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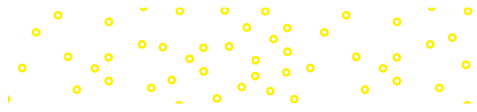
Comprehensive Stress Management

FIFTEENTH EDITION

JERROLD S. GREENBERG



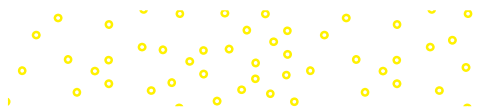
**Mc
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Comprehensive Stress Management

FIFTEENTH EDITION

Jerrold S. Greenberg
Professor Emeritus, University of Maryland





COMPREHENSIVE STRESS MANAGEMENT

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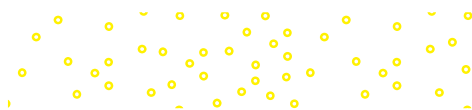
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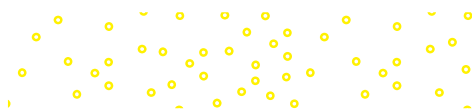
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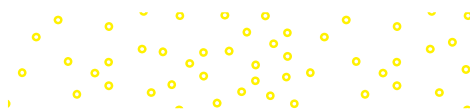
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Preface

This book evolved out of two needs. The first pertained to the experiences of my students, colleagues, friends, and relatives who, as I listened to their stories, seemed to be crying out for help in dealing with the stress of life. Upon closer scrutiny, I realized that the only cries I was deaf to were my own. I, too, needed help managing stress.

The second need related to the nature of texts on this subject. I thought they were informative or interesting but seldom both. Furthermore, I didn't think stress management was presented as the complex subject I envision it to be. I thought books on this subject explored parts of stress management but omitted several key components. I wrote *Comprehensive Stress Management* both to address the complexity of the subject and to respond to the very human needs of college students living highly stressful lives.

This book, then, is written in a more personal, informal manner than most, and it is organized around situations in life that, when perceived as distressing, result in the emotional and physiological arousal we know as stress. There is an abundance of scientific and statistical information in this book, but there is also a healthy dose of anecdote, humor, and personal experience to bring the content to life. In addition, numerous means of self-evaluation are provided so that content takes on personal meaning for each student.

Managing Stress in an Increasingly Stressful World

Comprehensive Stress Management empowers students to—

Learn what stress is—emotionally and physiologically—and how it affects their health.

- The science of stress is presented in three chapters covering everything from the role of the brain in stress to the effects of stress on the body.
- New or expanded topics include technological addiction and technological stress, same-sex marriage, multigenerational families, a new occupational stress scale that measures the various constructs comprising job stress, more effective ways to manage and maintain one's weight, numerous instances of clarification based on student feedback, and many more.

Evaluate their current level of stress and develop a stress profile that identifies their personal triggers and stressors.

- Lab Assessments in each chapter help them identify attitudes, behaviors, and coping skills and target areas for improvement.
- The Personal Stress Profile and Activity Workbook—available through the Instructor Resources on Connect—helps students actively create a personal plan for managing stress in their lives.

Apply what they learn to their own lives by using the tools and activities to become active participants in managing their own stress.

- A chapter on stress and the college student helps students identify and understand stressors unique to their current phase of life.
- Detailed descriptions of stress management and relaxation techniques offer many different approaches to explore and try, including yoga breathing techniques, meditation, progressive relaxation, imagery, behavior and anxiety management techniques, and more.
- “Getting Involved in Your Community” boxes challenge students to participate in projects designed to decrease stress levels on a broader scale.

Content Revisions by Chapter

We all learn from experience, and I am no exception. This edition of *Comprehensive Stress Management* incorporates many changes and updates while still retaining the content and features valued by instructors and students over the previous 14 editions.

All statistics, data, and websites are updated. In addition, the most current research findings are incorporated into the text. There are many new references, with most of those after 2017. New photos and figures have been added throughout the text.

Chapter 2: A new Stress and Your Memory box was added that clarifies the role of protein kinase on stress and memory.

Clarification is provided on the role of cortisol and lymphocytes in relation to the immunological system.

Lab Assessment 2.2 is replaced with a new scale that measures students’ physiological reactions to stress.

Chapter 4: A new Internet Resource is added from the American Institute of Stress that discusses the rising stress levels of college students and hints regarding how to respond to that stress.

Chapter 5: Examples are added to clarify the concept of stress intervention throughout the chapter.

Chapter 6: Two new Internet Resources are added; one of which describes common reactions to stress and healthy ways to cope with stress, and another which presents five ways to make students’ lives less stressful and techniques to manage stress.

Chapter 7: A new section on cyberbullying is added that discusses the effects of cyberbullying and the role of social media on cyberbullying. In addition, the effects of cyberbullying on the LGBTQ community is discussed.

Cyberbullying and its definition are added to the Running and End-of-Book glossaries.

Examples are provided to clarify the direct effect theory and the stress buffering theory as they relate to social support networking.

Chapter 8: The concept of cocreator perception deficiency is clarified in response to students’ and instructors’ suggestions.

The anxiety management tool of relabeling is elaborated on as requested by students and instructors.

Chapter 9: The benefits of volunteering are expanded consistent with the latest research findings.

The National Health Objectives are classified into two categories: mental-health-related objectives and physical-health-related objectives to help readers better understand the purposes of these objectives.

Chapter 10: Clarification of the physiological changes that occur during meditation—the relaxation response—is provided.

Chapter 14: A new Internet Resource is added from the Office of Behavioral and Social Sciences of the National Institutes of Health concerned with making use of social science research.

Chapter 15: The latest statistics pertaining to hate crimes was updated with emphasis on race, ethnicity, religion, sexual orientation, disability, and gender.

Death rates and suicide rates are updated with emphasis on specific populations: African Americans, Hispanics, and American Indian/Alaska Natives.

Infant mortality rates are updated with the latest data available.

Data on the leading causes of death are updated for whites, African Americans, Native Americans, Asian/Pacific Islanders, and Hispanics.

The most current data pertaining to cancer is included to include incidence and death rates for specific cancers and specific populations.

The most current data pertaining to mental health is included. Suicide and homicide rates for specific populations are highlighted, as is the role of firearms in these deaths.

Poverty rates are updated for different races and ethnicities.

The discussion of homelessness is updated with statistics regarding those who stayed in sheltered and unsheltered locations, child and family homelessness, race and ethnicity, and veteran status.

A new Internet Resource is added from Cancer.Net designed to help families better cope with cancer.

Chapter 16: Data regarding Americans' vacation days received and vacation days unused is updated.

The latest information regarding job satisfaction is included to indicate increased job satisfaction in recent years.

A reorganization of the discussion of burnout is provided that separates the Five-Stage Theory of Burnout into a sub-head to help students better understand this theory.

The latest data regarding the disparity in jobs and wages between men and women is provided, as are statistics pertaining to working mothers.

Changes in recent years to the Family and Medical Leave Act are presented with inclusion of leave provided service members and their families.

The discussion of home-based work and telecommuting is expanded with inclusion of the benefits to workers, employers, and the general society.

The discussion of work-family balance issues is reorganized to separate the spillover and compensation theories' effects on work-family balance.

A new Internet Resource is added from the University of Michigan School of Public Health that provides 19 ways to prevent and respond to occupational stress.

Chapter 17: The description of family life is updated to include the latest statistics regarding married families with children, those never married, those divorced, and single-parent families.

The percent of people cohabiting is updated with the latest data available.

The divorce rate is updated based on government collected data.

The discussion of single-parent families is updated with the most current data available.

An introduction to the Dual-Career Family section is provided to elaborate on some of the issues faced by these families.

State laws pertaining to obtaining adoption records are updated to communicate the availability of these records in most states.

The discussion of child abuse and neglect is updated to include the latest statistics on the incidence of child abuse and neglect, and the role of firearms in these situations.

A new boxed feature is added presenting information and data regarding children's and parents' worries about violence in schools and neighborhoods.

A new Internet resource is added from WebMD that describes how stress can interfere with getting pregnant and strategies that can be used to counteract that stress.

Resources for Instructors



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McGraw-Hill Create[™] Craft your teaching resources to match the way you teach! With McGraw-Hill Create, you can easily rearrange chapters, combine material from other content sources, and quickly upload content you have written like your course syllabus or teaching notes. Find the content you need in Create by searching through thousands of leading McGraw-Hill textbooks. Arrange your book to fit your teaching style. Create even allows you to personalize your book's appearance by selecting the cover and adding your name, school, and course information. Order a Create book and you'll receive a complimentary print review copy in 3–5 business days or a complimentary electronic review copy (eComp) via e-mail in minutes. Go to create.mheducation.com today and register to experience how McGraw-Hill Create empowers you to teach *your* students *your* way.

Electronic Textbook Option This text is offered through VitalSource for both instructors and students. VitalSource is an online resource where students can purchase the complete text online at almost half the cost of a traditional text. Purchasing the eTextbook allows students to take advantage of VitalSource web tools for learning, which include full text search, notes and highlighting, and e-mail tools for sharing notes between classmates. To learn more about VitalSource options, contact your sales representative or visit www.VitalSource.com.

The *Personal Stress Profile and Activity Workbook* is available as an accompaniment to *Comprehensive Stress Management*. The workbook includes numerous other scales to help students learn more about the stressors in their lives and how they can best manage them. How to make the best use of the *Personal Stress Profile and Activity Workbook* is described on page 14.



connect[®]

The 15th edition of *Comprehensive Stress Management* is now available online with Connect, McGraw-Hill Education's integrated assignment and assessment platform. Connect also offers SmartBook for the new edition, which is the first adaptive reading experience proven to improve grades and help students study more effectively. All of the title's website and ancillary content is also available through Connect, including:

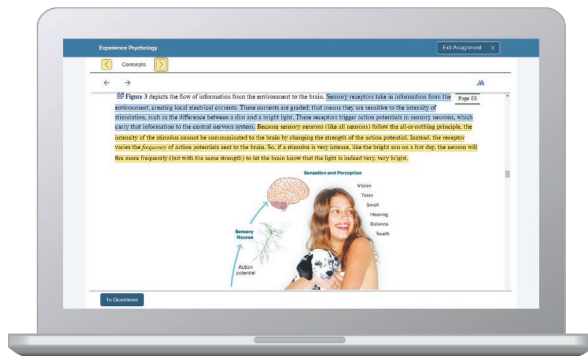
- A full Test Bank of multiple choice questions that test students on central concepts and ideas in each chapter.
- An Instructor's Manual for each chapter with full chapter outlines, sample test questions, and discussion topics.
- Lecture Slides for instructor use in class.

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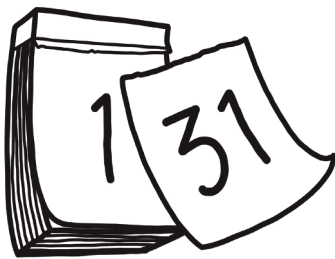
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This edition is dedicated to Jonah, Zoe, and Garrett—my three grandchildren. When I am with them all stress evaporates away. I wish them that feeling throughout their lives, although I know that to be unrealistic. So, when they experience stress, I hope they are successful employing the numerous stress management techniques learned from reading their grandpa's book and, as a result, achieve lives of satisfaction and fulfillment.

—Jerrold S. Greenberg



Courtesy of the Jerrold Greenberg

part 1

Scientific Foundations

1

What Is Stress?

It was a pleasant spring day—about 70 degrees, with the sun shining and a slight breeze. It was the kind of day I would have enjoyed celebrating by playing tennis, jogging, and helping my son learn how to ride his bicycle (an aggravating but necessary task). Instead, I was on the shoulder of a country road in upstate New York with my hands on my knees, vomiting. The story of how I wound up on such a glorious day in such an inglorious position serves as an important lesson.

At the time, I was an assistant professor, imposing my know-it-all attitude upon unsuspecting and innocent college students at the State University of New York at Buffalo. I had become quite successful in each of the three areas the university established as criteria for promotion and tenure: teaching, research and other publications, and university and community service. The student evaluations of my classes were quite flattering. I had published approximately 15 articles in professional journals and was contracted to write my first book. So much for teaching and the proverbial “publish or perish” syndrome. It is on the community-service criteria that I need to elaborate.

To meet the community-service standards of acceptance for promotion and tenure, I made myself available as a guest speaker to community groups. I soon found that I was able to motivate groups of people through speeches and workshops on numerous topics, both directly and tangentially related to my area of expertise—health education. I spoke to the local Kiwanis Club on the topic “Drug Education Techniques” and to the Green Acres Cooperative Nursery School’s parents and teachers on “Drug Education for Young Children.” I was asked to present the senior class speech at Medaille College on “Sex Education” and wound up conducting workshops for local public school districts on such concerns as “Why Health Education?” “Values and Teaching,” “Group Process,” and “Peer Training Programs for Cigarette-Smoking Education.” Things started to take shape, and I expanded my local presentations to state and national workshops and to presenting papers at various state and national meetings.

My life changed rapidly and repeatedly. I went to Buffalo as an assistant professor and was promoted twice, leaving as a full professor with tenure and administrative responsibility for the graduate program in health education. When I left Buffalo, I had published more than 40 articles in professional journals, and my second book was soon to come off the presses. During my tenure at SUNY/Buffalo, I appeared on radio and television programs and was the subject of numerous newspaper articles. In Buffalo I bought my first house, fathered my two children, and won my first tennis tournament. In short, I became a success.

So why the vomiting? I was experiencing too much change in too short a period of time. I wondered if I was as good as others thought I was or if I was just lucky. I worried about embarrassing myself in front of other people and became extremely anxious when due to speak in front of a large group—so anxious that on a nice spring day, about 70 degrees, with the sun shining and a slight breeze, as I was on my way to address a group of teachers, school administrators, and parents in Wheatfield, New York, I became sick to my stomach. I pulled the car off the road,

jumped out, vomited, jumped back in, proceeded to Wheatfield, and presented a one-hour speech that is long since forgotten by everyone who was there.

What I didn't know then, but know now, is that I was experiencing stress—too much stress. I also didn't know what to do. Everything seemed to be going very well; there seemed to be no reason to become anxious or ill. I think I understand it all now and want to explain it to you. I want to help you learn about stress and how to manage it so that your life will be better and you will be healthier.

What Can You Get Out of This Book and This Course?

What if you were told you could buy a drink and feel less stressful when you have an exam in class, or are at a social gathering, or when going to the doctor or dentist? What if this drink also helped you better manage the stress you feel when having to speak in front of a group of people, or when meeting with your professor? How much would you pay for such a drink? Well, unfortunately, there is no such beverage. However, the same benefits can be gained in another way. That is, if you learn, practice, and employ stress management techniques, you can achieve all the benefits above. This book and the stress management course in which you are enrolled will help you become less stressful and, as a result, be healthier and live a more fulfilling, satisfying life. Now how can you beat that? So, let's get started. First we consider how this whole field of stress management developed and how it has achieved credibility.

The Pioneers

I don't know about you, but I found that the history courses I was required to take as an undergraduate were not as interesting as they might have been. On the other hand, the information included in those classes was important to learn—not for the facts per se, but for the general concepts. For example, although I long ago forgot the specific economic factors preceding the World Wars, I have remembered that wars are often the result of economic realities and not just conflicts of ideology. That is an important concept that I would not have appreciated had I not enrolled in History 101.

This wordy introduction to the history of stress management somewhat assuages my conscience but won't help you much unless I make this discussion interesting. Accepting this challenge, and with apologies for my failures to meet it, let's wander through the past and meet some of the pioneers in the field of stress (see Table 1.1).

The first person we meet is Walter Cannon. In the early part of the twentieth century, Cannon was a noted physiologist employed at the Harvard Medical School. It was he who first described the body's reaction to stress.¹ Picture this: You're walking down a dark alley at night, all alone, and you forgot your glasses. Halfway through the alley (at the point of no return) you spot a big, burly figure carrying a club and straddling your path. Other than thinking "Woe is me," what else happens within you? Your heart begins to pound and speed up, you seem unable to catch your breath, you begin to perspire, your muscles tense, and a whole array of changes occur within your body. Cannon was the researcher who first identified this stress reaction as the **fight-or-flight response**. Your body prepares itself, when confronted by a threat, to either stand ground and fight or run away. In the alley, that response is invaluable because you want to be able to mobilize yourself quickly for some kind of action. We'll soon see, though, that in today's society the fight-or-flight response has become a threat itself—a threat to your health.

Curious about the fight-or-flight response, a young endocrinologist studied it in detail. Using rats and exposing them to **stressors**—factors with the potential to cause stress—Hans Selye was able to specify the changes in the body's physiology.

fight-or-flight response

The body's stress reaction that includes an increase in heart rate, respiration, blood pressure, and serum cholesterol.

stressor

Something with the potential to cause a stress reaction.

Table 1.1
Pioneers in Stress and
Stress Management

Pioneer	Date	Area of Study/Influence
Oskar Vogt	1900	Hypnosis
Walter Cannon	1932	The fight-or-flight response
Edmund Jacobson	1938	Progressive relaxation
Johannes Schultz	1953	Autogenic training
Stewart Wolf/Harold Wolff	1953	Stress and headaches
George Engel	1955	Stress and ulcerative colitis
Hans Selye	1956	The physiological responses to stress
A. T. W. Simeons	1961	Psychosomatic disease
Stewart Wolf	1965	Stress and the digestive system
Wolfgang Luthe	1965	Autogenic training
Lawrence LeShan	1966	Stress and cancer
Richard Lazarus	1966	Stress and coping/hassles
Thomas Holmes/Richard Rahe	1967	Stress/life change/illness
Robert Keith Wallace	1970	Transcendental meditation
Thomas Budzynski	1970	Stress and headaches
Meyer Friedman/Ray Rosenman	1974	Type A behavior pattern
Carl Simonton	1975	Stress and cancer
Robert Ader	1975	Psychoneuroimmunology
Herbert Benson	1975	The relaxation response/meditation
Daniel Goleman	1976	Meditation
Gary Schwartz	1976	Meditation/biofeedback
Robert Karasek	1979	Job demand-control model
Suzanne Kobasa	1979	Hardiness
Anita DeLongis	1982	Hassles and illness
Dean Ornish	1990	Stress/nutrition/coronary heart disease
Jon Kabat-Zinn	1992	Meditation and stress reduction
Christina Maslach	1993	Burnout
J.K. Kiecolt-Glaser	1999	Psychoneuroimmunology
Shelly Taylor	2000	Tend and befriend/women's coping style
Patch Adams	2002	Humor and stress and health
Johan Denollet	2005	Type D personality
E. L. Worthington	2005	Forgiveness and health

Selye concluded that, regardless of the source of the stress, the body reacted in the same manner. His rats developed a “substantial enlargement of the cortex of the adrenal glands; shrinkage or atrophy of the thymus, spleen, lymph nodes, and other lymphatic structures; an almost total disappearance of eosinophil cells (a kind of white blood cell); and bleeding ulcers in the lining of the stomach and duodenum.”² His research was first published in his classic book *The Stress of Life*.³ Selye summarized stress reactivity as a three-phase process termed the **general adaptation syndrome** (see Figure 1.1):

Phase 1: Alarm reaction. The body shows the changes characteristic of the first exposure to a stressor. At the same time, its resistance is diminished and, if the stressor is sufficiently strong (severe burns, extremes of temperature), death may result.

general adaptation syndrome
 The three stages of stress reaction described by Hans Selye.



1. Alarm Phase
For example, being at a party but having social anxiety.



2. Resistance Phase
For example, when others try to involve the socially anxious party guest, he experiences stress (perspiration, muscle tension, increased heart rate, etc.).



3. Exhaustion Phase
For example, if the social anxiety is experienced often, and over a long period of time, it can result in illness and disease such as coronary heart disease.

Figure 1.1

The general adaptation syndrome in action.

Phase 2: Stage of resistance. Resistance ensues if continued exposure to the stressor is compatible with adaptation. The bodily signs characteristic of the alarm reaction have virtually disappeared, and resistance rises above normal.

Phase 3: Stage of exhaustion. Following long-continued exposure to the same stressor, to which the body has become adjusted, eventually adaptation energy is exhausted. The signs of the alarm reaction reappear, but now they are irreversible, and the individual dies.

Hans Selye defined stress as “the nonspecific response of the body to any demand made upon it.”⁴ That means good things (e.g., a job promotion) to which we must adapt (termed **eustress**) and bad things (e.g., the death of a loved one) to which we must adapt (termed **distress**); both are experienced the same physiologically.

Selye was really onto something. His research proved so interesting and important that he drew a large number of followers. One of these was A. T. W. Simeons, who related evolution to psychosomatic disease in his classic work, *Man's Presumptuous Brain*.⁵ Simeons argued that the human brain (the diencephalon, in particular) had failed to develop at the pace needed to respond to symbolic stressors of twentieth-century life. For example, when our self-esteem is threatened, Simeons stated, the brain prepares the body with the fight-or-flight response. If the threat to self-esteem stems from fear of embarrassment during public speaking, neither fighting nor running away is an appropriate reaction. Consequently, the body has prepared itself physiologically to do something our psychology prohibits. The unused stress products break down the body, and psychosomatic disease may result.

Other researchers have added to the work of Cannon, Selye, Simeons, and others to shed more light on the relationship of stress to body processes. With this understanding has come a better appreciation of which illnesses and diseases are

eustress

Good things to which one has to adapt and that can lead to a stress reaction.

distress

Bad things to which one has to adapt and that can lead to a stress reaction.

associated with stress and how to prevent these conditions from developing. For example, Dr. Harold Wolff became curious why only 1 in 100 prisoners of war held by the Germans during World War II died before their release, while 33 in 100 held in Japanese camps died before their release. Keeping nutrition and length of time held captive constant, Wolff found that emotional stress, much greater in Japanese prisoner-of-war camps than in German ones, was the cause of much of this difference.⁶

Others also helped clarify the effects of stress: Stewart Wolf demonstrated its effects on digestive function⁷; Lawrence LeShan studied its effects on the development of cancer⁸; George Engel studied stress and ulcerative colitis⁹; Meyer Friedman and Ray Rosenman and more recent researchers¹⁰⁻¹⁷ identified the relationship between stress and coronary heart disease; and Wolf and Wolff studied stress and headaches.¹⁸

Others have found ways of successfully treating people with stress-related illnesses. For example, Carl Simonton, believing personality to be related to cancer, has added a component to the standard cancer therapy: It consists of visualizing the beneficial effects of the therapy upon the malignancy.¹⁹ For some headache sufferers, Thomas Budzynski has successfully employed biofeedback for relief.²⁰ Herbert Benson, a cardiologist, first became interested in stress when he studied transcendental meditation (TM) with Robert Keith Wallace.²¹ Benson then developed a relaxation technique similar to TM and has used it effectively to treat people with high blood pressure.²²⁻²⁵

Relaxation techniques have also been studied in some detail. In addition to Benson's **relaxation response** (see p. 239), some of the more noteworthy methods include **autogenic training** (see p. 249) and **progressive relaxation** (see p. 258). Around 1900, a physiologist, Oskar Vogt, noted that people were capable of hypnotizing themselves. A German psychiatrist, Johannes Schultz, combined this knowledge with specific exercises to bring about heaviness and warmth in the limbs—that is, a state of relaxation.²⁶ This autohypnotic relaxation method became known as autogenic training and was developed and studied further by Schultz's student Wolfgang Luthé.²⁷

Another effective and well-studied relaxation technique involves the tensing and relaxing of muscles so as to recognize muscle tension and bring about muscular relaxation when desired. This technique, progressive relaxation, was developed by Dr. Edmund Jacobson when he noticed his bedridden patients were still muscularly tense in spite of their restful appearance.²⁸ Their muscular tenseness (**bracing**), Jacobson reasoned, was a function of nerve impulses sent to the muscles, and it was interfering with their recovery. Progressive relaxation (see p. 262), sometimes termed **neuromuscular relaxation**, involves a structured set of exercises that trains people to eliminate unnecessary muscular tension.

Although Benson's relaxation response, a form of meditation, became popular in the 1970s, meditation has been around for a long time. In fact, records of meditation date back 2,000 years. Indian yogis and Zen monks were the first meditators to be scientifically studied. The results of these studies demonstrated the slowing-down effect (hypometabolic state) of meditation upon many body processes: heart rate, breathing, and muscle tension, to name but a few. For example, Therese Brosse reported Indian yogis able to control their heart rates²⁹; Anand and colleagues showed changes in brain waves during meditation³⁰; Kasamatsu and Hirai confirmed and expounded upon Anand's findings³¹; and Goleman and Schwartz found meditators more psychologically stable than nonmeditators.³²

Later, a whole area of study regarding life changes to which we must adapt and their effect upon health has emerged. Thomas Holmes and Richard Rahe showed that the more significant the changes in one's life, the greater the chance of the onset of illness.³³ Based on these conclusions, researchers are working toward a

relaxation response

A series of bodily changes that are the opposite of the stress reaction.

autogenic training

A relaxation technique that involves a sensation of heaviness, warmth, and tingling in the limbs.

progressive relaxation

A relaxation technique that involves contracting and relaxing muscle groups throughout the body.

bracing

The contraction of muscles for no obvious purpose.

neuromuscular relaxation

Another term for progressive relaxation.

better understanding of this relationship. For example, Lazarus,³⁴ DeLongis,³⁵ and their colleagues have found that everyday hassles (see p. 140) are even more detrimental to one's health than major life changes.

More recently, researchers have studied the effects of stress on the immunological system. As a result, a whole new field of research has developed called *psychoneuroimmunology*. Robert Ader,³⁶ J. K. Kiecolt-Glaser,³⁷ Candice Pert,³⁸ and others found that stress diminished the effectiveness of the immune system thereby subjecting one to a range of illnesses and diseases. In addition, Shelly Taylor's research³⁹ identified differences in stress-coping techniques used by males and females. Taylor found that females are more likely to use social connections to cope with stressful events than are males. Other current researchers have described a Type D personality (depressed, anxious, irritable). Johan Denollet's research⁴⁰ demonstrated that Type D is related to coronary heart disease. In addition, E. L. Worthington⁴¹ showed that forgiveness can be a non-stressful, healthy behavior.

This brief overview is painted with a broad brush. Subsequent chapters refer to these pioneers and their work, providing you with an even better understanding of the significance of managing stress and tension. When we discuss stress-related illnesses and diseases, for example, you will once again read about Friedman and Rosenman, Simonton, Wolff, and others. When we discuss life-situation stressors, reference will be made to Lazarus and to Holmes and Rahe. When we discuss relaxation techniques, we will elaborate upon the work of Benson, Schultz, Luthe, Jacobson, and others.

For now, I hope you come away from this brief history of the stress field understanding that stress may be not just bothersome but downright unhealthy, and that stress may lead to other negative consequences such as poor relationships with loved ones or low academic achievement. There are, however, means of lessening these unhealthy and negative effects. Stress management is serious business to which some very fine minds have devoted their time and effort. As you'll find out in this book, this study has paid off and is continuing to do so.



Muscle Tension

As you begin to read this, FREEZE. Don't move a bit! Now pay attention to your body sensations and position.

Can you drop your shoulders? If so, your muscles were unnecessarily raising them.

Are your forearm muscles able to relax more? If so, you were unnecessarily tensing them.

Is your body seated in a position in which you appear ready to do something active? If so, your muscles are probably unnecessarily contracted.

Can your forehead relax more? If so, you were tensing those muscles for no useful purpose. Check your stomach, buttocks, thigh, and calf muscles. Are they, too, contracted more than is needed?

Unnecessary muscular contraction is called *bracing*. Many of us are guilty of bracing and suffer tension headaches, neck aches, or bad backs as a result.

Take a moment for yourself now. Place this book aside, and concentrate on just letting as many of your muscles relax as possible. Notice how that feels.

When we discuss deep muscle relaxation, and progressive relaxation in particular, you'll learn skills enabling you to bring about this sensation more readily.

Stress Theory

Now let's get down to business. What causes stress? There are several different theories about what causes stress and its effects on illness and disease.

Life-Events Theory

One theory developed by Holmes and Rahe⁴² proposes that stress occurs when a situation requires more resources than are available. For example, if you are taking a test for which you are unprepared, you might experience stress. To measure this type of stress, some researchers have compiled lists of major stressful life events such as the death of a loved one. The rationale is that the more of these events a person experiences, the greater is his or her stress.

DeLongis and her colleagues⁴³ are supporters of this general approach, but they consider routine stressful life events more significant than major ones that happen infrequently. They argue that daily *hassles*, though appearing less important by themselves, add up and therefore are more stressful than major events. Furthermore, when computing the formula for stress, they consider daily *uplifts*, such as someone saying something nice about you, as counteracting some hassles.

Another theory of how life events affect health is **allostatic load**, first defined by McEwen.^{44,45} Allostatic load is based on the hypothesis that there is a cumulative physiological risk associated with exposure to psychosocial stressors over one's life. There is ample evidence for this view.⁴⁶⁻⁴⁸ Allostatic load proposes that a key mediator of increasing risk for disease is the dysregulation of systems designed to balance the organism's responses to environmental demands. Exposure to stress elicits adaptive physiological responses in regulatory systems, including the sympathetic and parasympathetic nervous systems and the cardiovascular and immune systems. Allostasis (related to homeostasis) is the adaptive maintenance of vitality in these systems in response to changing environmental circumstances. Allostatic load refers to the cumulative biological wear and tear that can result from excessive cycles of response in these systems as they seek to maintain allostasis in the face of environmental challenge. According to the theory, as these systems become taxed and dysregulated, they begin to exhibit imbalances in the primary mediators of the stress response, such as glucocorticoids, catecholamines, and proinflammatory cytokines. Chronic dysregulation is believed to confer cumulative physiological risk for disease and disability by causing damage to tissues and major organ systems.⁴⁹

allostatic load

The cumulative biological wear and tear that results from responses to stress that seek to maintain body equilibrium.

Hardiness Theory

Other researchers conceive of stress somewhat differently. They focus not on how many stressful events you experience but on your attitude toward those events. For example, Kobasa and her colleagues⁵⁰ argue that if you perceive potentially stressful events as a *challenge* instead of as a *threat*, less stress will result. This buffering effect—buffering between stress and the development of illness and disease—is termed *hardiness* and is discussed in detail in Chapter 8.

Social Support Theory

Still other stress experts⁵¹ envision stress occurring when there is not enough social support available to respond to the event effectively. Social support may take many forms. For example, it could be emotional support to help you feel better about yourself or about the event as you cope with it, or it could take the form of financial assistance. In any case, social support helps you cope with the

event and therefore decreases your level of stress. Social support is discussed in detail in Chapters 7 and 9.

There are many other ways to conceptualize stress and its effects. Each, though, consists of at least two components: a stressor and stress reactivity.

The Stressor

A stressor is a stimulus with the *potential* for triggering the fight-or-flight response. The stressors for which our bodies were evolutionarily trained were threats to our safety. The caveman who saw a lion looking for its next meal needed to react quickly. Cavemen who were not fast enough or strong enough to respond to this threat didn't have to worry about the next threat. They became meals for the lions. The fight-or-flight response was necessary, and its rapidity was vital for survival.

Modern men and women also find comfort and safety in the fight-or-flight response. We periodically read of some superhuman feat of strength in response to a stressor, such as a person lifting a heavy car off another person pinned under it. We attribute this strength to an increase in adrenaline, and it is true that adrenaline secretion does increase as part of the fight-or-flight response. However, there are less dramatic examples of the use the fight-or-flight response has for us. When you step off a curb not noticing an automobile coming down the street, and you hear the auto's horn, you quickly jump back onto the curb. Your heart beats fast, your breathing changes, and you perspire. These are all manifestations of your response to a stressor, the threat of being hit by a car. They indicate that your body has been prepared to do something active and to do it immediately (jump back onto the curb).

So far, these examples of stressors have all required immediate action to prevent physical harm. Other stressors you encounter have the potential for eliciting this same fight-or-flight response, even though it would be inappropriate to respond immediately or with some action. These stressors are symbolic ones—for example, loss of status, threats to self-esteem, work overload, or overcrowding. When the boss overloads you with work, it is dysfunctional to fight with him or her and equally ridiculous to run away and not tackle the work. When you encounter the stressors associated with moving to a new town, either fighting with new people you meet or shying away from meeting new people is an inappropriate means of adjustment.



Stressors come in many forms.

Tom Merton/OJO Images/age fotostock