1

The Meaning of Stress

It is Monday morning and the sun is just beginning to peek over the horizon, casting a dim shadow through the slats of the window blinds. In the mostly darkened room you can see the barest outline of a body sitting at a desk with his head cradled in his arms, resting near a laptop. The surface of the desk is littered with papers, cups half-filled with coffee, crushed cans of caffeinated energy drinks, and the remnants of pizza crust. If you look closer you can see that the person, although half-dead to the world, is not quite sleeping: his eyes are barely open, red and blurry. It has been a long night without sleep and Blaine has been prepping for an exam scheduled that morning, as well as a paper due in the afternoon.

Somehow, some way, Blaine has *got* to regain some energy to get through the day, stay awake through his classes, and then show up for his part-time job. It's been especially tough lately with money so tight and getting worse. He can't afford to miss a day of work or he'll risk lowering his main source of income. With problems of their own, his parents are in no position to help him much.

To make matters even more challenging, Blaine and his girlfriend have been fighting lately. She complains that they never seem to have much time to be together anymore —and when they do hang out, he is so tired that all he wants to do is watch TV or play computer games. In addition, he just hasn't been feeling well lately. Headaches have been occurring with greater frequency. He isn't sleeping well—when he finds the time to sleep at all. His grades are slipping because he can't find the time to study as much as he'd like. About the only thing that gives Blaine some relief is drinking beer with friends, but then he has trouble waking up the next morning to make his early class. He wonders how he will ever dig himself out of this hole.

Although this scenario is not exactly uncommon among college students, we hope that it isn't too familiar to you. Unlike some people you may know whom stress has buried beyond recovery, Blaine actually made significant progress in regaining control of his life. A friend had recommended that he take a stress management class so they could coordinate their schedules. As it happened, Blaine agreed, mostly because it was offered at a convenient time and seemed like an easy grade. But once he began learning about the cumulative effects of stress on his body and well-being, Blaine began experimenting with some of the methods introduced in class and his text. More than anything else, it was the social support he felt from others in the class that encouraged him to incorporate the new stress reduction strategies into his life.

Regardless of your particular age, gender, socioeconomic background, major, family situation, and the college you are attending, managing stress effectively is perhaps the single most important skill to get the most from your experience and perform at the

highest level. Among "nontraditional" adult students, who represent one-third of college enrollment, there are added challenges to balance school with jobs, family, and personal responsibilities (Giancola, Grawitch, & Borchert, 2009). According to a number of surveys of college students conducted by the Associated Press (2009), the American College Health Association (2009), and the *Chronicle of Higher Education* (2008), 85% report that stress is a major problem and the single greatest obstacle to success. Apart from actual performance in classes and grades achieved, excessive stress affects almost every aspect of life satisfaction. In recent times, economic problems have led to cutbacks in classes, staff, faculty, and services on campus. Scholarships have been reduced during a time when three-quarters of all students graduate with debt (Berg-Gross & Green, 2010).

Stress means different things to different people. To some, it represents a complete breakdown in their lives; to others, it means a minor annoyance that is best ignored, or tolerated; and in some circumstances, stress means an opportunity to rise to new levels of performance in a variety of areas. Some people tolerate stress reasonably well, some fall apart, and others hardly seem to notice the pressure in the first place.

KEY QUESTIONS IN THE CHAPTER

- What are the different ways that stress can be defined and conceptualized?
- What are the different ways that people respond to adversity in their lives?
- How can you assess the signs and symptoms of stress as they occur in yourself and others?
- Stress is ordinarily thought of as a fairly negative state, something to be avoided whenever possible. But how can stress be highly functional and operate as a survival mechanism?
- What is the general adaptation syndrome (GAS) and how does it function during times of stress?
- What is the primary goal of stress management? Can such a program completely eliminate stress?
- What are major sources of stress and how are they recognized?
- How do you interpret the following statement: "Stress is not what exists on the outside, but how you perceive a situation on the inside?"

What *Is* Stress Anyway?

This may seem like a rather obvious question. *Everyone* knows what stress is, or at the very least, knows when they are experiencing it firsthand or witnessing its effects on someone close to them.

Stress is that feeling when you can't seem to sit still, when your thoughts are racing and you feel out of control. Your body feels tense, as if tied into a knot. You feel revved up but can't figure out where to direct your energy. Time pressures weigh down on you. Concentration seems difficult.

Intense pressure: you feel it in your neck, in your back, in your belly. You notice your jaw muscles are clenched. There is, perhaps, a throbbing in your head. Your heart rate has increased, and your hands feel clammy.

This is stress, or at least some of the symptoms. As you will learn, there are many others that you will learn to recognize, and understand how they develop. There are also different kinds of stress, some of which break down your body and mind while others actually help you perform at peak levels.

One definition of **stress** is that it represents both a psychological and a physiological reaction to a real or perceived threat that requires some action or resolution. It is a response that operates on cognitive, behavioral, and biological levels that, when sustained and chronic, results in significant negative health effects (Linden, 2005).

Stress is, therefore, what happens when life exerts pressure on us, but also the way it makes us feel. According to landmark brain researcher Bruce McEwen (McEwen, 2002; McEwen & Wingfield, 2010), it is both a stimulus *and* a response.

A more humorous (and perhaps accurate) description of stress is offered by Elkin (1999, p. 24) as the condition created when "your mind overrides the body's basic desire to choke the living daylights out of some idiot who desperately deserves it" (Note: There is a high likelihood that your friends and family are going to ask what you are learning in "that stress class you are taking." Please offer them the first definition rather than the second one.)

Stress is actually a survival mechanism, programmed a long time ago, to increase internal awareness of danger and transform all the body's resources to a heightened state of readiness. It is, essentially, the experience of *perceived* attack. It doesn't matter whether the threat is real or not; the **autonomic nervous system** (think "automatic") is activated. This system works well only when it turns itself on and off within a reasonable period of time so as to not wear out its welcome (and deplete your energy). Unfortunately, half of all Americans report significant stress in their lives. Even more disturbingly, according to a recent survey, most people don't intend to do anything about it (Schuler, 2006).

There is a fairly good possibility that you are experiencing some degree of stress in your life right now, perhaps this very minute. How do you know when you are stressed? Stress responses have some common symptoms and signs, but they are also highly individualized, impacting your body, your internal thoughts, your emotional reactions, and your behavior (see Table 1.2 later in the chapter).

Stress symptoms are the body's way of getting your attention to tell you: *Look, you've got to get your act together. I'm a little tired of you running me ragged. I'm going to annoy you until you do something about this situation. And if you don't pay attention to me, well then, I'll just have to figure out more ways to get to you.*

If your body could talk to you, it might communicate this message. The problem is that stress symptoms are not always obvious and direct; sometimes they can become disguised or rather subtle and their messages somewhat clouded.

Meanings of Stress

Trey thought he had things under control. He was well organized and intentional in almost everything he did. He had a plan for his life and clear ideas about just how he wanted to reach his goals.

In addition to his college courses, Trey had a good job and was well respected at work. There were opportunities for advancement within the company and almost no limit to how far he could rise, especially after he completed his degree. He was involved in a long-term relationship with Mia, whom he had been seeing since they were both sixteen.

Trey was doing well in school, enjoyed a good social life with friends, and was getting along well with his family. He was in good health, exercised regularly, and—except for a fondness for Hawaiian pizza with extra ham—monitored his diet.

So it was all the more surprising, given how well everything seemed to be going in his life, that he suddenly (or maybe it was gradually—he couldn't remember) started to lose control. First the headaches started, and this was highly unusual for him; he was almost never sick. He tried to ignore them and, when that didn't work, starting eating up to a dozen aspirin a day to reduce the throbbing.

Eventually, Trey decided to visit his doctor, but after a thorough physical exam, no physiological cause was found. His blood pressure was a little high, as was his cholesterol, but otherwise he was in reasonably good shape.

"They seem to be stress headaches," the doctor suggested to him. "Are you under a lot of pressure lately?"

Trey shrugged. "Not really," he replied. "Everything is going pretty well in my life. I've got everything under control." These were the mantras of his life, his trademark responses every time anyone asked him how things were going. Indeed, Trey was much

admired by friends and family alike for his calm, controlled demeanor and ability to keep things under control.

Here is the key question: what is the particular *meaning* of Trey's stress symptoms? Later, when he was asked this question by a friend who had taken a stress management class, all Trey could do was shake his head in frustration.

It turned out that Trey's strengths were also his weaknesses. He was absolutely relentless in his desire to maintain control and keep everything on course to follow his plan. He would be graduating in two years (19 months to be exact). He and his girlfriend would then get married and have four children, two of each gender. By then he would be a regional manager for the company. They'd own a home in a particular neighborhood that appealed to him. He even knew what kind of car he wanted once he had achieved his success.

So, what's the problem? And why would a stress response like headaches emerge just when things seemed to be so under control? What was the meaning of stress in Trey's life? How were these symptoms trying to get his attention to look at something he was ignoring? (See For Reflection 1.1.)

Avoiding the situation did not work for Trey, nor did medicating himself first with aspirin and later with increasing quantities of beer. The headaches worsened. Then other symptoms developed, including a skin rash.

It took some time before Trey confronted what was going on in his life. He realized eventually that he so over-structured and controlled his life so he didn't ever have to think about where he was headed and whether, in fact, he actually wanted to reach the goals that he had declared. As it turned out, he was very fond of his girlfriend but he didn't love her, and he certainly didn't want to spend the rest of his life with her. But for years he hadn't wanted to hurt her feelings. He wanted to do the right thing, so that meant continuing to live a lie.

And this great job he had, and bright future with the company? He never really wanted to be in business. That was the influence of his father, who was so proud of him. Now that he realized it, Trey had no idea what he wanted to do with his life because it had never seemed like he had a choice.

Now that the headaches had forced him to stop doing what he was doing, Trey had the opportunity to actually consider where he was headed and whether he really wanted to go there. Once he discovered the particular meaning of stress in his life, the headaches went away (although the skin rash stuck around for almost a year afterwards, a residual reminder to follow through on his new commitments). Finding meaning in stress is thus not just an academic exercise but often is absolutely necessary to put life challenges in perspective and allow you to restore feelings of well-being after experiencing disappointment or trauma (Fontana & Rosenheck, 2005).

What's in a Name?

Stress is the name given to the pressure that cracks bridges or the force that places strain on an object or body. It is synonymous with tension, fatigue, failure, trauma, or difficulty. The word is derived from the Middle English *stresse*, meaning "hardship," and the Old French *estrece*, meaning "oppression." More often than not, the subject of stress is thought of in the most negative terms possible—it is something to be managed, or at least tolerated, but rarely understood.

The term has cropped up in medicine since the seventeenth century, recognized by physicians as the cause of physical illnesses that might result from social pressure. It came into common usage during the 1950s when a Canadian biologist, Hans Selye, first published a book that adapted the concept of strain on physical structures from engineering to describe what happens to the human body during times of crisis. In retrospect, Selye didn't much like the term after it became popular—much preferring "strain"—but by then it was too late (you can't exactly issue a word recall).

FOR REFLECTION 1.1

What ideas might you have as to what stress could mean in Trey's life? What might he be ignoring that needs attention? What are the principal repeating themes in this narrative?

Given that control and (over)planning are such an ingrained part of Trey's life, is it any wonder that this might suppress other desires and dreams that he does not allow himself to think about?

There are several important questions that are useful in identifying the meaning of disguised or subtle stress. Consider each of them in response to Trey's situation.

1. What does Trey need to look at that he might be ignoring?

2. How are the stress symptoms capturing Trey's attention?

3. What might the symptoms be communicating to him?

4. What would it be like if he tried doing something else, or followed another path?

Think of a situation in your own life in which you feel perplexed by chronic symptoms of distress that won't go away no matter what you do. Ask yourself some of the same questions that you applied to Trey's case: what particular meaning does the problem have in the larger context of your life? In other words, what function might it be serving to get you to examine something important that you might be ignoring?

The seventeenth century of Rousseau, Descartes, and Locke was called the "Age of Reason"; poet and essayist W. H. Auden announced in his Pulitzer-Prize-winning verse of the same name that the twentieth century was the "Age of Anxiety." This catchphrase soon became popular, resulting in dozens of books about how to find the balanced life during a time with so much daily pressure. In 1983, the cover of *Time* magazine proclaimed that we now live in an "Age of Stress." Our lives are "consumed by demands for our resources and threats to our well being" (Hobfoll, 1998).

Judging by the hundreds of books and thousands of articles published each year on the subject, stress has become the obsession of our time. Doctors warn about the epidemic of health problems that result from excessive stress. Employers worry about the effects on absenteeism and work productivity. Relationship experts cite stress as a main factor in divorce and other interpersonal conflicts.

The problem of stress has become so pervasive that people flock to courses on stress management, meditation, and yoga. Individuals hire personal trainers and join health clubs, while businesses hire consultants to reduce stress in the workplace. Stress has become the universal challenge of our time, the condition that can suck the fun out of life and kill us just as surely as any plague we faced in ancient times.

How Is Stress a Problem?

It has been estimated that 75% to 90% of all visits to a primary care physician are because of stress-related disorders (Rosch, 1991). These include stomach ailments, tension headaches, high blood pressure, addictions, and almost any other disease you can think of. Stress is linked to the six leading causes of death in North America (see For Reflection 1.2).

FOR REFLECTION 1.2

What *are* the six leading causes of death in North America? See if you can name them:

1.

2.

3.

4.

5.

6.

Answers are at the end of the chapter.

Nine out of ten adults report that they have experienced serious stress at some time in their lives; almost half of these people say that their symptoms were serious enough to disrupt their lives. Some people experience stress to the point where they cannot function well on a daily basis, cannot enjoy a decent night's sleep, and feel ravaged by the effects in such a way that their relationships are impaired and their productivity compromised.

Consider yourself fortunate if you are managing to cope reasonably well with the stresses you face in your life. Rest assured that there will come a time in the near future when you will be tested in ways you never imagined. Preparation is the key to preventing serious problems; hence, the purpose of this text is to equip you with those skills you will find so helpful during times of crisis.

Stress as a Stimulus or Response

In both the physical and psychological worlds, stress implies a judgment that something is damaged as a result of extreme pressure. For our purposes, in talking about stress in relation to human functioning, it is most often thought of as either a **stimulus** or a **response**. In the first case, stress is the description we give for someone or something that is putting pressure on us to do something that feels beyond comfortable limits. It is an external pressure ("Could you help me write this paper?"), event (earthquake), or incident (car accident) that produces a response.

In the second case, with stress as a response, it represents the *result* of internal or external pressure. Regardless of what happened in the outside world, the internal mechanisms of the body and mind activate stressful reactions.

In both instances, you can see a clear linkage between something that happens in the world and how the person responds afterwards. **Stressors** are those stimuli in the environment or daily life that result in *perceived* pressure. Perception is a key factor in this definition because people respond in such different ways to exactly the same stimuli. For instance, imagine the following: your instructor announces that she has changed the requirements of the course and now expects you and all your classmates to come up in front of the room and tell a story about the time you each felt most stressed in your life. We're willing to bet that some people might respond to this invitation with abject terror ("Oh my gosh! I can't do that!"). And yet, there are a few others who would rub their hands together with glee, thinking to themselves: "What fun! That sounds *so* interesting."

There are some stressors that would likely produce anxiety in almost anyone (death of a loved one, catastrophic illness, divorce in the family, loss of a job, failing a class) and others that depend on a number of factors including a person's prior experiences and history, personality style, resources available, and resilience. Regardless of these variables, research consistently finds that certain life events act as stressors to produce extreme emotional reactions that include anxiety, depression, and other negative emotions.

TABLE 1.1. Stress as a Stimulus or a Response

Stimulus	Response
• *She's stressing me out with her demands.*	• *I am so stressed after the exam.*
• *The deadline is putting stress on me.*	• *I feel the stress in my shoulders and my neck.*
• *This class is so stressful the way the instructor organizes things.*	• *When you said that, you made me so upset afterwards.*

A Selected History of Stress Research

It is only relatively recently in human history that stress has become a major issue of discussion—in the previous centuries people usually died before the ravages of stress-related illnesses could take a toll. Yet stress has been with us since the first humans dealt with the life-threatening challenges of hunting—and avoiding being the hunted.

Ancient Contributions

Our ancestors developed coping mechanisms to handle the stressors specific to their times. In a Chinese medical classic, *Yellow Emperor's Classic on Internal Medicine*, written more than 2,000 years ago, the principles of moderation and balance in living were presented. Just as adherence to these guidelines would promote health, their violation was believed to cause sickness.

On the other side of the world, at about the same time, the Greek physician and father of modern medicine, Hippocrates (460–377 BC), observed that the experience of disease offers some benefits in that the *pathos* (suffering) is always followed by the response of the body and the *ponos* (the toil of being sick). Hippocrates was also among the first to observe that emotional stress might put pregnant women at risk for miscarriages and so cautioned them to remain as calm as possible.

Modern Era

Advances in medical knowledge during the past 150 years have made it possible to track the ways that stress affects the body systems.

Claude Bernard (1813–1878), who lived in the age of steam engines and other mechanical inventions, used a metaphor for understanding the workings of the human body. He noticed a remarkable similarity between a steam engine and a living organism in that both require the process of converting stored energy through a combustion process in order to move some mechanical parts to generate motion. To explain how a living organism could move itself without any external assistance, he developed the concept of **internal environment** that caused the step-by-step processes living organisms employ in moving themselves.

Bernard believed that complex living organisms depend on both the external environment *and* the internal environment. Based on his thinking, one major function of the internal environment was to keep the body constant in the face of the changing external environment through various chemical and physical responses. This concept of **homeostasis** states that all the physiological systems work in unison to keep the internal environment stable and balanced. If the body's core temperature, for example, should move beyond relatively small established limits, then immediate efforts are made to lower the temperature through sweating, or raise it through shivering. Likewise, if the body should become activated during an emergency, it will attempt to stabilize itself after the emergency has passed.

About the same time that Bernard was exploring the nature of balance within the body, Charles Darwin was sailing around the Galapagos Islands in South America, charting the nature of evolution. Based on his years of study—first of the ways that animals developed adaptive responses to their environment, and later applying these observations to humans—Darwin was among the first to theorize that fear and stress are useful or otherwise they would have extinguished themselves a long time ago. According to evolutionary theory, fear responses are passed on from one generation to the next because they serve as a survival mechanism. Darwin further noted that humans could display a range of stress/fear emotional responses, describing the behavioral changes that take place, including facial expressions and physiological changes.

A few decades later, into the twentieth century, Sigmund Freud presented the most coherent theory of emotions, making a clear distinction between fear and anxiety. The former could very well be part of what Darwin considered adaptive stress, while "neurotic anxiety" is a chronic condition of permanent apprehension. Freud eventually developed a whole theory of psychological disturbance based on the conscious and unconscious fears that motivate behavior.

A contemporary of Freud's, Walter Cannon (1932), was the first physiologist to begin talking about stress in the context of emotional responses. He worked with the homeostasis concept developed by Bernard, that humans develop coping mechanisms to keep the internal environment constant and secure the integrity of the cells and organs inside.

Cannon's contributions went far beyond the mechanisms of how the nervous and endocrine systems regulate internal stability. He believed that psychological disturbances and emotional distress can compromise the system in such a way that it fails to respond appropriately and can compromise health. He also gave a name for the stress response that becomes activated during perceived threats: the **fight-or-flight reaction**. This will be discussed in detail a little later in the chapter.

General Adaptation Syndrome

Hans Selye, an endocrinologist (someone who studies the glandular system) from Canada, built on the work of Cannon and others to give the area of stress research greater legitimacy. Selye is recognized as one of the parents of stress research, a title that he earned through the most serendipitous of circumstances.

In the early stages of his career, Selye was investigating hormonal processes by injecting rats with various chemical substances. Alas, he may have had a brilliant mind but less than nimble dexterity. He was terribly inept at injecting his rats, at times mishandling them, even dropping them accidentally, then chasing them around the lab. Once he relocated his subjects, he discovered that they had suffered a number of physiological changes that were different from those that had not been terrorized: their immune systems malfunctioned and they developed ulcers. Much to his surprise, Selye learned that psychological trauma could actually stress the body to the point that it makes rats (and humans) sick.

Selye experimented with placing the rats under various challenging environmental conditions. He subjected some to Sahara-Desert-like conditions, and others to a simulated Arctic environment. He introduced toxins into their cages and tried isolation, then extreme crowding. Eventually, a consistent pattern of bodily changes emerged. The rats' adrenal glands became enlarged from overwork. Other organs such as the thymus, spleen, and lymph nodes changed dramatically. Selye called this consistent pattern of changes in response to demands in the external environment the **general adaptation syndrome (GAS)**. This means that when someone is stressed by a crisis, perceived danger, or threat, the brain activates more than 1,000 different chemical responses to deal with the situation (see Figure 1.1).

FIGURE 1.1 General adaptation syndrome.

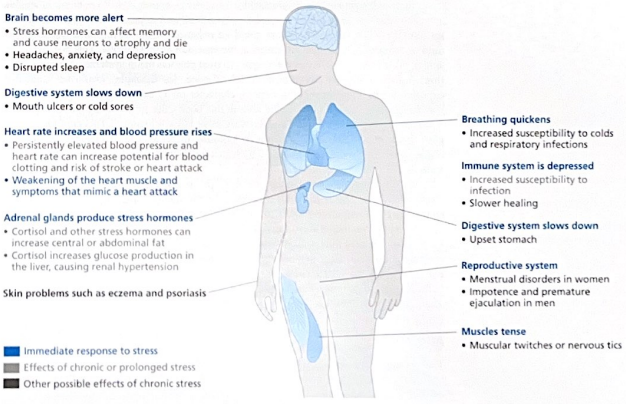


TABLE 1.2. Stages in the General Adaptation Syndrome

Phase 1: Alarm reaction
The body's first exposure to the stressor that disrupts its homeostasis starts a series of physiological reactions through the autonomic and endocrine systems. The endocrine system will produce corticosteroids that will supply the body with resources to fight or flee. Unfortunately, these corticosteroids may weaken the immune system.

Phase 2: Resistance
The continued presence of the stressor will activate the stage of resistance during which the purpose is to sustain life and make necessary adaptations as long as the required fuel and biochemical matenal are available. It is like a gun that keeps firing over and over until it runs out of ammunition, or the shooter's finger cramps to the point it can no longer function.

Phase 3: Exhaustion
If the stressor remains present (or is *believed* to be present), the body will deplete its stored energy to the point that it is no longer capable of mounting any resistance. Mental and physical energy are on empty. Exhaustion sets in. Permanent damage will result, leading to illness or even death.

The general adaptation syndrome (see Table 1.2) goes through three phases, if necessary, each one activated if the previous stage fails to be adequate. The first phase signals an alarm reaction—the fight-or-flight response described earlier. This is a short-term, quickly mobilized system to deal with threats as quickly as possible. The second phase is initiated once the body realizes that this will not be a sprint, but a marathon. Long-term reactions are launched to try to keep the system functioning in the face of enduring assaults. At this juncture, either homeostasis is restored or the third phase begins. Finally, exhaustion sets in with the body systems depleted. This explains, in part, why people subjected to long-term stress develop various illnesses and chronic problems: their defenses have been breached.

The result of Hans Selye's research was not all bad news. He also discovered that an animal's ability to handle stress could be enhanced if it was repeatedly exposed to mild or moderate challenges presented at incrementally higher levels. This is *exactly* the strategy that is now used by psychologists to treat phobias using **systematic desensitization**. Someone who is irrationally afraid of mice, for example, would be gradually exposed to tiny, non-threatening cartoon character mice, perhaps even Mickey Mouse. Using relaxation training (described later in this book), the subject is taught to stay calm while increasing tolerance for progressively more stressful stimuli. This could include a photograph of a mouse, then a movie of a mouse, then a mouse in a cage at the far end of the room, then a mouse being held by someone else, until such time as the person can actually hold the mouse himself.

We can strengthen our capacity to deal with stressors in the future by preparing and training for them. This is just what coaches and performance experts try to do with athletes so that they can remain in Phase 1 of their GAS without suffering lingering side-effects.

It can be concluded from Selye's findings, and subsequent research, that exposure to stressors can have long-term consequences, which are harmful and even life-threatening or in some circumstances can be beneficial. Other investigators have since found that the extent to which the stressor impacts the body for better or worse depends not only on the intensity and magnitude of the stressor, but also on how we perceive the stressor and our ability to cope with it (Ganzel, Morris, & Wethington, 2010).

Allostasis

The concept of homeostasis developed by Cannon implies that once the balance is restored, the body will return to its static and unchanged pre-stress state. Selye pointed out that chronic stress brings certain costs to the organism when its resources for coping are depleted.

Noting the cost of achieving this homeostatic balance in the face of stressors, Sterling and Eyer (1988) coined the term **allostasis** to mean the combined physiological and psychological adaptation to the experience of threats or adversities. In other words, the body will experience wear and tear and decreased capability to cope with future stressors as long as the threats continue and the need to maintain homeostasis still exists.

Bruce McEwen, a renowned neuroendocrinologist, expanded the idea of allostasis by creating the concept of **allostatic load** to describe what happens when the same adaptive (GAS) system that was designed to protect us actually tears us apart (McEwen & Stellar, 1993; McEwen & Wingfield, 2010). The allostatic load comes out of balance when there is a systemic malfunction that occurs either by repeated exposure to perceived threat, or poor health and lifestyle choices on the part of an individual. This would be like someone constantly revving the engine of a car to the highest RPM, overheating the engine, and never changing the oil or adding lubrication.

McEwen (2002) cites the example of spawning salmon as an extreme case of what can happen when the allostatic load becomes excessive. Chinook salmon of Alaska will swim up to 60 miles per day, upriver, against the current, even jumping *up* waterfalls, in order to lay and fertilize their eggs. During this heroic and improbable journey, the salmon rely on every possible reserve of hormones and energy to complete their task. In the end, the constant stress on their system, plus the draining of their reserves, kills them. They literally die of overstress.

This phenomenon of death from overstress occurs within our own species as well, mostly in the form of suicide. Some of our most creative geniuses imploded as a result of internal and external pressures that pushed them over the limit of what they could stand. In studies of such lives (Jamison, 1993; Kottler, 2006), of innovators in art (Mark Rothko, Vincent Van Gogh, Arshile Gorky), literature (Sylvia Plath, Virginia Woolf, Ernest Hemingway), and music (Pyotr Tchaikovsky, Kurt Cobain), it can be found that consistent exposure to chronic stress, combined with feelings of perfectionism, often leads talented people to drain their reserves like salmon.

The concept of allostasis has further enriched our understanding of adaptive mechanisms in the face of life's threats or traumas. It emphasizes that even minimal stressors can cause long-term damage to your health when they endure, demanding ongoing coping responses from the body.

Responses to Stress

There are a number of ways that people respond to stressful situations in their lives, depending on their personalities, their cognitive style (characteristic thinking patterns), their background and prior experiences, their gender and ethnicity, and a host of other factors. These responses may be grouped according to physiological reactions (covered in Chapter 2), emotional reactions (reviewed in Chapters 3 and 4), cognitive reactions (discussed in Chapter 6), and systemic reactions (presented in Chapter 12). Stress responses occur on multiple levels, and within many systems, in the body and mind (see Table 1.3).

TABLE 1.3. Major Responses to Stress

Physiological	Cognitive	Emotional	Behavioral
Heart palpitations	Impaired memory	Fear	Crying
Sweating	Disorientation	Worry	Rage
Dry mouth	Unrealistic demands	Panic	Withdrawal
Fatigue	Disasterizing	Guilt	Substance abuse
Insomnia	Illogical thinking	Anger	Self-medication
Nausea	Externalized blame	Denial	Impulsiveness
Dizziness	Obsessiveness	Hopelessness	Phobias
Loss of appetite	Loss of humor	Numbness	Hyperactivity
High blood pressure	Suicidal ideation	Depression	Lethargy
Personality traits	Surrender	Despair	Aggression
Weight loss or gain	Excessive fantasies	Impatience	Rambling

FOR REFLECTION 1.3

How do you know when YOU are stressed?

Everyone reacts to stress in different ways, even if there are some common signs and symptoms. Some people have difficulty sleeping or lose their appetites, while others sleep too much and go on eating binges. Some people have thoughts of doom and gloom, imagining the worst, and others keep an upbeat state of mind.

Review Table 1.3, then consider how you characteristically respond to stress in your life, in the past as well as the present.

What are your typical reactions?

Where do you feel stress in your body?

What is the usual way that you think when first confronted with a crisis or stressful situation?

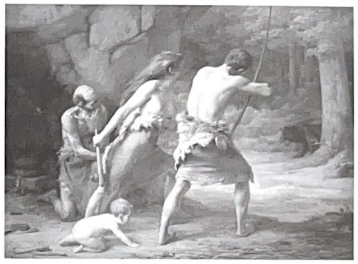
How do you respond emotionally to stress? Which feelings are dominant?

How do you typically behave when confronted with stress? If you are inclined to "act out," or respond dysfunctionally in some way, what does that look like?

Biologist Robert Sapolsky (2004) talks about the uniquely human response to danger as compared to herd animals. Whereas zebras become stressed only during times of immediate threat from a predator, we are the only species that gets upset over the future. We spend more time worrying about things we can't control than we do actually preparing to meet the challenges. Imagine a zebra, or a penguin for that matter, thinking

about where she is going to vacation during spring break, and how she's going to pay for it. You get the point: animals do experience stress when they are subjected to life-threatening situations but we are the only species that literally kills ourselves out of imagined fears.

FIGURE 1.2 Contemporary human beings retain the same physiological responses to stress that were present in our Stone Age ancestors.



Fight-or-Flight Response

There you are stalking your prey. Outfitted in your recently acquired skins made from a mammoth you killed the previous week (with others from your clan), you are hot on the trail of a woolly rhino that had been spotted by scouts. You are fleet on your feet and an excellent spear-thrower. At 19, you are rather experienced and old compared to others among your people, where the average life expectancy is in the early twenties.

Like any self-respecting member of the Paleolithic Era, you are rather hairy and squat (but good news: so is your spouse). You are hiding behind a huge boulder, club in hand, ready to attack any animal that might come through your ambush spot. Your senses are heightened, especially your senses of smell and sight and hearing. Because of this state of hyperarousal, you hear the soft rustling of foliage on a cliff above your head. Your heart begins pounding in your chest but you force yourself to remain still and calm. You slowly turn your head and glance upward. Your worst fear has been confirmed: a saber-toothed tiger appears to be stalking you, ready to pounce. In your last conscious thought, you notice that one of the cat's eight-inch-long teeth is chipped at the end, not that this observation will do you much good.

If we could freeze this moment, and glimpse inside the body of this hunter from 20,000 years ago, we would observe a number of changes taking place. Within the span of a few seconds, the hunter (let's call her Pela) has a decision to make: she has one of two choices in order to save herself—to run or to fight. Whatever Pela chooses—and her life depends on making the right choice—her body is preparing itself for either option. And it turns out that this fight-or-flight response is going to give her every advantage possible under the circumstances either to escape the danger or to win this battle.

Now, if you could manually customize the systems of Pela's body (or anyone else's under similar circumstances), what might you do to give her the best chances of survival? (See Table 1.4.)

She is going to need maximum sensory acuity. The eyes dilate to better perceive danger, increase night vision, and judge distances. The blood pressure increases, along with the heart rate, to deliver more nutrients to the muscles that will be needed during a sprint or a battle (that is why her heart is pounding in her chest). Muscles tense in preparation for a quick movement, to either dodge an attack or get out of the way. Pela starts breathing heavily, pumping as much oxygen into the blood supply as possible. The body begins to perspire freely, cooling off the skin and core body temperature so that things don't overheat with all the fuel that is being burned. The endocrine system kicks in and provides a surge of adrenaline that will augment strength. And finally, serum glucose levels

TABLE 1.4. Summary of Major Fight-or-flight Responses

1. Eye dilation
2. Increased blood pressure
3. Increased heart rate
4. Muscle tension
5. Heavy breathing
6. Sweating
7. Adrenaline surge
8. Increased serum glucose
9. Release of free fatty acids
10. Vasodilation of arteries in arms and legs
11. Digestive system shuts down
12. Inhibition of sexual desire and reproductive capability
13. Immune system shuts down
14. Blood coagulation

spike to supply sugar, a fast energy source. This is supplemented with a release of free fatty acids that help sustain endurance.

As if it is not amazing enough that the body can turn on these systems when needed, Pela's body also shuts down those systems that won't be needed during the next few critical minutes, saving energy and increasing endurance. Arteries restrict to prevent excessive bleeding if Pela should be wounded. The digestive system shuts down since she is not planning on a snack or bowel movement during the next few minutes. Likewise hormones related to sex and reproduction are inhibited, since sex is the *last* thing on her mind at this moment. The immune system will not be needed either during this temporary emergency. Lastly, the blood thickens so as to provide maximum coagulation in the event of a wound.

It turns out that this was a false alarm. Much to Pela's relief, the long-toothed cat had already eaten a meal earlier in the day, so rather than pouncing he had been more interested in finding a nice spot in the sun to take a nap.

Pela sighs with relief and then an interesting phenomenon takes place: once given the "danger over" signal, all the body's systems begin to return to normal. This homeostasis will take time to complete but eventually things will return to previous levels.

As Pela backs slowly away, her breathing returns to normal and the danger signals shut down. She does notice, however, that her palms are so sweaty she can barely grip her club. Her legs and arms are shaking from the surge of adrenaline still coursing through her arteries. Her stomach feels queasy from having been shut down.

Does any of this sound familiar? It is *exactly* what happens during an encounter with stress. Picture approaching an attractive classmate you like. Imagine that the instructor announces a pop quiz for which you are minimally prepared. Recall walking in the dark and being startled by a weird sound. In each case, your body receives a danger signal from the hypothalamus, that part of your brain that alerts the appropriate systems to prepare for a potential threat.

The only problem is that most of the time in contemporary life we get false alarms. We aren't really facing life-threatening dangers, even if it sometimes feels that way. Our culture has evolved over thousands of years but our neurological systems are essentially the same as they were during Pela's time. They still see saber-toothed tigers and woolly rhinos behind every rock. We mentioned earlier how Walter Cannon described this survival response almost a hundred years ago by observing the ways that animals respond to perceived threat. All the bodily systems just described become activated in response to a danger signal (a human scream, the sight of a predator, the smell of fire burning, the taste of poison), and they remain engaged until such time that they are given the "all clear" signal. However, it doesn't matter to the body whether the danger is real or just seems that way. It could be an actual threat, or a hallucination of one: the body reacts the same way.

Twenty thousand or more years later, our culture has evolved significantly. Our lifespan has increased from 23 years to nearly 85. We have moved from caves into condos. Now about the only danger of predators we face is from our own kind in certain parts of the city that are to be avoided if possible.

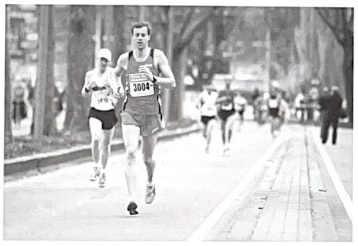
Recall what happens when the brain turns on the danger signal that sets in motion all the physiological changes needed to fight or flee. What happens if this system, designed for brief flashes, stays on almost all the time? More specifically, what happens if your immune system is suppressed for long periods of time while you fight imaginary battles during a sleepless night of worry? What are the effects of straining the body's system in ways for which it was never designed? The answer is that you can become sick.

Types of Stress: The Good, the Bad, and the Ugly

Like most phenomena that have been identified and studied, stress comes in different flavors. There is **short-term stress**—the kind activated by a sudden threat or danger. Imagine, for example, that you are driving in traffic and another car swerves into your lane, or a situation in which you are asked to make an impromptu presentation in front of a large

audience. Under such circumstances, you will no doubt feel the familiar surge of a **stress-hormone** response, activating the fight-or-flight system described earlier. This is usually followed by deactivation producing a **relaxation response**, at which point you begin to calm down and all systems return to normal. Short-term arousal like this does not usually create problems; if anything, it keeps the system in working order, so to speak.

Long-term stress is another story altogether. This is when the system is turned on at high volume, and then remains that way even when the initial danger has passed. There is the sort of wear and tear on the body and mind you would expect when a mechanism that was designed for "sprints" is told that it has to run a "marathon." Invariably, parts start to break down and the system fails. This is a different sort of marathon than practiced by those who use running as one of many ways to manage their stress, burning off excess energy, distracting them from worries, and better conditioning their bodies (see Voice of Stress Management 1.1).



Over time, without sufficient time for recovery, marathon runners suffer a host of depletion-related injuries: stress fractures, tendonitis, shin splints, muscle strains, joint problems, and nutritional imbalances.

Prolonged stress affects the body in a number of predictable ways that can be deduced from your prior understanding of what happens during arousal of the fight-or-flight reflex.

1. Muscles tense to prepare for battle or flight. Over time this can lead to muscle fatigue, cramps, and chronic back pain.
2. Digestion shuts down since it won't be needed. Over time, the system can develop ulcers, colitis, spastic colon, irritable bowl syndrome, and acid reflux.

VOICE OF STRESS MANAGEMENT 1.1

Note: Throughout the text there are a number of "voices" that speak about struggles with stress, as well as ways that people manage the challenges they face.

Thirty-year-old female teacher

I would say that I am a bit insecure. I am often concerned with how others see me and feel that they may judge me. I get nervous really easily. I have been successful in coping with the stress in my life, but I used to let it rule my life. After getting divorced a few years ago, I felt lost and lonely. I joined a group for people coping with divorce. It really helped to talk about what I was going through and hear that others had similar problems. I also took up running. It was a wonderful way for me to focus my attention on something other than all the things that I worry about. When I run, I look at my surroundings and simply enjoy being out and active. It's a great way for me to release my tension. I even started running marathons!

My insecurities are still there but I am just able to escape them with more frequency. I run six days per week and feel exhilarated each time. I have a new circle of friends with similar interests. It is wonderful to have others with whom to share my sport. Many of my fellow runners find that it is a great way to relieve the stress caused by their hectic lifestyles. Of all the things I have done to relieve stress, running has really been the most rewarding for me. Besides the exercise, most of all it is a mental break.

3. Increased blood and oxygen flow brings more nutrients and hormones that can be mobilized. This can create high blood pressure over time.
4. Blood vessels constrict to prevent bleeding in the event of injury. In a chronic state, a person can experience dizziness, blackouts, headaches, and skin lesions.
5. The liver produces and distributes sugar and nutrients in order to provide energy to combat the perceived danger. Over time, hypoglycemia or diabetes can result.

Hans Selye coined a number of specific terms to distinguish between "good" stress and "bad" stress. Like most things in life, too much is not particularly healthy. The term **hyperstress** means an excessive amount that overloads the system, while **hypostress** is not enough to keep the body tuned and ready for action.

There are three additional kinds of stress that Selye identified in an effort to cover the range of possible meanings:

Distress	Neustress	Eustress
Pop quiz for which you are unprepared	Poor economic news in another state	Supportive friends cheer you on during a game

Distress is what you usually associate with the word "stress." This is the destructive and harmful sort that means trouble, especially if it moves beyond acute arousal to a chronic condition. Distress occurs when our ability to cope with stressors is insufficient. Distress causes anxiety and confusion and decreases your performance in daily activities. Distress is often associated with stressful events that occur unexpectedly. Even when good news strikes too suddenly, it may shock the recipient and cause stress. Distress also may occur when you try to manage too many things simultaneously and lose control of the situation. The degree to which you feel you can control your life influences the valence of stress.

Neustress is, just like it sounds, rather neutral. It has little impact, or lasting effects, one way or the other. It might be upsetting for others, in another location or context, but has little measurable effect on your life. Alternatively, you might find yourself in a performance situation in which the added presence of an audience is below your radar because you are concentrating so hard on your job.

Eustress is the kind of stress that inspires or motivates you to go beyond present levels of functioning. This is what happens with the so-called "clutch" hitter in baseball, or the "pressure player" in other sports: the presence of an audience, combined with high stakes on the line, motivates the athlete to unparalleled performance. The same could be true for artists, actors, writers, and others who are required to perform under pressure.

Eustress stimulates the systems of the body to function at peak levels; this can even be the case for the kind of growth that can take place for some people after a crisis or trauma (Orloff, 2009). It should therefore make sense that although moderate doses of stress can be good for you in creating excitement, enhanced attention, improved performance, or healthy competitive instincts, the other side of the coin—boredom—is almost never desirable. At the very least, stress signifies intense engagement with life and what you are doing whereas boredom means you don't find meaning or purpose in activities or daily life (Oz, 2010).

Sources of Stress

Another way to categorize stress is based on the source. Typically, stress can be activated by (1) an external source, (2) an internal source, or (3) the interaction of internal and external sources. In addition, stress can be manifested as a physical sensation (pounding heart), a psychological experience (feelings of panic), as well as biochemical and other processes.

Physical stress occurs when the human body is affected by sleep deprivation, overworking, excessive physical exertion, physical injury or trauma, viral or bacterial infections, inflammation, physical disease, or chronic pain. It is under such circumstances that the body begins to lose functioning and to break down.

Psychological stress is often used synonymously with mental stress or emotional stress because they share many common features. Psychological stressors are related to how we interpret the events in our life; they are determined by our values, beliefs, attitudes, and philosophies of life. Given the same situation, different people may react very differently due to their outlooks on life. Emotional reactions such as anger, fear, low self-esteem, and hostility are also influenced by our beliefs. The good news is that you can change your thoughts (Chapter 6), thereby changing your reactions to the events in your life. The bad news is that some thought patterns have been deeply engrained in your psyche and they require a consistent effort to be modified.

Psychosocial stress arises from interactions with people and the society in which you live. Individuals must make constant adjustments to the demands imposed on them by the environment and culture, especially during times of economic, environmental, political, and social challenges. Think about how the effects of a recession, natural disaster, crowding, trauma, war, poverty, abuse, family conflict, neglect, or other factors can create tremendous stress.

In addition to these sources of stress, there are *biochemical triggers* that result from excessive use of substances such as sugar, nicotine, caffeine, or alcohol, as well as food preservatives. Stress reactions can also be activated from exposure to substances in the environment such as mold, dust, allergens, industrial pollutants, environmental toxins, pesticides, and automobile exhausts. We can suffer chemical stress from using contaminated foods, such as tuna that contains mercury or shellfish that is laden with cadmium.

It is important to be able to identify the sources of stress in your life, and their origins, before you can develop a plan to prevent and manage the negative effects. This is easier said than done considering that there are often complex interactions between all the sources. For example, I (Jeffrey) once worked with a man in psychotherapy who was having panic attacks characterized by uncontrollable feelings of losing control. His heart would begin racing, his breathing would accelerate and he felt on the verge of passing out. Even more disturbing, there was no identifiable trigger that would begin the cycle; the episodes would begin suddenly without warning.

Whereas sometimes this condition can be treated with medication, the preferred first strategy is to use counseling to identify the underlying problems that are being brought to attention. Although the man was very grateful for our work together over a period of several months in which he learned a lot about himself, the symptoms were never really reduced. I only learned from him months later that these so-called panic attacks were actually the result of a leaky furnace in his home!

It is important for you to have an accurate picture of not only what you find most stressful in your life, but also the origins and causes of these challenges. This takes considerable investigation and commitment to find out.

Self-Assessment of Stress

This book emphasizes *prevention* as well as treatment of the stress problem. It is far preferable to minimize risk for the future rather than waiting until it is too late.

As a general rule, the earlier you can detect signs of danger, the more likely you can do something to avoid it. If you have advance warning that there is a traffic pile-up on the highway ahead of you, you can begin to reduce your speed and prepare for a sudden stop. If you know that that you are going to be asked to make a toast at a wedding, you can think about what you want to say, rehearse your speech, and visualize things you want to remember. Early warnings can be just as helpful in stress prevention. If you can learn to recognize some of the earliest signs of chronic stress, then you are in a far better position to take remedial steps to make needed changes in your thinking, behavior, or lifestyle. What are the sorts of things you might look for? The answer depends, in part, on what is normal for you.

FOR REFLECTION 1.4

Self-assessment of stressors

Identify the top five stressors in your life. Describe how you have coped with them. Rank how effective you've been in dealing with these situations (1 = least effective; 5 = most effective).

Stressors in my life	Coping strategies	Ranking
1.		
2.		
3.		
4.		
5.		

Overview of Stress Management and Prevention

Understanding the nature and meaning of stress is an important part of implementing a comprehensive program of stress management and prevention. You have learned already that stress is a dynamic process that consists of a stressor and stress response. You have also learned that a stressor can be any severe challenge, real or imaginary, that disrupts normal functioning. This can be anything from a flat tire to traveling to a foreign land.

Management of stress involves neutralizing or reducing the magnitude of your responses to stressors, while prevention focuses on shaping, modifying, or eliminating stressors in the first place. The first part of the text is devoted to understanding the nature of stress while the second and third parts will be devoted to interventions.

The model of stress management and prevention presented in this text (see Figure 1.3) is based on the research of many professionals, all of whom conclude that multiple and varied techniques are required that address all facets of the problem. Our model depicts a four-stage process of stress development. Before each stage of stress development occurs, you have the power either to prevent its occurrence in the first place or, at the very least, to reduce its momentum. The best scenario is when you can

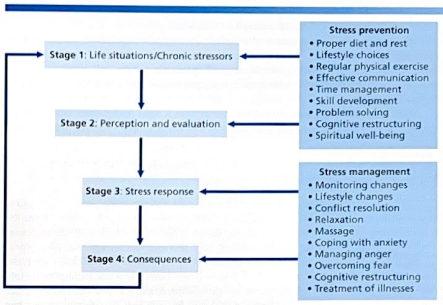


FIGURE 1.3 The four-stage model of stress management and prevention.

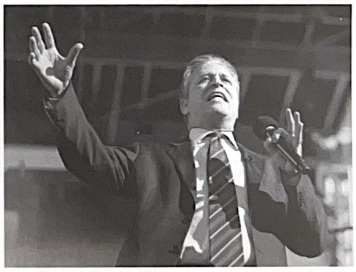
prevent a full-blown stress episode by stopping it in its embryonic stage. The second-best situation occurs when you have developed sufficient coping mechanisms that the demand for change can be easily met. Once the perceived threat is met, the body's alarm will be turned off and homeostasis will be restored.

Stage 1: Life Situations/Chronic Stressors

Before a major event disrupts your life, you need to do everything you can to prevent the formation of a stressor. You may have heard the saying, "Discipline weighs ounces while regret weighs tons." An exam is a major stressor for those who are unprepared and for whom it may have a serious consequence, while it may be a minor annoyance, or even a fun challenge, for those who are prepared.

No matter how hard you try, certain adversities and traumatic events will inevitably occur in your life. In most cases, you will not have a choice about whether you are subjected to the stressors but you can choose, to some extent, how you respond to them. Obviously, a pleasant stressful situation such as getting married (eustress) will be handled with more ease than a negative stressor like a divorce (distress).

In this first stage it is critical that you have an accurate and comprehensive view of the stressors in your life, as well as the characteristic ways you respond to them. It is important to know where and how you are most vulnerable.



Situations that are anxiety provoking for some are extremely enjoyable for others. Many politicians, comedians, and public speakers absolutely love to appear on stage in front of huge crowds. The familiar stress responses only arouse them to perform at a higher level. If they are successful in their work and healthy, then they have learned to quickly restore a level of relaxation as soon as the event is over.

Stage 2: Perception and Evaluation

As mentioned earlier, people will perceive the same stressor in a variety of ways and, therefore, react to it differently. An event will be overwhelming to one person and exhilarating to another. For

some people, the fear of speaking in front of a group is greater than that of death. Others live to get up on stage in front of a crowd.

Your perception of a situation or a chronic stressor also depends on your personality type, your resilience, life experience, health status, and mental and emotional resources. In general, healthy, competent, and optimistic people will cope with stress more successfully than those who tend toward pessimism and negativity (Brooks and Goldstein, 2003).

In this second stage, it is critical for you to have a solid background in the theory, research, and mechanisms of stress so that you can better prepare yourself for what lies ahead.

Stage 3: Stress Response

This stage will demonstrate an individual's emotional, psychological, and physiological responses to the perception of the stressor. The magnitude of the responses from the endocrine and autonomic nervous systems depends on the perception of the response. Your major task, in the face of stress, is to reduce pressure and release excessive physical and psychological tension through a number of options (such as meditation, exercise, and other relaxation techniques described later in the book). It is not enough to merely know how to apply stress management and prevention strategies; you will have to practice and rehearse them on a daily basis so they will become part of your repertoire when you need them most.

Stage 4: Consequences

At this stage, you experience the frequent results of stress responses. These can range from behavioral consequences such as accidents to physiological consequences such as a heart attack or ulcer. The final stage of stress development feeds back to the first stage and then repeats the cycle.

Without proper prevention and management interventions, the cycle will perpetuate itself to the point where you feel like one of those Chinook salmon swimming upstream until the point of collapse. Unlike this fish, however, you have choices along the way that allow you to change direction, take a snooze onshore, or take a boat, or even decide you don't feel like spawning after all.

In this textbook we advocate a holistic and comprehensive approach to stress prevention and management. What does this mean? The following principles will allow you to learn and apply the concepts of stress prevention and management more effectively.

1. *Prevention is more effective than management.* Prevention is a more proactive approach since you start to change your living habits before you have serious health issues. Prevention is also cheaper than treatment, as it is well known how expensive it is to treat a serious disease. Once stressors strike, manage your reactions to them and tap all your resources to deal with them; don't allow them to become a chronic condition that wreaks havoc on your body.
2. *Small changes can lead to big effects.* Mathematician and meteorologist Edward Lorenz coined the term "the butterfly effect" to refer to the notion that a butterfly flapping its wings in a remote place such as Beijing, China may cause a hurricane in Texas, USA (Hilborn, 2004). In other words, small changes in the initial condition of a system can lead to a chain of events that will produce large-scale alterations to the system. If you apply this idea to stress prevention and management, a small change in your lifestyle may have a long-term benefit to your longevity and well-being. Since many of your health habits are deeply engrained, it can take considerable effort to initiate and maintain changes. But starting small will eventually lead to a fundamental change.

3. *Don't count on a magic solution for solving all your stress problems.* Good health and well-being characterized by abundance of energy and low stress come from the interactions of all the body systems and a harmonious relationship between you and your environment. There is no single panacea that, once learned, will make all the difference. It takes discipline to make systemic changes in every aspect of your life. This course offers a comprehensive way to prevent and manage your stress that is designed to keep you healthy throughout your lifetime.
4. *Tailor a program to your own schedule and means.* You hear people tell you all the time that you should do what they're doing, but often such advice is not particularly helpful. Everyone is unique and you must adapt any program, no matter how successful, to your particular lifestyle, values, interests, strengths, and resources.
5. *Develop a comprehensive plan for stress prevention and management.* Since the sources of stress come from within as well as from without, it is essential that you have a plan to change your thinking, modify your diet, improve relationships, and acquire new skills throughout the lifespan. Like a good mechanic who possesses a variety of tools for different jobs, you also need to develop all kinds of skills for stress prevention and management. You may use one or more techniques more frequently, but being open to different skills offers you more flexibility and resources. Also, you should consider short-term improvements as well as those for the long term. It is always good to have multiple options, depending on your mood, circumstances, and needs.

SUMMARY

Stress represents a psychological and physiological reaction to a perceived threat, whether it is the result of fantasy, exaggeration, or actual danger. In situations where the threat cannot be eliminated or significantly reduced, there are dire consequences for people in terms of physical, psychological, emotional, interpersonal, and spiritual functioning.

There are three elements in the definition of stress: the stressor, the response, and the person experiencing the condition. The stressor can be a real physical threat or an imaginary or symbolic one. The same stressor can be good for one person and bad for another, depending on how capable the person is in coping with the situation.

Over the past 100 years, our understanding of the stress response has evolved thanks to the contributions of scientists such as Cannon, Selye, Sterling, Eyer, and McEwen. In the homeostatic view of stress, the stress response is initiated once the body is perturbed by a stressor. Under optimal circumstances, the body returns to a relaxed state once the threat has passed.

The allostatic view suggests that the stress response can trigger a series of body-wide changes to bring the organism back to a resting condition. This idea also implies that even small, consistent episodes of wear and tear carry long-term consequences for the body.

The stress response varies from person to person. The consequences of a stress response represent the composite effects of the individual characteristics such as personality, health status, and the nature of the stressor. A comprehensive stress management program proposed in this text cannot realistically eliminate all stress in your life. To do so, even if possible, would make for a very dull and dreary existence. Stress can be the scourge of your life, but also the lifeblood for everything you find stimulating and exciting.