themselves.

Patient Adherence to Medical Advice

As we have seen, people are often unable to react rationally to a medical diagnosis, at least at first. This may be one factor in the widespread lack of adherence to the "doctor's orders." It has been estimated that almost 50% of patients do not adhere to their physician's recommendations (Stone, 1979). Why do people seek out a physician, undergo examination at great cost in time and money, and then ignore the expert advice they get?

The Health Belief Model

The health belief model is the oldest and most widely used explanation of health-related behavior

(Kaplan, Sallis, & Patterson, 1993). The model, as the name suggests, concentrates on what people think and believe about health behavior. This model attempts to explain how individuals (patients) decide which health-promoting behaviors they will adopt. The health belief model suggests that the likelihood of an individual adopting a health-promoting behavior (exercise, low-fat diet, etc.) depends on the perceived threat of the disease in question. As figure 15-7 shows, that perceived threat is determined by the individual's realization that she is susceptible to the disease *and* the individual's perception of the severity of that disease.

According to the model, the likelihood that Sy would have adopted certain health-promoting behaviors, would have initially depended on whether he thought he was susceptible to heart disease. Certainly he knew that heart disease was serious. But he also thought that he was not susceptible. Or at least he said he wasn't susceptible. Remember Sy said that "only fat old guys have heart attacks."

The likelihood of Sy taking action was low. If Dr. Bill could have convinced Sy that he was in danger, then the likelihood of Sy taking preventive action would have been much higher.

Figure 15-7 also suggests that the likelihood of Sy adopting health-promoting actions depended on whether he thought the behavior had benefits and whether or not the obstacles to that behavior were manageable. It wasn't until Sy read an article about the health-promotion benefits of exercise that he considered running. But Sy did not begin to run until he became convinced that the benefits gained outweighed the obstacles (time, pain, giving up a drink with the boys after work).

This health belief model has been used to predict when individuals will adopt health-promoting behavior. But its success has been mixed (Taylor, 1990a). One reason may be that when patients think the disease that is threatening them is very serious, they may not think that anything will work. Did Sy really think only old fat guys had heart attacks? Probably not - he was too smart for that. Just before his fatal attack, Sy admitted that he was "scared silly" that he had heart disease and did everything to deny it. In fact, there is evidence that diabetics are more likely to adhere to their very difficult health regimen if they perceive a *low threat* of disease (Bond, Aiken, & Somerville, 1992).

On the other hand, some patients become so anxious about their symptoms that they become hypervigilant (Janis, 1984). Rather than rationally accept their diagnosis, or deny that they are sick at all, they overreact to their symptoms. They become consumed with their illness and read everything remotely related to it. If the prescribed medication does not seem to work right away, they try something else, usually something they read about in a magazine or hear about from a friend. They want a "magic bullet," a treatment that will cure their disease immediately. It appears that hypervigilant patients simply do not trust their physicians.

In fact, the principal reason patients do not comply with a prescribed course of treatment is probably lack of trust in the physician (Stone, 1979). This lack of trust, in turn, often develops from communication difficulties (Taylor, 1986). Patients' noncompliance with medical recommendations may be due to the unsatisfactory nature of patient-physician communication and interaction (Ditto & Hilton, 1990). Physicians are frequently poor at communicating with

their patients. One reason for this is that they cannot afford to spend much time explaining medical issues to their patients. They get paid for performing procedures and running tests, not for talking with their patients.

Norman Cousins, whose work on the power of laughter was described earlier in this chapter and who served on the faculty of UCLA Medical School, catalogued many stories of poor communication and insensitivity on the part of physicians. He quotes a young female professor who questioned her physician about his diagnosis. She says the physician told her not to bother my head about such things, that he was the doctor and knew what to do. When I remonstrated with him and told him I wanted to discuss with him some things I had looked up in the medical literature, he seemed insulted by my persistence and told me that if I did not trust him I should go elsewhere. I told him that I did not distrust him but I wanted to have the kind of partnership with him you had with your doctor. He said that if I wanted a partner I should go into business, and that he had spent ten years of his life studying how to take care of patients, not how to be a good partner. (Cousins, 1989, pp. 45-46)

As this incident shows, the “fit” between patient and physician can be very important in determining the quality of the relationship. Problems may stem not just from differences in communication style but also from differences in the type of relationship each party wants. The young professor was intelligent and independent; she wanted a kind of egalitarian alliance with her doctor. Other patients would be more comfortable with a more submissive posture, one in which the doctor is perceived as an all-knowing authority figure who makes decisions and explains little. Research confirms that when physicians and patients are matched on communication style, the patients like the physician and are more likely to comply with medical advice (Kalish, Hilton, & Ditto, 1988).

Why Don't Patients Adhere to Doctor's Orders?

Psychologists and physicians do not have a clear understanding as to why so many patients fail to obtain the full benefit of their treatment by adhering to medical instructions. Physicians are not very good at predicting which of their patients will or will not follow instructions. Psychologists have found that neither the patients' personality nor socioeconomic class reliably predicts who will adhere (Kaplan et al., 1993). However, there is some evidence that those in the highest socioeconomic class are somewhat more likely to adhere to the recommended medical regimen (Taylor, 1990).

What may matter most is the patients' assessment of what benefits are likely to occur if they follow the medical advice. If they think the benefits outweigh the costs, they will follow it. If not, the pills go into the disposal. More research is needed with respect to how people decide whether or not to follow medical advice (Kaplan et al., 1993).

LIFESTYLE AND HEALTH

We have looked at some of the social psychological factors involved in how people cope with stress, trauma, and illness. We turn now to a related topic: how people live their lives in ways that promote or undermine their health. As we have noted, many diseases that kill us - most notably, cardiovascular disease (diseases of the heart and blood vessels) and cancer - are to some extent preventable. Cardiovascular disease, the leading cause of death in the United States, kills

about 930,000 Americans every year, more than the next seven leading causes of death combined (Insel & Roth, 1994). Cancer claims over 500,000 lives each year, and over 1,000,000 people are diagnosed with cancer in the United States each year. More than half of these are cured, but about 44% die (Insel & Roth, 1994). Together, heart disease and cancer account for 60% of all the deaths in the United States (Zimbardo & Leippe, 1992).

Eating, drinking, and smoking behaviors all play a role in heart disease and cancer. The basic principles of a healthful lifestyle have been well known for quite a while and include eating properly, exercising, managing stress effectively, maintaining normal weight, and getting enough sleep. For a more detailed outline of a healthy lifestyle, see Figure 15-8. Obvious examples of behaviors that don't promote health or that are even self-destructive include smoking, abusing alcohol and other drugs, overeating, not wearing seat belts, and not practicing safe sex.

If the basics of a wellness lifestyle are commonly known, why is it that so many people don't follow them? What factors contribute to their "noncompliance" with this prescription for healthful behavior? A number of factors are probably involved, including personality, psychological, and cognitive factors. For example, some people exhibit *sensation-seeking* behavior. These individuals seem to have a strong need for excitement and adventure. Depending on what is available to them, they may rock climb, hang glide, sky dive, or bungee jump. Most of all, they drive fast and are involved in many more fatal automobile crashes than people who drive more conservatively (Zuckerman, 1990).

Cognitive factors also play a role: The way we think about health issues can lead us to make poor decisions and behave in self-destructive ways. The cognitive errors and biases with which we are so familiar may blind us to risks in certain situations. An obvious example is how we assess the risk of contracting AIDS from a sexual partner. A study showed that college students use implicit personality theories in judging this risk (Williams et al., 1992). Students rated partners they knew and liked as posing less risk than partners they didn't know. They held the belief that you needed to use a condom at the beginning of a relationship, but "once you get to know the person. . . as soon as you begin trusting the person . . . you really don't have to use a condom: (p. 926). On the other hand, students judged a partner to be risky if he or she was provocatively dressed, was first met in a bar, was older, came from a large city, or was overly anxious for sex (Figure 15-9).

As you recall from Chapter 3, implicit personality theory - the idea that certain characteristics, such as conservative dress and a clean bill of health, always go together - is not a good way to judge people. How long you've known a person is also not a reliable predictor of who is HIV-positive. By relying on an implicit personality theory, the students in the Williams and colleagues study were jeopardizing their lives.

Obesity

Obesity poses a health challenge primarily because it increases the individual's vulnerability to heart disease, hypertension, diabetes, and numerous other debilitating conditions. Because our society values slenderness, obesity also strikes at people's self-esteem and self-image. Worrying about one's weight is a very common - and stress-inducing - "everyday hassle" (Lazarus & Folkman, 1984). It has been estimated that two out of three women in the United States are on a

diet at any one time (Chaiken & Pliner, 1987). One indicator of “weight worry” in our society is the abundance of weight-loss and diet books on the best-seller list.

Concern about being overweight is an issue for Western societies in which food is plentiful. In other parts of the world, most people are more concerned about getting enough to eat. A Chinese student, new to the United States, once complimented her professor for being so fat. After all, the Chinese equivalent of “Hi, how are you?” is “Did you eat yet?” Obesity to this young student was a mark of robust good health, character, and even attractiveness. Not so in North American culture!

Despite concern about being overweight, the average weight of North American adults 25 to 30 years of age rose 10 pounds between 1985 and 1993 (Lewis & Bild, 1994). In 1993 the average weight of young adults was 171 pounds compared to 161 pounds in 1985 (Figure 15-10). This was true for both men and women and for both Caucasians and African Americans. The average current weight is 184 pounds for men and 158 pounds for women.

Obesity is a complex phenomenon with biological, social psychological, and cultural components. Although the parts have not yet been untangled, let’s look at them separately here.

Biological Factors Research indicates that some human beings may have an innate tendency to become obese. For example, infants differ in their preference for sugar water: Some love it, and some hate it (Rodin, 1974). This preference is neither psychological nor cultural. There is also evidence that some people are born with more fat cells than others. The number of fat cells seems to be laid down during late childhood. Once these fat cells are present it is very difficult to reduce the number of them (Brownell, 1984). It is possible, however, to reduce the size of the cells. When a person gains weight, these cells grow in volume, and when the person loses weight, they shrink. A person generally stops losing weight when fat cells reach normal size (Kaplan et al., 1993). There is some evidence to suggest that we may have a hardwired “set point” weight that is ideal for each of us and which is difficult to alter or modify.

People also differ in their metabolic rates, the rate at which the body uses energy and nutrients to maintain its functions. People with more body fat tend to have lower metabolic rates, meaning that they need less food to maintain their weight than do those with higher metabolic rates. Research also indicates that metabolic rates may change in response to recurrent cycles of dieting. When people lose weight and then gain it back, their metabolism may become more efficient, making it harder for them to lose weight the next time. The pitiless fact is that when someone diets, the body “thinks” it is starving and takes precautionary measures by slowing down metabolism - permanently.

Overeating Biological and genetic factors are largely beyond our control, but other contributors to obesity can be controlled. Overeating is one of them. Although research does not indicate conclusively that obese people eat more than nonobese people, many obese people engage in episodes of binge eating. During these episodes they eat uncontrollably, consuming large amounts of food. As we saw in Chapter 2, they “shut down” on the inhibitions that keep them from overeating and focus narrowly on the immediate sensations of eating and drinking. How much *should* people eat? Research with rats suggests that the healthiest course of action is

to eat less - perhaps as much as 60% less than what would be freely chosen (Walford, 1986). Rats who eat a restricted diet live about 50% longer than rats who eat freely; they also remain relatively free of disease. Curiously, rats fed the restricted diets become compulsive and frenetic exercisers after about 2 months on the diet. They run miles and miles on a treadmill and do not slack off as they get older (Walford, 1986).

Is it the reduced calories or the exercise that increases the rats' lifespan? Not enough generations of rats have been tested to provide a definitive answer to this question. In any event, eating for humans is different from eating for rats. For humans, eating is a social activity and has social implications.

External Cues and Social Influence Part of the reason for binge eating among obese people may be that they are more attuned to external cues than normal-weight people are. Their eating is less related to internal states, such as hunger pangs, than to such cues as the sight and smell of food. If the food looks and smells good, they will eat whether they are hungry or not.

Stanley Schachter was the first to pose this externality hypothesis to account for the differences between normal-weight and obese individuals. His work (Nisbett, 1968; Schachter, 1973), as well as the work of Judith Rodin (1974), indicated that obese individuals are more attentive not only to food-related cues but also to any type of external signs. One study showed that obese subjects who were solving problems were more easily distracted from their tasks by external cues such as noise than were subjects of normal weight (Rodin, 1974). Not all obese individuals are externally oriented, however, and not all nonobese people are internally directed. External sensitivity is likely to be present in all weight classes (Rodin, 1981). One task for researchers is to determine how normal-weight people who are externally oriented manage to maintain optimal weight.

Other researchers have looked at the effect of eating alone versus eating with others. One study revealed that overweight people buy more food in a cafeteria setting when they eat by themselves than when they anticipate eating with others (Edelman, Engell, Bronstein, & Hirsch, 1986; Krantz, 1979). In contrast, nonobese individuals choose more food when accompanied by others than when alone (Van Velsor, 1990).

Another experiment explored the role of external cues and social influence in a dining situation. To get a sense of this study, imagine that you are at a fine French restaurant. You have done well: You ate the sole, light on the sauce, a touch of bread and salad, a sip of the Chateau Rothschild. Alas, you are now subjected to one of four dessert conditions: (1) The waiter hands you a dessert menu (the control condition); or (2) the waiter carries a dessert as he hands you the menu (the visual cues condition); or (3) the waiter strongly recommends a dessert as he hands you the menu (the social influence condition); or (4) the waiter strongly recommends one dessert while carrying another as he hands you the menu (the competition condition).

when this experiment was conducted, obese diners were found to be more responsive to visual cues - that is, they were more likely to order a dessert in condition 2 - than were diners of normal weight (Herman, Olmstead, & Polivy, 1983). The obese diners were also vulnerable to social influence and were very likely to order the recommended dessert in condition 3. They were no

more likely to order dessert in the control condition or in the competition condition than were their normal-weight counterparts. The blend of visual food cues and social influence, then, creates a situation in which the tendency to overeat is intensified.

Cognitive Factors What role do thinking patterns have on obesity? Some researchers have looked at how people on diets think about food, eating, and themselves. One study found that dieters differed in their eating behavior depending on what they thought they had already consumed. When dieters were told they had just had a high-calorie appetizer, they were more likely to binge when presented with additional food than were similar subjects who thought they had just eaten a low-calorie snack (Polivy & Herman, 1983).

These results support the notion that dieters have constructed a narrow self-schema that emphasizes thoughts about food, eating, appearance, and weight. When they stay on their diet, they see themselves as good people. When they go off the diet, they are bad people. They expend so much effort in curbing eating that when inhibition fails, they lose control. Their behavior is of an all-or-none variety - either they diet or they “pig out.” There is no rational middle ground (Crandall, 1988).

There is some variation among dieters, however. Dieters who have high self-esteem do not lose control when a lot of food is available (Heatherton, Herman, & Polivy, 1991). Dieters who have lower self-esteem are more likely to “lose it.” This fits with the idea that unrestrained eating occurs when dieters confront anxieties that threaten their self-esteem (Heatherton & Baumeister, 1991). As discussed in Chapter 2, threats to self-esteem can motivate people to “escape the self” by thinking only about what is happening now. They forget about their long-term goals and think only about how good a pizza would taste right now: “I did poorly on my GREs, there’s no hope for me anyway, I might as well enjoy myself. Heavy on the pepperoni, please.

Coronary Heart Disease

Another common health problem with behavioral determinants is coronary heart disease (CHD). In this condition, the arteries supplying blood to the heart become clogged with fatty deposits that prevent blood from reaching the heart muscle. If the coronary arteries become completely blocked, a heart attack occurs. In some cases, the muscle sustains damage but is able to continue functioning; in many other cases the damage is fatal.

Research shows that certain risk factors make CHD more probable. These factors include, but are not limited to, high blood pressure, smoking, unhealthy cholesterol levels, obesity, and a sedentary lifestyle. In addition, certain personality and behavioral tendencies incline individuals toward heart disease. These tendencies have been labeled the Type A behavior pattern (TABP). People identified as Type A are more than twice as likely to get coronary heart disease than others and to get it prematurely, before their sixties (Suls & Sanders, 1989; Williams & Barefoot, 1988).

The Type A Behavior Pattern What came to be known as TABP was first identified when two California cardiologists, Dr. Meyer Friedman and Dr. Ray Rosenman, began to notice that most of their cardiac patients had fairly similar “personality” traits. Their first clue had come from the upholsterer who was refitting the waiting room. He pointed out that the edge of the arms of all

the chairs had been rubbed away. These patients were as tight as springs (Friedman & Rosenman, 1974).

Type A has come to be defined as a behavioral-emotional complex that involves: (1) general behaviors such as ambitiousness, competitiveness, aggressiveness, and impatience, (2) specific behaviors such as musculature tenseness, alertness, a rapid and forceful style of speech, and rapid actions of all kinds, and (3) emotions such as hostility, anger, irritability, and cynicism (Rosenman, Swan, & Carmelli, 1988). As we see below, the third element - hostility - has been identified as the critical component of TABP contributing to heart disease.

What kind of people are Type A's? Most of them are male, although an increasing number of females are beginning to exhibit this pattern, especially those who work outside the home (Lynch & Schaffer, 1989). Type A's are people who have a strong need to achieve but who may set unrealistic, unreachable goals (Ward & Eisler, 1987). They are impatient; they hate waiting. I means wasting time. Many Type A's have a constant, almost insatiable need for recognition and approval. Finally, and most important, Type A's are characterized by strong aggressive and hostile feelings.

Another complex of personality and behavior traits has been labeled Type B. Type B's are as ambitious and probably as competitive as Type A's, but they simply don't feel the rage or anger that A's seem to experience. Type A's are more insecure about their status; B's are more secure and do not set impossible goals. Type B's do not respond to stress with the anger and impatience typical of Type A's. It has been estimated that about 45% of the population fall into the Type A pattern and another 45% into the Type B pattern. The remaining 10% seem to fall somewhere in between.

It seems that Type A behavior is not limited to humans. Studies indicate that the same kind of behavior in monkeys can lead to CHD (Cohen, Kaplan, Cunnick, Manuck, & Rabin, 1992). Monkeys are good subjects to study because they develop CHD very much as humans do. They are also competitive and aggressive, two behavior patterns associated with CHD. Monkeys live in a social system that emphasizes hierarchical rankings; some monkeys are dominant, others are subordinate. Dominant monkeys living in unstable, and therefore stressful, environments are more likely to develop CHD than dominant monkeys living in a stable and less stressful world. These monkeys express a great deal of hostility and aggression. They do not have higher blood pressure or higher scores on other risk factors than monkeys under less stress. What distinguishes them is the expression of hostility.

The Role of Hostility Of all the components associated with TABP, hostility is the one factor that most clearly distinguishes those individuals who have CHD from those who do not (Williams & Barefoot, 1988). These people are cynical and mistrustful of people. They openly express anger and contempt for others. The evidence shows that hostile individuals have more extensive blockage in the coronary arteries than nonhostile individuals (Suls & Sanders, 1989). They are also more likely to die of CHD than those with less hostility. Of course, hostility cannot be pinpointed as the sole cause, or even as a cause, of CHD. The differences between hostile and nonhostile individuals in rates of CHD are probably the result of a combination of factors, possibly including physiological differences between people. In other words, some other

factors may cause people both to express hostility and to develop CHD.

Two other variables in this mix are gender and amount of social support. There is evidence that males are more hostile than females. In one 4-year study, researchers charted the expression of hostility in male and female teenagers as well as the social support they received from their families (Woodall & Mathews, 1993). Over the 4 years, males were consistently more hostile than females; additionally, their hostility increased as they got older. The researchers observed the greatest amount of hostility in males who had low social support from their family. These males with a lot of expressed hostility and little family support were at risk for CHD at an early age, even before age 21. Although social support is especially important to the hostile Type A person, research suggests that Type A's have more marital or dating problems and are less likely to confide in their friends (Suls & Sanders, 1989).

PREVENTING ILLNESS AND INJURY

We have seen that many modern diseases - as exemplified by obesity and coronary heart disease - have a relatively large behavioral component. We can infer from this that preventing and treating these conditions involves, to a large extent, making changes in behavior. Although this is good news, there is a downside. As we saw in Chapter 7, persuading people to modify their behavior, even when their lives are at stake, is not an easy task.

Two levels of dealing with preventable diseases have been identified. The first, *primary prevention*, aims at stopping the behaviors that cause the problem or the disease before they get started. Examples of primary prevention are educating adolescents about the dangers of smoking; teaching people how to drive safely; providing prenatal care to pregnant women; immunizing infants against communicable diseases; and avoiding cancer-causing agents in the environment. The second level, secondary prevention, is concerned with modifying behavior once the problem has already started or after the person is already at risk (Taylor, 1986). Examples of secondary prevention are treating a low-birthweight infant to prevent later problems; treating cancers quickly to prevent their spread; and providing victims of trauma with counseling to prevent depression or suicide.

Two different approaches to primary and secondary prevention have been used. Health psychology emphasizes that individuals need to assume active responsibility for their own health (Taylor, 1990b). They need to exercise, change their eating habits, quit smoking, or modify other behaviors. If they don't take an active role in changing their behavior, they may not continue to enjoy good health. This approach, derived from the health belief model discussed earlier, suggests that the best way to prevent major illnesses like CHD and AIDS is to identify individuals who are at risk, target them by testing and screening, and then give them the information they need to change their behavior.

Although the health belief model makes good sense, it assumes that people are fairly rational decision makers. But we have seen that this is not the case. Do you recall what people do when they get negative information? They deny, minimize, and misremember. The flaw in the health belief model is that giving people accurate information is no guarantee that they will make productive or rational use of it.

A second approach to primary and secondary prevention is provided by the public health model. According to this model, the most effective way to prevent or alter high-risk behaviors is to devise methods that automatically prevent people from engaging in them. The individual remains essentially passive and is not required to take an active, responsible role.

Let's consider now how each of these models works. We look at the health belief model as it is applied to modifying Type A behavior. We then explore the public health model as it is applied to injury control and prevention.

The Health Belief Model: Modifying Type A Behavior

Many tactics have been used to try to modify Type A behavior in individuals who either have had a heart attack or have been identified as at high risk for heart disease (O'Rourke, Houston, Harris, & Snyder, 1988). An underlying assumption of most of these programs is that Type A is not so much a personality trait (as the originators of the concept tended to think) as a coping style, a set of reactions that certain individuals have when facing stressful situations (Carmelli, Dame, Swan, & Rosenman, 1991). Obviously, coping reactions are easier to modify than personality traits.

Most programs involve some kind of cognitive restructuring. Type A's are taught new ways of looking at the world. They learn that they need not try to gain total control over the world, because it is impossible and unnecessary to do so. They are taught how to modify unreasonable or unattainable goals, and they are taught relaxation and coping techniques. This approach seems to be successful (O'Rourke et al., 1988). Even if, as some evidence indicates, part of the TABP is hardwired - that is, some people have a physiological reactivity pattern that tends to overheat quickly and there is little they can do about it - these individuals can release tension through aerobic exercise.

In his books *The Trusting Heart* and *Anger Kills*, Redford Williams (1989, 1993), a leading proponent of the hostility - CHD link, has described many ways people can change the way they see and respond to the world. For a closer look at his prescription, see the featured discussion "Modifying Hostile Behavior to Protect Your Heart."

MODIFYING HOSTILE BEHAVIOR TO PROTECT YOUR HEART

As we have seen, angry, hostile behavior may elevate an individual's risk of coronary heart disease. Redford Williams (1989, 1993) has described a number of changes people with this behavior pattern can make to reduce their risk. Generally, Williams suggests that these individuals reassess their approach to life, reevaluate sources of stress that lead to angry outbursts, and substitute new, more relaxed, reactions to stress for their old reactions. He suggests the following 17 strategies for controlling hostility:

1. *Reason with yourself.* When you find yourself in a situation that elicits hostility, reason with yourself. For example, if you find yourself getting angry when the person ahead of you in the supermarket line has a handful of coupons to use, reason with yourself. The person is probably not using coupons for the sole purpose of making your life difficult. It's more likely that he or she is on a tight budget and struggling to make ends meet. Evaluating a situation rationally, using objective evidence, can help you become more patient.

2. *Stop hostile thoughts, feelings, and urges.* When you feel yourself becoming angry or hostile, simply shout “Stop!” to yourself. This technique has been found to be effective in reducing unwanted thoughts and feelings.

3. *Distract yourself.* When you find yourself becoming angry, look around for another focus in the situation. If you’re stuck in a supermarket line, read a magazine. If you’re stuck in traffic, sing along with the radio. If no distractors present themselves in the environment, conjure up a pleasing daydream or fantasy until the situation improves.

4. *Meditate.* Calm yourself by withdrawing your attention from the situation. Meditating can be as simple as relaxing and focusing on your breathing, a soothing image, or a word like “peace.”

5. *Avoid overstimulation.* Keep your nervous system calm by cutting back on caffeine, nicotine, and sweets and by getting regular exercise.

6. *Assert yourself.* Reducing angry behavior doesn’t mean that you must become a wimp. Instead, learn to identify those situations that really call for assertiveness and then exercise that assertiveness appropriately.

7. *Care for a pet.* Pets provide companionship, devotion, and physical contact but demand little in return. They have a calming effect on harried humans.

8. *Listen!* Break away from the self-involvement and self-focus typical of hostile people by learning to listen when others are talking - look directly at them, pay attention to what they are saying, and never interrupt. Every time you start thinking about yourself, turn your attention back to what the other person is saying. Avoid being judgmental or giving advice.

9. *Practice trusting others.* Look for safe opportunities to trust others. Don’t feel you always have to take charge. Learning to trust reduces cynicism.

10. *Take on community service.* Reduce isolation and alienation by donating your time to a good cause. Doing so helps reinforce your sense of connectedness with others.

11. *Increase your empathy.* When you feel yourself getting angry with someone, try putting yourself in that person’s shoes. When you see things from another perspective, your empathy will probably increase. And empathy and anger simply don’t mix.

12. *Be tolerant.* Disapproving of others increases angry thoughts and heightens alienation. Learn to accept other people as they are, not as you would like them to be.

13. *Forgive.* Rather than blame those who have harmed you, release your anger by forgiving them. Realize that you can consciously choose to forgive people.

14. *Have a confidant.* Cultivate at least one intimate relationship, and spend a lot of time with that person, whether a spouse, a lover, or a friend. As you deepen the bonds of mutual support,

try sharing and disclosing more of your most personal thoughts and feelings.

15. *Laugh at yourself.* Find the humor in situations and in your own reactions. You can use self-directed humor to combat hostile feelings.

16. *Become more religious.* Joining a religious community can help you achieve a more positive philosophical outlook. It can also provide a strong social support system.

17. *Pretend today is your last.* If you have trouble reducing hostility, imagine that you have a fatal illness and are going to die soon. Coming face to face with your own mortality may help you see the wisdom of “waling away from anger.”

Making changes like those outlined by Williams can improve an individual’s quality of life even if that person is not at risk for heart disease. How likely do you think it is that someone who doesn’t feel threatened by heart disease would make such behavioral and attitudinal changes? According to the health belief model, what would have to happen before that person would start making changes? Are you considering trying any of Williams’ strategies? If so, why? It is interesting to note that TABP is a risk factor for heart disease but not for other diseases. Type A’s are driving, ambitious, pragmatic people. In many ways, they are the kind of people that Kobasa (1979) described as being hardy. It seems that the hardy person is buffered against most illnesses except CHD (Contrada, 1989). How might the Type A buffer himself or herself against CHD? It would be necessary to make cognitive and behavioral changes so that while continuing to be committed and challenged by work, the person avoids anger, cynicism, and hostility (Brown, 1986).

Another approach to preventing heart disease is to focus more on secondary prevention. As with AIDS (see Chapter 7), mass media campaigns have been used to try to modify the behaviors that contribute to heart disease. One campaign was carried out by the Stanford Heart Disease Prevention Program (Meyer, Nash, McAlister, Maccoby, & Farquhar, 1980). The plan was to try to influence the population in several towns in California to lower their risk of CHD by changing behaviors such as smoking and not exercising. Town 1 was given a standard mass media campaign, consisting of ads encouraging behavioral change. Town 2 was given a much more intensive, 24-month campaign that blanketed the town with messages about changing high-risk behavior. Town 3 received the same treatment as Town 2, but in addition, a large group of people were recruited from Town 3 for special educational sessions. All the recruited subjects were, because of poor habits, at very high risk for CHD. They were given films and lectures about how to “eat right.” They were also trained in techniques to help them quit smoking and lose weight.

The behavior of all subjects in the three towns was followed for 3 years (the 2 years of the experiment and 1 following year). As shown in Figure 15-11, both Towns 2 and 3 displayed significant changes in high-risk behavior, especially as compared with Town 1. The most impressive result was that Town 3, which had the combination of intense media messages and “hands-on” workshops, displayed the greatest amount of change, sharply lowering risk-related behaviors. The study showed that if enough resources are available, and if the population is not too large, it is possible to mount a campaign that significantly reduces high-risk behavior

(Zimbardo & Leippe, 1992).

Both primary and secondary prevention were used in this influence campaign. Some people probably were convinced to modify their behavior fairly early in life (primary prevention). Others, such as the high-risk volunteers of Town 3, were persuaded to change established behaviors (secondary prevention).

The Public Health Model: Preventing Injuries

The second approach to primary and secondary prevention is the public health model. In this model, people do not have to take primary responsibility for changing their behavior; others take action or make decisions, and individuals must comply with them. For example, parents do not decide whether or not their children get certain vaccinations. Children must be vaccinated before they may attend school (Singer & Krantz, 1982). The intervention to prevent certain communicable childhood diseases is automatic and determined by the public health system. Similarly, laws requiring that motorcyclists and bicyclists wear helmets take the decision out of the individual's hands.

The public health model can be seen most clearly in current approaches to serious injuries, formerly referred to as accidents. Safety experts are trying to phase out the term accidents because it suggests that such events are "accidental" - beyond human control. On the contrary, most injuries are the predictable outcomes of factors that can be controlled, such as human behavior (drinking and driving) or faulty equipment. In a recent attempt to get this idea across, a National Safety Council Ad showed a picture of a tree-lined road with the caption "They don't hit you" (Williams & Lund, 1992). Experts distinguish between unintentional injuries, which occur when no harm is intended, and intentional injuries, which are purposely inflicted, as in the case of homicide and suicide (Insel & Roth, 1994).

Injuries are the fourth leading cause of death in the United States and the leading cause of death for Americans under age 45 (Rosenberg & Finley, 1992). The single largest cause of injury is automobile crashes. Consequently, numerous interventions have been proposed to reduce the number of motor vehicle-related injuries and deaths. Some proposals, based on the health belief model, have been aimed at getting individuals to play an active role. Campaigns have been launched to discourage drinking and driving, to support the "designated driver" concept, and to encourage people to "buckle up."

However, many of these attempts have not worked. The seat belt is a case in point. Using seat belts has been shown to be the most effective action drivers can do to survive crashes. In fact, the failure to use a seat belt puts the nonwearer at higher risk for early death than smoking, alcohol abuse, or obesity (Sleet, 1987). Many people don't understand that the seat belt provides protection at the time of the "second collision," which occurs when the occupant of the car hits something inside the car. Seat belts also spread the force of the collision over the whole body, and they prevent people from being thrown from cars. Despite these facts, public information and education campaigns have been unable to persuade the general public to use their seat belts. Ad campaigns designed to increase seat belt use have been remarkably ineffective (Frank, Bouman, Cain, & Watts, 1992).

Changes made in accordance with the public health model have been more successful. For example, safety features have been added to American cars. As required by law, all new cars are being made with center high-mounted brake lights, which have been shown to decrease rear-end crashes by over 17%, particularly in the daytime (Williams & Lund, 1992). Many cars also have automatic seat belts, which move into position when the car is started or the door is closed. They are considered passive restraints because the individual doesn't have to take any action to engage them. Air bags are becoming standard equipment on many cars as well. However, they offer limited benefits, since they provide protection only in front-end collisions and deflate immediately after inflating. They are most effective when used in combination with seat belts.

A good part of the motivation for automatic and passive injury-prevention methods comes from the fact that other attempts have failed. As the costs of unhealthy lifestyles increase, we can expect that the public health model will become more popular. A society faced with mounting health care costs may be forced to prevent people from harming themselves, especially when the public ends up paying for it.

SY'S HEART ATTACK REVISITED

It's easy to see in retrospect how Sy might have changed his life. He could have lost weight, changed his diet, and learned to balance his working life with a less isolated social life. Whether it was possible for him to change, however, is another question. He habitually denied the possibility of bad things happening to him. He thought that people who ate and drank in moderation and who lived prudently were dull and boring. And he didn't confront his symptoms until it was too late.

If Sy had been more prudent about his lifestyle, more realistic about his symptoms, and less compulsive about work, he might be alive today. The sad thing was that he had begun to change. He just couldn't overcome all those years of neglecting his health, both physically and emotionally.

LOOKING AHEAD

In this chapter we have seen how the principles and research findings of social cognition, in conjunction with the application of other social and personality variables, can inform our understanding of stress and illness. In the next and final chapter we explore the social psychological roots of international conflict. We again see that basic research in social cognition, particularly with respect to stereotypes, gives us insight into human behavior and interaction. Principles of social perception and intergroup relationships also inform us about why international conflicts begin and what might be done to control them.

Chapter Review

1. *What role does social psychology play in enhancing our understanding of health and illness?*

Many modern ideas have a preventable component. People's lifestyles and health-related behaviors play a critical role in whether or not they get sick. Social psychology can help us understand the dynamics of people's behavioral responses to stress, trauma, illness, and lifestyle change.

2. *What is stress?*

Stress can be thought about in different ways. The stimulus definition of stress focuses on the stimuli in the environment that produce stress. The response definition of stress focuses on people's physiological and psychological responses to stressful situations. This approach has been extensively studied by Hans Selye, who has proposed the general adaptation syndrome to describe the body's response to stress. In the first stage, alarm, the body reacts with a "fight or flight" hormonal response. In the second stage, resistance, the body attempts to return to normal functioning. If the first and second stages last for long or indefinite periods of time, a stage of life-threatening exhaustion may ensue. All the stages place great demands on the body.

Social psychology views stress as a transaction between the individual and the environment. It emphasizes the importance of how people perceive and respond to events. When people perceive an event or a situation as exceeding their ability to cope with it, it is stressful for them. If they do not perceive it as exceeding that ability, it is not stressful for them.

3. *What is the relationship between stress and illness?*

The inability to cope with stress is an important psychological cause of illness. Life stressors are positive or negative events that individuals perceive as stressful, and they apparently have a cumulative effect on health. The assessment tool known as the Social Readjustment Rating Scale assigns scores to various life events and can be used to predict the likelihood of future illness. Two important sources of stress are everyday hassles, such as difficulties encountered in the household or concerns about personal appearance and weight, and job stress, such as having too much work or impossible deadlines. If left unchecked, job stress may lead to a phenomenon known as burnout, a psychological condition in which energy and motivation are sapped. Since many of these sources of stress have a self-produced component, developing effective coping mechanisms can reduce stress and the likelihood of illness.

4. *What mechanisms do people use to deal with stress?*

Many people devise effective coping mechanisms that are aimed at lessening and managing both the causes and the effects of stress. Generally, people who feel they have some control over events (perceived control) and believe they can be effective in dealing with these events (self-efficacy) devise more effective coping styles. One very effective coping style involves maintaining a positive mood and an optimistic view of life. When faced with threat, many optimists develop positive illusions, beliefs that include unrealistic hopefulness about their ability to handle the threat and create a positive outcome. Nevertheless, it appears that these positive illusions are adaptive in the sense that people who are optimistic will be persistent and creative in their attempts to cope with the psychological and physical threat of disease or other stressful events.

Also important in handling stress are a network of social support, personality factors such as the trait complex labeled hardiness, and behavioral factors such as exercising. Finally, the social context - including factors such as age, race, and socioeconomic status - plays a role in how people handle stress and illness.

5. *What do people do to deal with extreme stress?*

More severe stresses, known as traumas, require special coping techniques. People tend to respond to trauma by repressing the terrible emotions. But it appears that such repression takes so much energy that it makes the person vulnerable to illness. The best method of dealing with the trauma is to confide in someone about it, to talk out all the pain and anguish. When this occurs, the immune system resumes its normal functioning levels.

6. *How do individuals deal with medical diagnoses?*

When we receive the news that we may be ill, there is a tendency to deny the reality of that diagnosis and to downplay its seriousness. This is known as the minimization effect. Perhaps people need time to marshal their resources to deal with this new threat. People especially tend to minimize diseases that are common, such as high blood pressure. They seem to conclude that if others have this, it can't be too serious. People also protect themselves against a health threat by downward comparison, the process of comparing themselves with someone who is in a worse predicament. An uncertain diagnosis seems to be hardest for people to deal with. They are unable to generate positive illusions when they have no symptoms and no certainty that they are ill.

Very often, people fail to comply with their physician's advice. Instead, they engage in such psychological processes as denial and minimization. This is especially true when they don't trust their physician, a condition that results most often from communication problems.

7. *What is the role of lifestyle in maintaining health?*

Since many modern diseases have a preventable component, how people live their lives can either promote or damage their health. Two modern diseases - obesity and coronary heart disease (CHD) - have a number of behavioral components. Obesity is a complex phenomenon affected by heredity, behavioral factors, social influence, and cognitive factors. Overeating is one factor over which people have some control. A combination of external cues and social influence seem to create situations in which the tendency to overeat is intensified. Dieters often lose all inhibitions about eating when their self-esteem is threatened. They may overeat to "escape the self" and reduce their anxiety about how they feel about themselves.

Coronary heart disease also has a strong lifestyle component. Risk factors for CHD include high blood pressure, smoking, unhealthy cholesterol levels, obesity, a sedentary lifestyle, and the complex of traits and behavior known as the Type A behavior pattern. Type A's are ambitious, competitive, aggressive, and hostile. The last component seems to be the critical risk factor for CHD. Anger and hostility damage the cardiovascular system, especially in the absence of a strong social support system.

8. *What methods do people use to prevent illness and injuries?*

Many of the techniques applied in illness- and injury-prevention programs emphasize the responsibility of the individual to make changes in his or her behavior. This approach reflects the health belief model. An alternative, the public health model, argues that the

most effective way of preventing or altering high-risk behaviors is to devise methods that operate automatically, without the need for people to take primary responsibility. Although some prevention is achieved through the health belief model (by educating people about what constitutes a healthful lifestyle and how to change their behavior), the public health model seems to be more effective, especially in reducing injuries.

Suggestions for Further Reading

Shilts, R. (1987). *And the band played on: Politics, people, and the AIDS epidemic*. New York: St. Martin's Press.

The late journalist Randy Shilts describes in moving terms the political, medical, and human aspects of AIDS.

Skelton, J.A., & Croyle, R.T. (1991). *Mental representations in health and illness*. New York: Springer.

This book explores how we think about illness and how these mental representations affect our health.

Taylor, S.E. (1990). Health psychology: The science and the field. *American Psychologist*, 45, 4 - 50.

Shelley Taylor, a leading researcher in health psychology, discusses the issues facing the field and suggests an agenda for the future.

Weiner, B. (1993). On sin and sickness. *American Psychologist*, 48, 957-965.

A leading attribution theorist explores how our notions of sin are related to our conceptions of illness.