

NINTH EDITION

# Managing Stress

*Principles and  
Strategies for Health  
and Well-Being*



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Paramount Wellness Institute  
Boulder, Colorado



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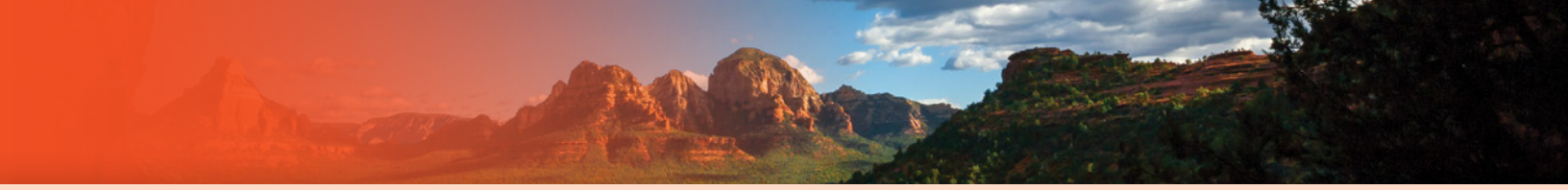
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*To all my friends and family,  
and to the many great people I have encountered  
who have served as dynamic inspirations in my own life journey,  
thanks for making this a better world in which to live.*

*A portion of the royalty derived from the sale of  
this book will be donated to several nonprofit  
organizations dedicated to environmental conservation  
and health promotion.*



*“No problem can be solved from the same  
level of consciousness that created it.”*

*— Albert Einstein*

*“Your time is limited, so don’t waste it living  
someone else’s life. Don’t be trapped by dogma,  
which is living with the results of other people’s  
thinking. Don’t let the noise of others’  
opinions drown out your own inner voice.  
And most important, have the courage to follow  
your heart and intuition. They somehow already  
know what you truly want to become.  
Everything else is secondary.”*

*— Steve Jobs*

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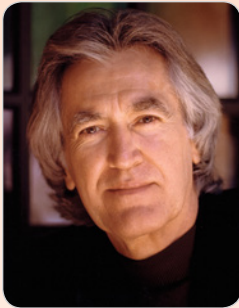


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# Foreword

Courtesy of Larry Dossey, MD.



*“After ecstasy, the laundry!”* This ancient saying can be applied to our current understanding of health and illness. During the past 50 years, we have discovered that, beyond doubt, the mind has an enormous impact on the body. Our emotions, thoughts, attitudes, and behaviors can affect us for good or ill. Now that we have

glimpsed these lofty insights, it’s time to get down to practicalities and apply them. It’s time, in other words, to do the laundry. But the task isn’t simple. How, exactly, can we bring mind and body into harmony? How can we alleviate the stressful effects of modern life? How can they be turned to our advantage? Can we learn to benefit from these changes? Can we become wiser and healthier in the process? Advice is not difficult to find, as self-proclaimed experts are everywhere. They tout the latest formulas for stress-free living and personal transformation from tabloids, talk shows, and a plethora of self-help books, giving the entire area of stress management a bad name.

It is refreshing, amid all this blather, to discover Dr. Brian Luke Seaward’s *Managing Stress: Principles and Strategies for Health and Well-Being*. In clear, uncluttered language, he takes us on a gentle walk through the territory of mind–body interaction. From cover to cover you will find that he is a very wise guide and possesses a quality

almost always missing in stress management manuals: humor. Dr. Seaward knows the field well—he has taught it and lived it—and he provides scientific documentation at every step. But perhaps most importantly, Dr. Seaward daringly goes beyond the usual approach to the subject to speak of the soul and of human spirituality. He realizes that stress management and maximal health are impossible to attain unless the questions of life’s meaning are addressed.

Since *Managing Stress* first came out in 1994, the pace of life has certainly quickened. With this change, Americans have begun to embrace a host of complementary healing modalities, which underscores the importance of seeking a sense of inner peace from the winds of change.

As a physician who has long advocated the integration of mind and body for optimal health, I find it a pleasure and honor, therefore, to recommend this work. It is a fine contribution to the field of stress management and will serve as an invaluable guide to anyone seeking harmony in his or her life. A new day is dawning in medicine and health promotion, and Dr. Seaward has awoken early to watch and share the sunrise.

— Larry Dossey, MD

Executive Editor, *Explore: The Journal of Science and Healing*

Former Executive Editor, *Alternative Therapies in Health and Medicine*

Author of *Reinventing Medicine*, *One Mind*, and *Healing Words*

# Preface

## STRESS: THE NEW NORMAL?

Young adults today are growing up in a world that is very different from not only that of their parents, but also that of their older siblings. Since the first edition of *Managing Stress* came out two decades ago, experts agree the world has become a much more frenetic place to live. In the approximately 20 years that this book has been in print there have been cultural revolutions in daily life, including significant changes to the music industry (iTunes), the news industry, the job market, the banking industry, the communication industry, the hotel industry (Airbnb), and the cab industry (Uber), not to mention daily changes in social media and the emergence of new ways to share information. Add to this layer of complexity various health issues, including the increase in autism, the Zika virus, obesity, diabetes, teen suicide, and opioid addiction, as well as the increase in population and shifting demographics, such as increased Latino, Asian, and Muslim populations and the growing number of senior citizens. There is a great quote from Roy Blixer stating that “the only person who likes change is a wet baby.” By and large, people don’t like change, particularly change that they cannot control. Magazine headlines that once suggested various ways to decrease stress now tell us that stress is here to stay (so get used to it). Stress is the new normal. Despite the rapidly changing dynamics on planet Earth, what hasn’t changed are the means to find your center, your sense of inner peace.

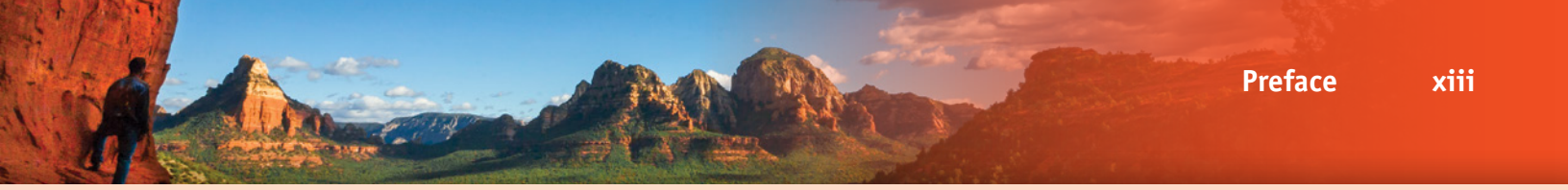
Experts from a host of disciplines have been commenting on the state of information processing today in the Wi-Fi digital age. The prognosis is not necessarily good. People are spending the vast majority of their time, perhaps all of it, in what has become known as “short-form information processing” and “short-form messaging.” In simple terms, this means cherry-picking information for specific facts, without taking time to process the larger context of the facts or taking time for critical thinking, synthesis, creative thinking, and memorization. Metaphorically speaking, people today are missing the entire forest because they are staring at one or two trees.

The proliferation of iPads, smartphones, and other electronic devices, coupled with instant access to information and decreased attention spans, has begun to change (some say decrease) the intellectual capacity of the twenty-first-century citizen. What is being lost is what is now called “slow, linear thinking skills,” along with intuitive-based knowledge. *Knowledge* (a domain of mental well-being) is the ability to gather, process, recall, and communicate information. *Wisdom* is the alchemy of knowledge and experience (real, not virtual) accrued over time. Time, however, is a rare commodity today, and more and more experience is viewed through a computer screen. People are opting for information rather than knowledge. As a result, wisdom becomes ever more rare.

Stated simply: There is a big difference between information gathering (for example, facts and figures) and the application of deep-seated wisdom. All-too-common examples include people who venture into national parks for a day’s hike unprepared, without proper equipment or supplies. Such people often have cell phones and GPS tracking devices, which they then use to call for help when stranded on a mountaintop or when they have fallen down cliffs. Facts and figures cannot replace common sense (accrued wisdom), nor is a reliance on technology an excuse for ignorance. Stressful times, such as those in which we are living, necessitate wisdom.

*Managing Stress* is a synthesis of wisdom: accrued knowledge and personal experience over time. More than just a collection of facts and figures, *Managing Stress* connects the dots for nearly all aspects of stress through the ageless wisdom of the mandala template of mind, body, spirit, and emotions. *Managing Stress* is also a process of transformation, in which one moves from a motivation of fear toward a motivation of love and compassion. Mountains are a symbol of strength in times of change, which is why this symbol was chosen as the cover art for this ninth edition.

A quick glance at any headline makes it obvious that dramatic change is in the air. Global warming, energy demands, terrorism, personal bankruptcy, water



shortages, advances in technology, and new diseases are a few of the many changes sweeping Earth as we speak. As planetary citizens, we are not immune to change. Moreover, with change comes stress, and humans are not immune to stress either. But with each change we encounter we have a choice to view it as a threat or an opportunity for growth. This new edition offers a unique synthesis of timeless wisdom from various world cultures, combined with new insights, research studies, and practical approaches to empower you to become resilient to stress during these times of dramatic change.

Many of the multicultural concepts in this edition are considered to be ageless wisdom, also known as *common sense*. But as the expression goes, “Common sense is not too common when people are stressed.” As newly initiated members of the Wi-Fi generation, people not only expect instant information retrieval but also perfect sound bites of wisdom to accommodate their every need (rarely does a sound bite solve a life problem). As such, experts have coined the term “disposable knowledge” to describe the Internet mentality of failing to dig beyond the surface (or the first ten listings of a Google search) to really gain a handle on information content. This book digs beneath the surface to reveal an alchemy of ageless wisdom, current research, and practical tips for you to have the best skills and resources for your personal life journey. As several students have said to me, “*Managing Stress* not only connects the dots; it builds a bridge to a better life.”

When *Managing Stress* was first published in 1994, it broke new ground. Never before had the focus of a college textbook presented such a holistic perspective of health and well-being under the influence of stress. Twenty years ago, you would have been hard pressed to find the word *spirituality* in a college textbook, yet today it would seem awkward not to address this aspect of health. Indeed, many of the topics and aspects that were considered at the vanguard a decade ago are now so familiar that they have become household words: t'ai chi, hatha yoga, echinacea, Pilates, meridians, and chakras, to name a few. As the global village knocks on your doorstep, insights from Asia, Africa, and Latin America offer a multicultural approach to seeking and maintaining balance in our lives. Perhaps it's no secret that as the pace of life continues to increase, so does the hunger for credible information to create and

maintain a sense of balance in these times of change. As the first edition of *Managing Stress* found its place on bookshelves across the country, it became known as the “Bible” of stress management. I am happy to say that I continually hear it described that way. I am also happy to hear so many comments on the writing style, layout, and production of the textbook: aesthetically pleasing to the eyes, easy to read and understand. A lot of work goes into the selection of photographs, cartoons, and artwork to make this book visually appealing and engaging. As with all previous editions, a conscious decision was made not to include stress-inducing photographs. The television news and the Internet are saturated with these types of images, and my intention is to maintain a positive energy between the covers of this book.

## WHAT IS NEW AND IMPROVED IN THIS NINTH EDITION?

The topic of stress and stress management (now called *resiliency*) is quite dynamic, and as such there is always new information to add to the ever-growing body of knowledge. Here are some things added to place this ninth edition on the cutting edge of this colossal topic.

### Chapter 1: The Nature of Stress

- Social Stress in America: New research by the American Psychological Association as well as the Harvard School of Public Health now highlights the issues of stress and health well beyond the work of Holmes and Raye. Additional studies on stress by NPR and Kaiser Health also point to what they call the burden of stress in America, from big life changes to daily hassles.
- Stress and insomnia have been linked for a long time, and now this new edition adds seven ways to improve your sleep hygiene for better sleep.

### Chapter 2: The Sociology of Stress

- *Technostress* may not be new, but new research highlights the problems with repeated use of screen devices, including the outsourcing of our memory to technology. New terms in the lexicon of technostress include *digital toxicity* and *digital dementia*. This section highlights a few studies about the dangers of being distracted time and again by our screen devices, thus causing more stress.
- The environmental disconnect continues to grow as more news reveals the problems nationwide

with our drinking water (e.g., Flint, Michigan) and the serious climate change flooding precautions, which add to one's stress level.

### Chapter 3: Physiology of Stress

- A Closer Look at Panic Attacks—from Physiology to Treatment: Many students experience their first panic attack in college, and more and more people across the country seem to be experiencing this phenomenon. Often described as the “Stress response on steroids” this section takes you through the experience and how to deal with it.

### Chapter 4: Stress and Disease

New to this chapter are several topics that beg for attention regarding stress and disease; these are topics that are likely to be in the news for quite some time.

- The Human Microbiome & Stress: The secret life of healthy gut bacteria. New research suggests that understanding the gut is essential to understanding health. With more than 70 percent of our immune system in the gut, the connections between stress and disease are overwhelming.
- Lyme Disease and Stress: New studies indicate that Lyme disease (and its co-infections) is an emerging national epidemic and the connections to stress are powerful and serious. This section takes a closer look at this debilitating autoimmune disease.
- DNA, Telomeres, Stress, and Aging: Nobel prize-winning research on the topic of telomeres and stress is now headline news, with implications for health and longevity.
- Stress and Inflammation: Inflammation seems to be tied to a great many health issues. This section reveals the connection between stress and inflammation.

### Chapter 6: The Stress Emotions: Anger, Fear, and Joy

- Fear: Vulnerability and Shame (Brene Brown)

The stress emotions are complicated, yet researcher Brene Brown has made it a lot less complicated by shedding light on the aspects of vulnerability and how this can perpetuate fear rather than resolve it.

- Happiness: More ways to understand and pursue eustress. Studies on the topic of happiness reveal that we can have a positive effect on our state of mind by the choices we make and the perceptions we hold.

### Chapter 10: Healthy Boundaries: Behavior Modification

- Because the term “behavior modification” sounds boring, and because so many issues with stress involve poor boundaries, the title of this chapter was updated to reveal the need to create healthy boundaries.

### Chapter 12: Expressive Art Therapy

- A small section was added to include the new trend with adult coloring books, now used as an accepted coping technique for stress.

### Chapter 13: Humor Therapy (Comic Relief)

- A small section was added to include the topic of Laughter yoga, a coping technique for stress that combines humor and support groups for a more powerful means to cope with stress.

### Chapter 14: Creative Problem Solving

- A small section was added to the obstacles of creativity from best-selling author, Elizabeth Gilbert (*Eat, Pray, Love*) about fear as a destructive role in the creative process. A human feature story (Stress with a Human Face) was added to this chapter to show students that one of their own used the content of this chapter to resolve stress in her life.

### Chapter 17: Additional Coping Techniques

- Hawaiian Forgiveness: Ho'oponopono

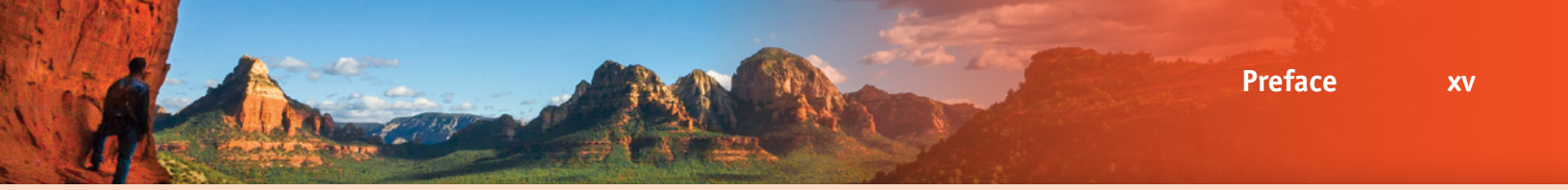
With so much anger in the world today, learning to resolve it is essential to finding a sense of inner peace. One of the newest takes on coping with stress is the Hawaiian modality of forgiveness called *Ho'oponopono*.

### Chapter 19: Meditation and Mindfulness

- A small section was added about the executive function of the brain and how this compares to the left brain/right brain understanding of consciousness.

## STRESS MANAGEMENT IN A RAPIDLY CHANGING WORLD

As with each new edition, this revision contains highlights of the latest state-of-the-art research on all aspects of stress management. This book strikes a fine balance between highlighting the landmark research on health psychology, psychoneuroimmunology, and holistic healing and the newest research studies, theories,



and applications of effective stress management in our rapidly changing world.

Although it may seem like health care is in a state of flux, from a different perspective it appears to be on the cusp of a new revolution where mind, body, and spirit are seen as equal parts of the whole. Once again, *Managing Stress* stands at the vanguard as the premier resource for holistic (mind–body–spirit) stress management.

Since the creation of the Office of Alternative Medicine at the National Institutes of Health in 1993 (now called the National Center for Complementary and Integrative Health), more money and more research has been focused on a host of healing modalities that fall under the domain of complementary or “integrative” medicine.

Every technique for stress management is considered at some level to fall into the category of complementary or alternative medicine. Although at best the conclusions can only be drawn from outcomes due to the dynamics of the mind–body–spirit paradigm, the interest in this field only continues to grow. This book bears the collective fruit of this growing body of knowledge.

I urge readers to consider *Managing Stress* as an invitation to further explore all of the many topics highlighted in this book in greater depth through other books, articles, and experts in each respective field. No one book can contain all of the information on any topic, let alone this one, but it is my hope that this book sets you on a path toward a well-balanced life.



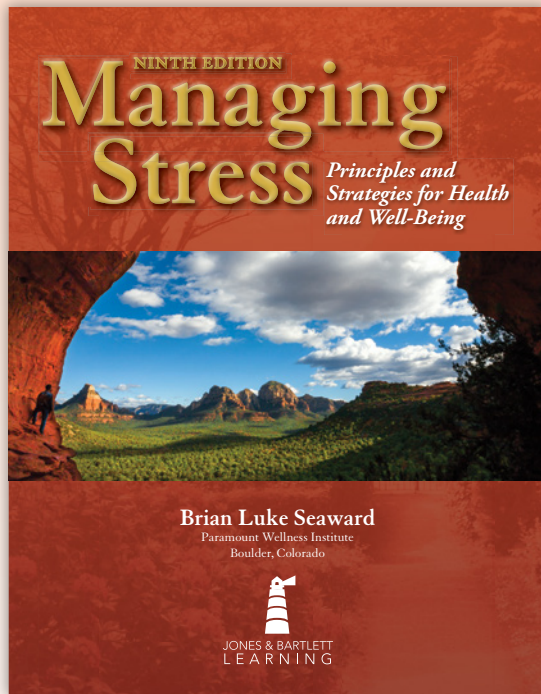
# Acknowledgments

When Maureen Stapleton won her Oscar for Best Supporting Actress in 1982 for her role in the movie *Reds*, she walked up to the podium and said, “I’d like to thank everyone I ever met.” At times writing this book, and working on all its many editions, I have felt much the same way. In fact, I would like to include many people I have never met but whose work and wisdom have found their way into this book. While I would like to share my gratitude with everyone—and you know who you are, including Joe Pechinski, Dave Clarke, Candace Pert, James Owen Mathews, and my invaluable mentors Elisabeth Kübler-Ross and Larry Dossey—there are simply too many friends, colleagues, scholars, and luminaries to list here. A very special thanks

to Mark Ellison and Sally Cadman for their insightful feedback on Chapter 28, *Ecotherapy: The Healing Power of Nature*. Heartfelt gratitude to Randy Glasbergen and Brad Veley for the use of their wonderful cartoons. Huge thanks also to all my students, friends, and colleagues too numerous to mention, who were so kind to allow me to use their art therapy pieces or pose for countless photos used in this book. I am forever grateful. Special thanks go to Cathy Esperti, Carter McCalister, Nancy Hitchcock, and Wes DeShano at Jones & Bartlett Learning, who are simply awesome. Thanks for making this *Ninth Edition* the best ever. The phrase “it takes a village” certainly applies here, so thanks to everyone who has been and continues to be part of my “village.”



# How to Use This Book



Based on the concept of holistic wellness, where the whole is always greater than the sum of the parts, *Managing Stress*'s content and format uniquely offer insights on the integration, balance, and harmony of mind, body, spirit, and emotions throughout each section and in various chapters (for example, the concept of entrainment can be found in Chapter 4, *Stress and Disease*, and Chapter 22, *Music Therapy*). Like the wellness paradigm it is based on, *Managing Stress* is formatted in a mandala of four parts:

- Part 1: The Nature of Stress** (physiology, stress, and disease)
- Part 2: The Mind and Soul** (mental, emotional, and spiritual aspects as they relate to stress)
- Part 3: Coping Strategies** (promoting insights and resolution of stressors)
- Part 4: Relaxation Techniques** (promoting physical homeostasis)

This book integrates all four components of the wellness paradigm. First, because it is so visible, we will look at stress from the physical point of view, including both

the dynamics involved in fight-or-flight and the most current theories attempting to explain the relationship between stress and disease. We then focus on mental and emotional factors, outlining pertinent theoretical concepts of psychology: the stress emotions, anger and fear, as well as specific personality types that are thought to be either prone or resistant to stressful perceptions. (More cognitive aspects are covered in Part 3.) The much-neglected component of spiritual well-being will round out the first half of the book, showcasing selected theories of this important human dimension and its significant relationship to stress. The remainder of the book will focus on a variety of coping strategies and relaxation techniques, and come full circle to the physical realm of wellness again, with positive adaptations to stress promoted through the use of physical exercise. As you will surely find, true to the wellness paradigm, where all components are balanced and tightly integrated, there will be much overlap among the physical, mental, emotional, and spiritual factors in these chapters, as these factors are virtually inseparable. And just as the word *stress* was adopted from the discipline of physics, you will see that some other concepts and theories from this field are equally important to your ability to relax (such as entrainment).

True to the nature of holistic stress management, there is no separation or division between mind and body, emotions and spirit, or any of these four aspects. As such, you will see cross-referencing between chapters to help you connect the dots so that your understanding of the mind–body–spirit connection is solid. You may find it best to start with Chapter 1, *The Nature of Stress*, and continue straight through to the end of Chapter 8, *Stress and Human Spirituality*, to gain the best perspective of this colossal topic. From there you can cherry-pick information on which coping techniques and relaxation techniques work best for you. Keep in mind that the best approach is to try them all to find which is most effective for you.

Each chapter of the text has a number of pedagogical devices designed to aid in the mastery of the material, including feature boxes, surveys, key terms, exercises, and checklists.

Case studies titled Stress with a Human Face illustrate how real people deal with a variety of stressful situations.

### Stress with a Human Face



Society, and the culture it creates, is often described in metaphors. A common one is “the social fabric.” For Juliet, a more apt metaphor might be a carpet, one that was pulled right from underneath her feet as a child. Juliet Mami Simbo now lives in Denver, Colorado, but at the age of 13 she and her family fled from Sierra Leone, a small country on the west coast of Africa. She begins her story with a Hollywood reference:

“If you have seen the movie *Blood Diamond*, starring Leonardo DiCaprio and Jennifer Connelly, then you have witnessed a realistic portrayal of the horrors of civil war in Sierra Leone. I lived in this world. I witnessed my dad held at gunpoint on our porch on January 10th, 1999, by a rebel who told all of us that he was going to kill my father and suck his blood because of his vocal opposition to the atrocities being committed in my country. The gunman spared my father’s life; however, in a defiant move, he turned and shot and killed our family dog. Because of greed and hatred amongst the people of my country, death came to many in Sierra Leone for seemingly no reason. I was changed forever by these events, knowing that my life was kept alive by the slimmest of margins.”

As an immigrant to the United States, she had to adapt quickly to a whole new culture, one with superhighways, fast food, snowstorms, power shopping, abundant lifestyle opportunities, high technology, and crumbling family structures. “Initially, I felt lost and lonely as I tried to merge into the fast lane that is the American lifestyle,” she explained. But over time, Juliet became less shy and more assertive, adapting successfully to a new way of life in a new culture. With college graduation months away, her eyes are now set on new sights. One day Juliet hopes to return to Africa and use her knowledge, skills, and experience to help make the world a better place, beginning with the severe hunger issues known in this part of the world.

Juliet has used her experience of cultural differences in a positive way and hopes that others will do the same. As she said in her high school graduation speech, “I say to you, open your eyes to the world beyond your country’s borders. Feel the presence of humanity around the world and learn about them, even experience their culture. I hope that one day, you can be as grateful as I am for what you know about a different land and people. I thank you for being a part of my world, and I welcome you to visit mine.”

Key terms are clearly defined in the text where the term first appears to help with comprehension and expand your professional vocabulary.

**Walter Cannon:** Twentieth-century Harvard physiologist who coined the term “fight or flight.”

**Fight-or-flight response:** A term coined by Walter Cannon; the instinctive physiological responses preparing the body, when confronted with a threat, to either fight or flee; an evolutionary survival dynamic.

**Stress reaction:** The body’s initial (central nervous system) reaction to a perceived threat.

**Freeze response:** Part of the stress response, where the individual neither fights nor flees but freezes like a deer caught in the headlights, paralyzed as if the person has forgotten to run.

**Homeostasis:** A physiological state of complete calmness or rest; markers include resting heart rate, blood pressure, and ventilation.

**Stress response:** The release of epinephrine and norepinephrine to prepare various organs and tissues for fight or flight.

End of chapter summary appears at the end of each chapter and contains a comprehensive summary of the main points in the chapter along with study guide questions and references for further study.

### SUMMARY

- Physical exercise is a form of stress: the enactment of all the physiological systems that the fight-or-flight response triggers for physical survival.
- Physical exercise is classified as either anaerobic (fight) or aerobic (flight). Anaerobic (without oxygen) is a short, intense, and powerful activity, whereas aerobic exercise (with oxygen) is moderately intense activity for a prolonged period of time. Aerobic exercise is the better type to promote relaxation.
- The body adapts, either negatively or positively, to the stress placed upon it. Proper physical exercise will cause many adaptations that in the long term are thought to be effective in reducing the deleterious effects of stress by returning the body to a profound state of homeostasis. Physical exercise allows the body to use stress hormones for their intended purposes, detoxifying the body of stress hormones by utilizing them constructively.
- To get the benefits of physical exercise, four criteria must be met: intensity, duration, frequency of training, and mode of exercise. Together they are called the all-or-none principle, meaning that without meeting all four requirements few if any benefits will be gained. It takes between 6 and 8 weeks to see significant benefits in the body.
- The positive effects of physical exercise are lowering resting heart rate, resting blood pressure, and muscle tension, and a host of other functions that help maintain or regain physiological calmness.
- Exercise evokes not only physiological changes, but various psychological changes (e.g., runner’s high) as well, again suggesting that mind and body act as one entity. Habitual physical exercise produces both physiological homeostasis and mental homeostasis. Individuals who engage in regular physical exercise report higher levels of self-esteem and lower incidences of depression and anxiety.
- Although the primary purpose of food is as a source of nutrients, many people use food as a means to fill an emotional void created by stress.
- Because of the global condition of soil depletion, even a healthy diet is considered deficient in the essential vitamins and minerals so that supplementation is encouraged.
- A malnourished diet—one that is deficient in essential amino acids, essential fats, vitamins, and minerals—is itself a stressor on the body.
- Research has shown that some foods actually induce a state of stress. Excess amounts of sugar, caffeine, salt, and foods poor in vitamins and minerals weaken the body’s resistance to the stress response and may ultimately make a person more vulnerable to disease and illness.
- Not all supplements are created equal. Check to see that the processing does not destroy what it is intended to promote. Taken in excess, supplements can do more harm than good by inhibiting the proper digestion and absorption of essential nutrients.
- Food you eat can either boost or suppress the immune system.
- Food affects not only the physical body, but the mental, emotional, and spiritual aspects as well. The concept of spiritual nutrition suggests eating a wide variety of fruits, vegetables, and grains that nurture the health of the seven primary *chakras*. In addition, spiritual nutrition suggests ensuring a balance in all aspects of food, including the acid/base balance.
- Eating disorders are emotionally rather than physiologically based, ranging from bulimia and anorexia to overeating—all of which have serious consequences if not resolved.
- Change various aspects of your diet, including reducing or eliminating the consumption of caffeine, refined sugar, sodium, and fats, to reduce the risk of stress-related problems.

Box features throughout the chapters provide unique current and historic perspectives on key topics, questionnaires, and things to consider.

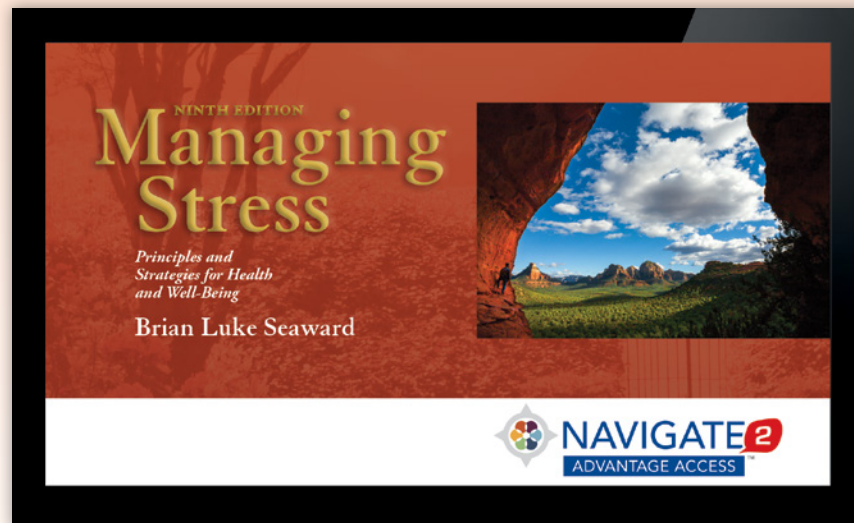
#### BOX 27.2 Insomnia and Physical Exercise

One of the benefits of exercise that has been touted by exercise physiologists for years is the fact that regular rhythmical (cardiovascular) exercise promotes quality sleep and decreases symptoms of insomnia. The very nature of physical exercise increases one’s metabolic activity, thus increasing one’s body-core temperature. As the body returns to homeostasis after a vigorous workout, body-core temperature drops. During sleep, the body-core temperature is at its lowest point as a result of decreased metabolic activity. Research shows that the drop in body-core temperature that occurs when bedtime is four to six hours after a vigorous workout promotes drowsiness and deeper (delta waves) sleep than in nonactive individuals.

For this reason, it is suggested *not* to engage in strenuous physical activity shortly before bedtime. According to *Power Sleep* author James Maas, the best time to schedule a workout is around the noon hour or late afternoon, with morning exercise having the least effect on sleep quality. The best type of exercise to ensure a good night’s sleep is cardiovascular in nature, including vigorous walking, jogging, swimming, or biking that elevates the heart rate to one’s specific target zone for the desired duration. All types of rhythmic exercise utilize the cocktail of stress hormones for their intended purposes and help the body metabolize what’s not used in this process as waste products for elimination.

# Student & Instructor Resources

## NAVIGATE 2 ADVANTAGE ACCESS



Each new book comes complete with a dynamic online resource packed with instructor and student resources! Navigate 2 Advantage Access provides an interactive eBook, workbook activities, audio engagement with the author, meditation audio and video, as well as assessments, knowledge checks, learning analytics reporting tools, and more.

### Relaxation Media and Audio Introductions

In his own words, the author, Brian Luke Seaward, introduces each of the four sections in the book. He provides a summary of each chapter in the section and explains why the information is so important to the understanding and management of stress. This is a great resource for students and instructors!

The author also includes four relaxation audio files as well as a relaxation video—perfect to listen to while studying, meditating, or simply relaxing.

### *The Art of Peace and Relaxation Workbook, Ninth Edition*

The new edition of the workbook is now available only through our Navigate 2 product. Worksheets are included as printable and/or writable PDFs.

### Lesson Plans

This edition includes 26 lesson plans and class exercises created specifically for students and participants in the author’s holistic stress management certification workshop. The lesson plans have been adapted for instructors who use *Managing Stress* as a college textbook.

### Interactive Lectures

The following 16 unique audio and closed-captioned visual interactive lectures contained in Navigate 2 provide a powerful, comprehensive exposure to the holistic (mind, body, spirit, and emotions) approach to stress management, including both cognitive (coping) skills, a host of relaxation techniques, and personal life skills for optimal health and well-being (also known as mind-body-spirit homeostasis). In each weekly lesson, these online lectures combine both theoretical and experiential learning through a series of exercises to give the user the life skills to promote peace, relaxation, and optimal health.

### Lesson 1: Welcome to the Stress of Life

Stress knows no demographic boundaries. It affects everyone and is often called the “equal opportunity destroyer.” We begin by looking at the nature of stress, various types

of stress, and stressors, followed by some definitions of stress and some classic background from experts who first studied the concept of stress. This lesson then progresses to expand your comprehension beyond the Western “mechanistic” approach to a complete wellness dynamic, including the mental, emotional, physical, and spiritual aspects, known collectively as the *holistic perspective*. Combined with this content is an introduction to a very basic relaxation technique called *diaphragmatic breathing*.

### **Lesson 2: SOS: Message in a Bottle**

Is the world in deep trouble? Perhaps! Stress may be a perception, but many external factors are coming together in an unprecedented way that influence these perceptions. This lesson looks at several social factors that can so greatly fan the flames of personal stress. We conclude with a time-tested coping skill: journal writing as a means to release stress-based emotions and gain clarity in one’s thoughts.

### **Lesson 3: The Stress or Relaxation Barometer**

To really know what effects stress has on the body, you must first understand the basics of stress physiology. This lesson takes a closer look at the physiology of stress (both short term and long term). It also explains a classic relaxation technique, progressive muscular relaxation, that can help you understand stress physiology.

### **Lesson 4: Headaches, Lupus, and Hemorrhoids, Oh My!**

The association between stress and disease is colossal. From tension headaches to cancer, our thoughts and the associated emotions can directly affect our health. Is the physical body the first or last place that the symptoms of disease and illness manifest? This lesson explores two perspectives of the stress and disease dynamic through several models of the stress and disease phenomenon: a holistic and a mechanistic approach. By understanding the mind–body connection, you become empowered to maintain or return to homeostasis.

### **Lesson 5: Reprogramming the Software of the Mind**

By and large, stress begins as a perception—an interpretation of some event that we perceive as a threat. As such, it is essential to understand the framework of the mind (thoughts, perceptions, attitudes, beliefs, opinions, and emotions) to manage stress effectively. By becoming familiar with various theories of psychology, one can better achieve this goal to turn the perceived threat into a nonthreat and move on with one’s life.

This lesson begins with some basic fundamentals of psychology, through the eyes of stressful perceptions, and then highlights a formidable tool, cognitive restructuring (also known as *reframing*) to use in everyday life.

### **Lesson 6: Feeling the Stress, Feeling the Love**

In simple terms, there are two stress emotions: anger (fight) and fear (flight). But nothing is simple about stress. There are actually hundreds of stress emotions, including joy and happiness (eustress). This lesson takes a closer look at the two primary stress emotions (anger and fear) as well as ways to deal creatively with each so that you control your emotions rather than having them control you. We also look at the emotions associated with good stress (eustress) followed by specific aspects of personality that can either promote stress or help buffer against it.

### **Lesson 7: Minding the Body, Mending the Mind**

Art therapy is a formidable coping technique that serves as an emotional release (catharsis) for unresolved emotions. Through the use of various media, feelings and thoughts can be expressed in ways that verbal language simply cannot articulate, thus opening the door to resolution and inner peace. Muscle tension is the number one symptom of stress. Physical relaxation is also a powerful stress reducer. Hence, massage is accepted as a much-desired relaxation technique. This lesson also explores bodywork (massage therapy) as a relaxation medium.

### **Lesson 8: Health of the Human Spirit**

Spiritual well-being is very much a part of health and wellness, but it is so often ignored in dealing effectively with stress. Left unaddressed, stress can choke the human spirit. For this reason (and many others), human spirituality is very much a part of stress and stress management. In fact, spirituality is considered by many to be the cornerstone of holistic stress management regarding relationships, values, and a meaningful purpose in life, aspects that are related to every stressor. This lesson invites you to take a closer look at this often-ignored wellness component by exploring many different perspectives from various luminaries around the world.

### **Lesson 9: Change This!**

We all have ideas on how we can improve our lives by tweaking some habits that throw gasoline on the fire of stress. Luckily, there is help. This lesson takes a look at several types of behavior that can push one over the edge and, equally important, ways to examine and change behavior for the better by becoming more assertive, more confident, and embracing change for the better.

### Lesson 10: Be the Calm in the Eye of the Storm

Today, everyone is bombarded with sensory overload, from Facebook updates and YouTube links to thousands of text messages. How does anyone stay grounded in these cyber winds of change? The answer is meditation: a simple way to calm the mind of perpetual sensory bombardment and information overload, not to mention common emotional issues. Meditation is not a religion! It is a simple technique for mental training, and every athlete does it. Speaking of athletes, many athletes do a form of meditation called T'ai Chi ch'uan, often called a “moving meditation” that is also a great means of relaxation.

### Lesson 11: Imagination Is More Powerful Than Knowledge

It has been said that we have the means to solve our own problems (stressors). We just need to use our heads. If stress can be disempowering, creativity is considered very empowering. Creativity allows you to have options. Einstein said that imagination was more powerful than knowledge. It was the empowerment aspect of creativity he referred to. We begin to explore the creative process and then see how it can help us solve problems (both big and small). The mind not only has the power to create options, it also has the power to promote relaxation and healing through the use of mental imagery and visualization, very effective relaxation skills.

### Lesson 12: Good Vibrations

The sound of laughter and the sound of music may not seem to have much in common, but they are both regarded as ways to ease stress and lighten the heart. From an energy perspective, they are both known as “good vibrations.” Humor, that which can promote laughter, is one of the finest coping techniques known to humanity. Music has been recognized for millennia as a soothing relaxation technique.

### Lesson 13: Coping and Relaxation Techniques, Part I

It has been said often that time and money (more likely the lack thereof) are the causes of tremendous stress. Perhaps we have all felt this way at one time or another. By understanding the psychology of money and time, one can better navigate the shoals of stress. Good communication skills are also very important for this navigation because many stressors involve interactions with others. This lesson focuses on refining several effective

coping skills essential for personal homeostasis. One of the most common techniques to promote relaxation is called *progressive muscular relaxation* (PMR). An exploration of this technique rounds out this lesson.

### Lesson 14: Coping and Relaxation Techniques, Part II

There are hundreds of ways to cope with stress, from hobbies to dream therapy, all of which help give insights to our problems and help us to work toward resolution. This lesson examines some additional coping techniques that are important to include in your toolkit of stress management. Combined with this is a closer look at Hatha yoga as an essential relaxation skill. Hatha yoga has gone mainstream in the United States. More specifically, it has gone corporate (which is really the antithesis of Hatha yoga). We explore the basics of yoga as it was originally taught several thousand years ago.

### Lesson 15: The Power of Suggestion

The mind has an incredible power to heal (make whole). This has been recognized the world over in many types of relaxation efforts, including autogenic training, clinical biofeedback, and ecotherapy. This lesson takes a closer look at these methods that can help the mind work with the body to achieve a greater sense of relaxation and homeostasis.

### Lesson 16: A Healthy Body: Back to Basics

Stress begins in the mind but quickly ends up in the body. Perhaps the most effective relaxation technique is an activity that engages the stress response, which is exactly what physical exercise does. Exercise is stress to the body, but a controlled stress. We cannot talk about exercise without addressing nutritional habits. Moreover, we really cannot talk about stress without addressing nutrition as well. For this reason we discuss several important factors to consider when incorporating exercise and nutrition in your overall stress management program.

### Additional Instructor Resources

- Test Bank
- Slides in PowerPoint format
- Instructor's Manual
- Discussion Questions
- Lecture Outlines
- Lesson Plans
- Grading and Analytics Tools

# Praise for *Managing Stress*

## PROFESSIONALS

Hi Luke,

Thank you so much for talking to the classes yesterday. It truly is so generous of you to do this for the students. Your answers to their varied topics were perfect, even the more challenging questions such as the GMO inquiry. The students said that they really enjoyed the opportunity to talk with you. They liked that you were so accessible and down-to-earth friendly. Also, we appreciated the extra info on Lyme disease and your reassuring words about optimism.

Teri Harbour  
Frederick Community College  
Frederick, MD

Hi Luke,

Thank you so much for volunteering your time and speaking with my class yesterday. It was wonderful for the students to have the opportunity to digitally meet and talk with you and gain another perspective on stress management. I appreciate you sharing more information for the student's question and sharing the letter from an AU student. It's a beautiful letter that nicely shows the impact you have on students. Thanks again for the opportunity to share yourself and work with my students!

Best wishes,  
Ethan Mereish, PhD  
The American University  
Washington, D.C.

"This book helps students to approach stress management in a livable, realistic, and creative way. It recognizes the premise that coping with stress is a 'total' experience and Seaward's approach to spirituality and stress really opened the minds and hearts of both myself and my students. As one of my students reflected: 'This class has not only taught me an extreme amount of useful information, but learning effective ways to deal with it, coupled with the daily practice of relaxation techniques and journal writing skills, will encourage me to continue these practices after class ends.' Personally, this book has helped me refocus on taking time

to practice the skills I teach and how these skills must be a part of my daily life."

— **Jacqueline R. Benedik, MS, CHES,  
Health Educator**

"Dr. Seaward's book is the best resource I have found for teaching a holistic approach to coping with stress. Whether I concentrate on one hour of cognitive restructuring for unemployed professionals, one day of stress and spirituality for nurses, or a semester course for university students, it provides the material I need. It's reader friendly, rich in references, and full of humor!"

— **Paula LeVeck, RN, PhD**

"Stress is at the heart of most all diseases that society faces today. Brian Luke Seaward's book goes right to the root causes of stress and communicates cutting-edge material. My hope is that more people will put this information to practice by tapping into their inner strength so that we can combat the disease crisis, including obesity, cancer, and coronary heart disease."

— **Kelly Stobbe, MEd, Wellness Councils of  
America, Director of Council Affairs**

"*Managing Stress* is the perfect textbook for my graduate course in stress management for advanced practice nurses. It blends beautifully the research, clinical, and educational components of each topic—a rare find! It is sophisticated enough for advanced students, yet accessible to first-time readers on this subject."

— **Valerie Yancey, PhD, St. Louis, MO**

"*Managing Stress* is a unique textbook in that it serves as an essential guide to the exploration of the interaction of the mind, body, and spirit. Dr. Seaward brings us an extensive, current, and well-researched review of approaches to stress management in a clear and uncomplicated style. This book, with its seamless blend of theory, skill building, and coping techniques, is a gift to us all."

— **Elaine Matheson Weiner, RN, MPH, CHES,  
Manhattan Beach, CA**

“Brian Luke Seaward’s book, *Managing Stress: Principles and Strategies for Health and Well-Being*, is the most comprehensive text on stress management I’ve used for teaching. What makes this book so exceptional is the weaving of science, spirit, and individual stories into an organized, holistic format conducive to personal and professional learning. I would recommend this text for any educator interested in providing the most current research on a growing field that is having such an impact on the lives of individuals yearning to find balance in their lives.”

— **Jamie Damico, RN, MSN, CNS, Colorado Springs, CO**

“I highly recommend Luke’s text to any college professor who teaches stress management. It is a comprehensive and holistic approach to stress management in that one fully walks away with a clear and in-depth understanding of the wide variety of causes and effects, as well as the many wonderful adoptable options for managing stress. I have reviewed many stress-management books, and I have found this book to be unequivocally the best one.”

— **Susan Kennen, Professor, Health Education, Poughkeepsie, NY**

“From humor to heart disease, history to holistic, physical exercise to prayer, *Managing Stress* covers all aspects of this worldwide epidemic. With its smorgasbord of techniques to manage stress, it’s the perfect book on how to improve quality of life and increase joy, vitality, and inner calm. It’s informative, fun, and best of all, it inspired this reader into action. It is a must-read for anyone interested in living a healthier, happier life.”

— **Conee Spano, Health Educator, Las Vegas, NV**

## STUDENTS

“The information I have learned from this book is definitely something I will remember and use the rest of my life. I found the exercises on breathing, yoga, and aromatherapy most beneficial.”

— **Christine S., University of Northern Colorado**

“The chapter on time management was the best. Before this class I was extremely good at wasting time. Now I realize that time is an important resource that I need to make the most of. I do this by keeping a daytimer, prioritizing, and cutting out a lot of television. Thanks!”

— **Jason A., Indiana University**

“Just from reading the first chapter, I knew this was a book I wasn’t going to sell back at the end of the semester. This book has been my saving grace. Thanks!!!”

— **Bill G., Richland College, Dallas, TX**

“The most valuable thing I got out of the whole book was dealing with my anger. I never knew I was holding it in. I now know how to let it go and not let my feelings ruin my life. The chapters on music therapy and breathing were excellent.”

— **Melanie B., University of Northern Colorado**

“By far the most significant aspect of this book was the chapter on human spirituality. Even though I had heard most of the information before, it has never been presented to me in such a broad yet concise manner. It refreshed my desire to continue to grow spiritually.”

— **Ivette B., University of New Mexico**

“I had no idea how beneficial keeping a journal is to help ease the tension that occurs in everyday life.”

— **Emily B., University of Vermont**

“It is a great comfort to know there is more than one way to deal with stress. Many times in college, I have found myself very stressed out and in need of relief. I now have many techniques to promote a less stressful lifestyle.”

— **Aspen V., University of Maryland**

“Like most textbooks, I thought this one was going to be boring. Boy, was I wrong! I learned a great deal about my body, my mind, and my spirit. As an athlete, I now have skills for a lifetime. The chapter on humor therapy was the best! Keep those jokes coming.”

— **Will C., University of Utah**

# Introduction

During the Renaissance, a philosophy shaping the direction of medicine in the Western world started taking hold. This philosophy, promulgated by René Descartes (1596–1650), stated that the mind and body are separate entities and therefore should be examined and treated differently. This dichotomy of mind and body advanced the understanding of the true human condition. Albert Einstein’s revolutionary unified field theory, which at the time was regarded as ludicrous, began to lead Western science back to the ancient premise that all points (energy and matter) connect, each significantly affecting all others, of which the human entity (mental, emotional, physical, and spiritual components) is very much a part.

Only recently has modern science taken steps to unite what Descartes separated over 360 years ago. The unity of the body, mind, and spirit is quite complex, especially as it relates to stress management. But one simple truth is emerging from the research of the late twentieth century: The physical, mental, emotional, and spiritual aspects of the human condition are all intimately connected. Mental imagery, entrainment theory, *pranayama*, divinity theory, split-brain research, Jungian psychology, and beta-endorphins all approach the same unity, each from a different vantage point, and each supporting the ancient axiom that “all points connect.”

Stress is a hot topic in American culture today. Its popularity stems from the need to get a handle on this condition—to deal with stress effectively enough so as to lead a “normal” and happy life. But dealing with stress is a process, not an outcome. Many people’s attitudes, influenced by their rushed lifestyles and expectations

of immediate gratification, reflect the need to eradicate stress rather than to manage, reduce, or control their perceptions of it. As a result, stress never really goes away; it just reappears with a new face. The results can and do cause harm, including bodily damage. Studies now indicate that between 70 and 80 percent of all disease is strongly related to, if not directly associated with, stress. So-called lifestyle diseases, such as cancer and coronary heart disease, are leading causes of death; both seem to have direct links to the stress response. Healthcare reform having become a major national issue, the ability of and the need for individuals to accept responsibility for their own health is increasing. But knowledge of the concepts of stress management alone is not enough. Continual application of this knowledge through both self-awareness and the practice of effective coping skills and relaxation techniques is essential for total well-being.

Thus, this book was written to acquaint you with the fundamental theories and applications of the mind–body–spirit phenomenon. More specifically, it offers more than sixteen coping strategies you can use as tools to deal more effectively with the causes of your stress, and twelve relaxation techniques to help you reduce or eliminate potential or actual symptoms associated with the stress response. It is my intention that collectively they may help you to reach and maintain your optimal level of physical, mental, emotional, and spiritual well-being in the years to come. For this reason, I would like to suggest that you revisit the book again and again as time goes by. What may appear today to be “some theory” to memorize for a final exam could one day take on great relevance in your life.





## PART ONE

# The Nature of Stress

*Life is either a daring adventure or  
nothing at all.*

– Helen Keller

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## CHAPTER 1

# The Nature of Stress

*I cannot and should not be cured of my stress, but merely taught to enjoy it.*

—Hans Selye

**A**re you stressed? If the answer is yes, then consider yourself to be in good company. Several recent Harris and Gallup polls have noted an alarming trend in the psyche of the American public and beyond—to nearly all citizens of the global village. Across the board, without exception, people admit to having an increasing sense of anxiety, frustration, unease, and discontent in nearly every aspect of their lives. From the lingering effects of the Great Recession and subsequent job market challenges to fracking issues, genetically modified food allergies, increases in autism, overpopulation, climate change weather incidents (e.g., Hurricane Sandy and severe droughts), world banking issues, and gun violence and terrorist attacks (from Sandy Hook Elementary to the Boston Marathon), the symptoms of global **stress** can be found everywhere. Ironically, in a country where the standard of living is considered to be one of the highest anywhere in the world, the Centers for Disease Control and Prevention estimates that nearly one-quarter of the American population is reported to be on antidepressants, and current estimates suggest that one

in three people suffers from a chronic disease, ranging from cancer and coronary heart disease to rheumatoid arthritis, diabetes, and lupus. Something is very wrong with this picture!

Furthermore, since the start of the Great Recession, a blanket of fear and anger has covered much of the country, if not the world, keeping people in a perpetual state of frustration and anxiety. Global problems only seem to intensify our personal stressors. It doesn't make a difference if you're a college student or a CEO of a multinational corporation, where you live, or how much money is in your checking account; stress is the equal opportunity destroyer! But it doesn't have to be this way. Even as personal issues collide with social and planetary problems, creating a "perfect storm" of stress, we all have choices—in both our attitude and behaviors. This text will help you connect the dots between mind, body, and spirit to create positive choices that empower you to navigate your life through the turbulent waters of the human journey in the twenty-first century.

**Stress:** The experience of a perceived threat (real or imagined) to one's mental, physical, or spiritual well-being, resulting from a series of physiological responses and adaptations.

### ■ Times of Change and Uncertainty

Today, the words *stress* and *change* have become synonymous and the winds of change are in the air. Changes in the economy, technology, communications, information

retrieval, health care, and dramatic changes in the weather are just some of the gale forces blowing in our collective faces. By and large, the average person doesn't like change because change tends to disrupt one's comfort zones. It appears that the "known," no matter how bad, feels like a safer bet than the unknown. Change, it should be noted (particularly change one cannot control), has always been part of the human landscape. However, today the rate of change has become so fast and furious, without an adequate reference point to anchor oneself, that stress holds the potential to create a perpetual sense of uneasiness in the hearts and minds of nearly everyone. Yet it doesn't have to be this way. Where there is change, there is opportunity. Where there is opportunity, there is comfort.

At one time, getting married, changing jobs, buying a house, raising children, going back to school, dealing with the death of a friend or close relative, and suffering from a chronic illness were all considered to be major life events that might shake the foundations of anyone's life. Although these major life events can and do play a significant role in personal upheaval, a new crop of social stressors has added to the critical mass of an already volatile existence, throwing things further out of balance. Consider how these factors directly influence your life: the rapid acceleration of technology (from software upgrades to Internet downloads), the use of (if not addiction to) the World Wide Web (e.g., Facebook), the proliferation of smartphones and Wi-Fi use, an accessible 24/7 society, global economic woes (e.g., unemployment, food prices), global terrorism, carbon footprints, and public health issues (e.g., the latest epidemic of bedbugs or Zika virus). Times of change and uncertainty tend to magnify our personal stress. Perhaps the biggest looming concern facing people today is the issue of personal boundaries or the lack thereof. The advances of high technology combined with a rapidly changing social structure have eroded personal boundaries. These boundaries include, but are not limited to, home and work, finances, nutritional habits, relationships, and many, many more, all of which add to the critical mass of one's personal stress. Even the ongoing war on terrorism appears to have no boundaries! Ironically, the lack of boundaries combined with factors that promote a fractured society, where people feel a lack of community and belonging, leads to a greater sense of isolation, which also intensifies our personal stress levels. Believe it or not, life wasn't always like this.

The stress phenomenon, as it is referred to today, is quite new with regard to the history of humanity. Barely a household expression when your parents were your age,

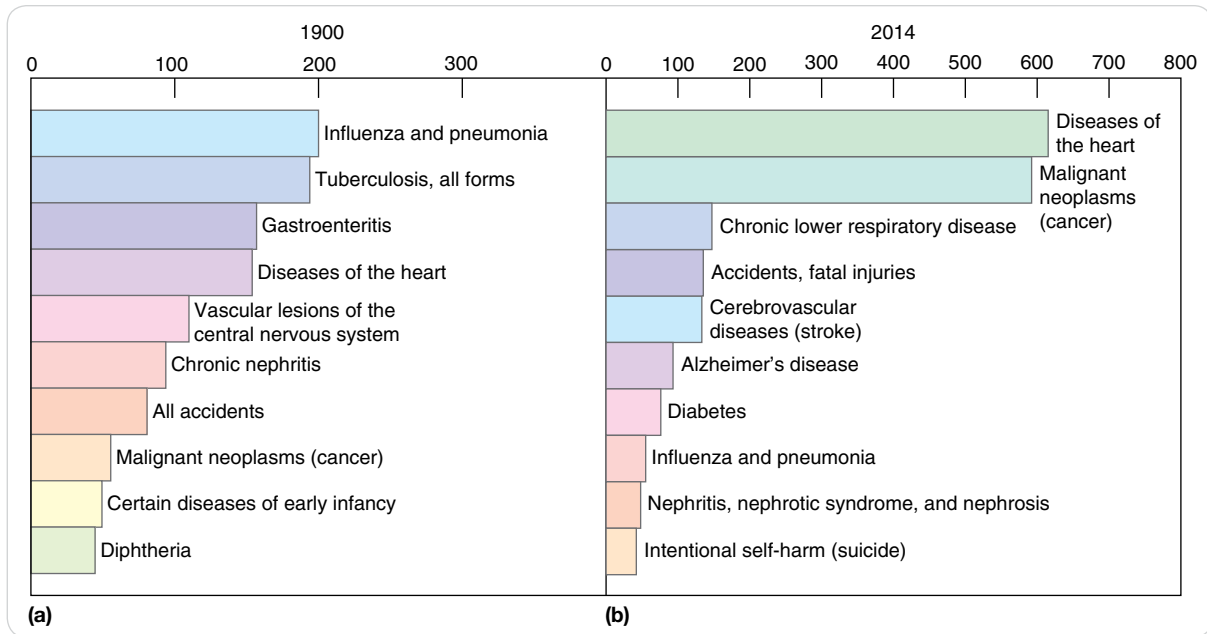
use of the word *stress* is now as common as the terms *global warming* and *smartphone apps*. In fact, however, stress in terms of physical arousal can be traced back to the Stone Age as a "survival mechanism." But what was once designed as a means of survival is now associated with the development of disease and illness that claims the lives of millions of people worldwide. The American Institute of Stress ([www.stress.org](http://www.stress.org)) cites the following statistics:

- 43 percent of all adults suffer adverse health effects due to stress.
- 80 percent of all visits to primary care physicians are for stress-related complaints or disorders.

Stress has been linked to all the leading causes of death, including heart disease, cancer, lung ailments, accidents, cirrhosis, and suicide. Some health experts now speculate that perhaps as much as 70 to 85 percent of all diseases and illnesses are stress-related.

Government figures compiled by the National Center for Health Statistics in 2010 provide a host of indicators suggesting that human stress is indeed a health factor to be reckoned with. Prior to 1955, the leading causes of death were the sudden onset of illness by infectious diseases (e.g., polio, rubella, tuberculosis, typhoid, and encephalitis) that, in most cases, have since been eradicated or brought under control by vaccines and medications. The post-World War II era ushered in the age of high technology, which considerably altered the lifestyles of nearly all peoples of every industrialized nation. The start of the twenty-first century has seen the influence of high technology dramatically alter our lifestyles. Consumer products, such as the washer, dryer, microwave oven, television, DVD player, laptop computer, and even cell phones, were cited as luxuries to add more leisure time to the workweek. But as mass production of high-technology items increased, so too did the competitive drive to increase human effort and productivity, which in turn actually decreased leisure time, and thus created a plethora of unhealthy lifestyles, most notably obesity.

Currently, the leading causes of death are dominated by what are referred to as "lifestyle diseases," those diseases whose pathology develops over a period of several years, and perhaps even decades ( **FIG. 1.1** ). Whereas infectious diseases are treatable by medication, lifestyle diseases are, for the most part, preventable or correctable by altering the habits and behaviors that contribute to their etiology. Previously, it was suggested that an association existed between stress and disease. Substantial research, however, suggests that there may, indeed, be a causal factor involved



Data from (a) National Center for Health Statistics, Washington, D.C., 2010; (b) Kochanek, K.D., Murphy, S.L., Xu, J., and Tejada-Vera, B., Division of Vital Statistics, Deaths: Final Data for 2014, *National Vital Statistics Reports*, 63(4):1-121, 2016.

**FIGURE 1.1** Death rates for the ten leading causes of death per 100,000 population in the United States in (a) 1900 and (b) 2014.

with several types of diseases, particularly autoimmune diseases (Segerstrom and Miller, 2004). Regardless, it is well understood that the influence of stress weakens the body's physiological systems, thereby rapidly advancing the disease process. The most notorious lifestyle disease, coronary heart disease (CHD), continues to be one of the leading causes of death in the United States, far exceeding all other causes. The American Heart Association states that one person dies from heart disease every minute. Although the incidence of CHD has decreased over the past decade, cancer—in all its many types—continues to climb the statistical charts as the second leading cause of death. According to 2013 statistics from the American Cancer Society ([www.cancer.org](http://www.cancer.org)), cancer claims the lives of one out of every four people in the United States. Alarming increases in suicides, child and spouse abuse, self-injury, homicides, alcoholism, and drug addiction are only additional symptoms of a nation under stress. Today, research shows that many people maintain poor coping skills in the face of the personal, social, and even global changes occurring over the course of their lives.

Originally, the word *stress* was a term used in physics, primarily to describe enough tension or force placed on an object to bend or break it. Relaxation, on the other hand, was defined as any nonwork activity done during the evenings or on Sunday afternoons when all the stores

were closed. On rare occasions, if one could afford it, relaxation meant a vacation or holiday at some faraway place. Conceptually, relaxation was a value, influenced by several religions and represented as a day of rest. The word *stress* as applied to the human condition was first made popular by noted physiologist Hans Selye in his book *The Stress of Life*, in which he described his research: to understand the physiological responses to chronic stress and its relationship to disease (dis-ease). Today, the word *stress* is frequently used to describe the level of tension people feel is placed on their minds and souls by the demands of their jobs, relationships, and responsibilities in their personal lives. Oddly, for some, stress seems to be a status symbol tied to self-esteem. Relaxation, meanwhile, has been transformed from an American value into a luxury many people find they just don't have enough time for. Despite the current economic crisis, some interesting insights have been observed regarding work and leisure. The average workweek has expanded from 40 to 60 hours. The U.S. Department of Labor and Statistics reports that with more service-related jobs being created, more overtime is needed to meet the demands of the customers. Not only do more people spend more time at work, they spend more time driving to and from work (which is not considered work time). Moreover, leisure time at home is often related to work activities, resulting in less time for rest and relaxation. Downtime is also compromised. Since



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**FIGURE 1.2** With rapid economic, ecological, and technological changes, the global village appears to have become a more stressful place, which is all the more reason to learn and practice effective stress-management techniques to maintain a sense of balance in one's life despite these winds of change.

2001, Expedia has conducted an annual survey on vacations (called the Vacation Deprivation survey). The 2012 results revealed that one out of every three Americans doesn't use all of his or her vacation time. One in five respondents cited work responsibilities/pressure as the primary reason for canceling a vacation. A new word entered the American lexicon in the summer of 2010—the “staycation,” in which people simply stayed home for vacation due to financial or work constraints. Those who do head for the mountains or beaches for vacation often take their work (in the form of smartphones and laptops) with them—in essence, never really leaving their job. It's no surprise that staying plugged in doesn't give the mind a chance to unwind or the body a chance to relax. By comparison with other countries, Americans take less vacation time than other global citizens (Germans, on average, take 4 to 6 weeks per year). “The stress associated with the current economy makes the need for time away from work even more important than ever, and it's unfortunate that one-third of Americans won't use all of their vacation days this year,” said Tim MacDonald, general manager of Expedia.com. The “dividend” of high technology has proven to be an illusion for many that has resulted in a stressed lifestyle, which in turn creates a significant health deficit (FIG. 1.2).

## Definitions of Stress

In contemporary times, the word *stress* has many connotations and definitions based on various perspectives

of the human condition. In Eastern philosophies, stress is considered to be an absence of inner peace. In Western culture, stress can be described as a loss of emotional control. Noted healer Serge Kahili King has defined stress as any change experienced by the individual. This definition may be rather general, but it is quite correct. Psychologically speaking, stress, as defined by noted researcher Richard Lazarus, is a state of anxiety produced when events and responsibilities exceed one's coping abilities. Physiologically speaking, stress is defined as the rate of wear and tear on the body. Selye added to his definition that stress is the nonspecific response of the body to any demand placed upon it to adapt, whether that demand produces pleasure or pain. Selye observed that whether a situation was perceived as good (e.g., a job promotion) or bad (e.g., the loss of a job), the physiological response or arousal was very similar. The body, according to Selye, doesn't know the difference between good and bad stress.

However, with new psychoneuroimmunological data available showing that there are indeed some physiological differences between good and bad stress (e.g., the release of different neuropeptides), specialists in the field of **holistic medicine** have expanded Lazarus's and Selye's definitions as follows: Stress is the inability to cope with a perceived (real or imagined) threat to one's mental, physical, emotional, and spiritual well-being, which results in a series of physiological responses and adaptations (Chopra, 2000; Dossey, 2004). The important word to emphasize here is *perceived* (the interpretation), for what might seem to be a threat to one person may not even merit a second thought to another individual. For example, not long ago a raffle was held, with the winning prize being an all-expenses-paid one-week trip for two to a beach resort in Bermuda. Kelly, who won the prize, was ecstatic and already had her bags packed. Her husband, John, was mortified because he hated to fly and he couldn't swim. In his mind, this would not be a fun time. In fact, he really wished they hadn't won. Each perceived the same situation in two entirely different ways. Moreover, with the wisdom of hindsight, our perceptions often change. Many episodes that at the time seemed catastrophic later appear insignificant, as humorously stated by Mark Twain when he commented, “I'm an old man and I have known

**Holistic medicine:** A healing approach that honors the integration, balance, and harmony of mind, body, spirit, and emotions to promote inner peace. Every technique used in stress management is considered to support the concept of holistic medicine.

a great many troubles, but most of them never happened.” The holistic definition of stress points out that it is a very complex phenomenon affecting the whole person, not just the physical body, and that it involves a host of factors, some of which may not yet even be recognized by scholars and researchers. As more research is completed, it becomes increasingly evident that the responses to stress add up to more than just physical arousal; yet it is ultimately the body that remains the battlefield for the war games of the mind.

## The Stress Response

In 1914, Harvard physiologist **Walter Cannon** first coined the term **fight-or-flight response** to describe the dynamics involved in the body’s physiological arousal to survive a threat. In a series of animal studies, Cannon noted that the body prepares itself for one of two modes of immediate action: to attack or fight and defend oneself from the pursuing threat, or to run and escape the ensuing danger. What Cannon observed was the body’s reaction to acute stress, what is now commonly called the **stress reaction**. Additional observations suggested that the fight response was triggered by anger or aggression and was usually employed to defend territorial boundaries or attack aggressors equal to or smaller in size. The fight response required physiological preparations that would recruit power and strength for a short duration, or what is now described as short but intense anaerobic work. Conversely, the flight response, he thought, was induced by fear. It was designed to fuel the body to endure prolonged movement such as running away from lions and bears. In many cases, however, it included not only fleeing, but also hiding or withdrawal. (A variation on the flight response is the **freeze response**, often noted with post-traumatic stress disorder, where a person simply freezes, like a deer staring into a car’s headlights.) The human body, in all its metabolic splendor, actually prepares itself to do both (fight and flight) at the same time. In terms of evolution, it appears that this dynamic was so advantageous to survival that it developed in nearly all mammalian species, including us. (Some experts now suggest, however, that our bodies have not adapted to the stress-induced lifestyles of the twenty-first century.) In simple terms, there are four stages of the fight-or-flight response:

**Stage 1:** Stimuli from one or more of the five senses are sent to the brain (e.g., a scream, the smell of fire, the taste of poison, a passing truck in *your* lane).

**Stage 2:** The brain deciphers the stimulus as either a threat or a nonthreat. If the stimulus is not regarded as a threat, this is the end of the response (e.g., the scream came from the television). If, however, the response is decoded as a real threat, the brain then activates the nervous and endocrine systems to quickly prepare for defense and/or escape.

**Stage 3:** The body stays activated, aroused, or “keyed-up” until the threat is over.

**Stage 4:** The body returns to **homeostasis**, a state of physiological calmness, once the threat is gone.

It is hypothesized that the fight-or-flight response developed primarily against threats of a physical nature, those that jeopardized the survival of the individual. Although clear physical threats still exist in today’s culture, including possible terrorism, they are nowhere near as prevalent as those threats perceived by the mind and, more specifically, the ego. In a theory put forward by a disciple of Selye’s, Simeons (1961), and repeated by Sapolsky (2009), it is suggested that, in effect, the fight-or-flight response is an antiquated mechanism that has not kept evolutionary pace with the development of the human mind. Consequently, the **stress response** becomes activated in all types of threats (mental, emotional, and spiritual), not just physical intimidations. The physiological repercussions can, and do, prove fatal. The body enters a state of physical readiness when you are about to receive your final exam grades or walk into an important meeting late, just as it does when you sense someone is following you

**Walter Cannon:** Twentieth-century Harvard physiologist who coined the term “fight or flight.”

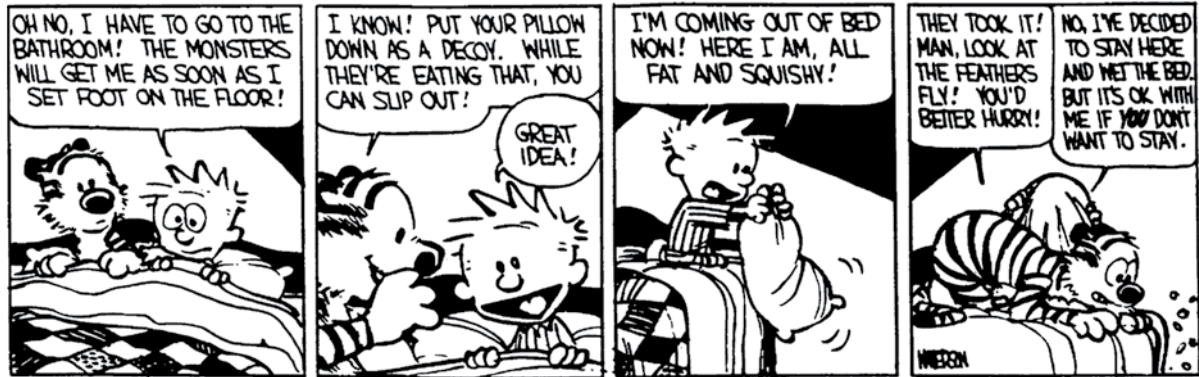
**Fight-or-flight response:** A term coined by Walter Cannon; the instinctive physiological responses preparing the body, when confronted with a threat, to either fight or flee; an evolutionary survival dynamic.

**Stress reaction:** The body’s initial (central nervous system) reaction to a perceived threat.

**Freeze response:** Part of the stress response, where the individual neither fights nor flees but freezes like a deer caught in the headlights, paralyzed as if the person has forgotten to run.

**Homeostasis:** A physiological state of complete calmness or rest; markers include resting heart rate, blood pressure, and ventilation.

**Stress response:** The release of epinephrine and norepinephrine to prepare various organs and tissues for fight or flight.



**FIGURE 1.3** Some of our worst stressors are fabricated in our minds.

late at night in an unlit parking lot. Moreover, this same stress response kicks in, to the same degree and intensity, even when the threat is wholly imaginary, in reaction to everything from monsters hiding under your bed when you were 4 (FIG. 1.3), to the unsubstantiated idea that your boss doesn't like you anymore and is out to get you.

Cannon noted the activation of several physiological mechanisms in this fight-or-flight response, affecting nearly every physiological system in the body, for the preparation of movement and energy production. These are just a few of the reactions:

1. Increased heart rate to pump oxygenated blood to working muscles
2. Increased blood pressure to deliver blood to working muscles
3. Increased ventilation to supply working muscles with oxygen for energy metabolism
4. Vasodilation of arteries to the body's periphery (arms and legs) with the greatest muscle mass
5. Increased serum glucose for metabolic processes during muscle contractions
6. Increased free fatty acid mobilization as an energy source for prolonged activity (e.g., running)
7. Increased blood coagulation and decreased clotting time in the event of bleeding
8. Increased muscular strength
9. Decreased gastric movement and abdominal blood flow to allow blood to go to working muscles
10. Increased perspiration to cool body-core temperature

Unfortunately, the metabolic and physiological changes that are deemed essential for human movement in the event of attack, pursuit, or challenge are quite *ineffective* when dealing with events or situations that threaten the ego, such as receiving a parking ticket or standing in a long line at the grocery store, yet the body responds identically to all types of perceived threats.

### Tend and Befriend

Do women respond differently to stress than men? The answer may seem obvious.

Generally speaking, men are prone to act more hostile while women have a proclivity to be more nurturing. Yet until recently every source on stress addressed the fight-or-flight response as if it were the only human default response. It was the work of Shelley Taylor and colleagues who filled in the missing piece with regard to the female response to stress. Curious about why only men were studied to formulate the basis for the fight-or-flight response, Taylor hypothesized that the stress response needed to be reexamined, this time including astute observations of the female gender. In 2000, Taylor and colleagues proposed a new theory for the female stress response that they termed **tend and befriend**. Although both men and women have a built-in dynamic for the survival of physical danger, women also have an inherent nurturing response for their offspring as well as a means

**Tend and befriend:** A theory presented by Shelley Taylor that states that women who experience stress don't necessarily run or fight, but rather turn to friends to cope with unpleasant events and circumstances.

to befriend others. This in turn creates a strong social support system, an invaluable coping technique. Taylor suggests that the female response to stress is hardwired into the DNA and revealed through a combination of brain chemistry and hormones. The biological basis for tend and befriend appears to be the hormone oxytocin, now regarded as both the “trusting hormone” and the “social affiliation” hormone. Although oxytocin is found in both women and (to a lesser degree) men, estrogen is known to enhance the effects of oxytocin in the brain. The tend-and-befriend behavior is built on connectedness—a caregiving process, possibly triggered by a release of oxytocin in conjunction with female reproductive hormones, that may actually override the flood of stress hormones so pronounced in women’s male counterparts. Generational social factors may support the tend-and-befriend behavior pattern as well ( **FIG. 1.4** ).

Not only do men and women have differences in their stress physiology, but there appears to be gender-specific behaviors for discussing and solving problems as well. Whereas men tend to think their way through by looking for solutions to problems, women like to talk about problems. Women bond quickly by sharing confidences. However, although talking may be beneficial, researchers note that merely talking about stressors tends to perpetuate rather than solve one’s stressors. Researchers refer to stress-based conversations as **co-rumination**. Although talking may strengthen female friendships, it is also known to increase anxiety and depression if solutions



**FIGURE 1.4** Fight or flight isn’t the only response to stress. To cope with personal problems, women often feel the need to socialize and bond together in what is now known as the “tend and befriend” response.

aren’t introduced quickly. Experts warn against “unhealthy rumination” and the emotional contagion that results from it (Stepp, 2007).

It is fair to say that the concepts of survival are complex and perhaps not so neatly packaged by hormones or gender. Women are known to back-stab their “friends” and regrettably, on occasion, ditch their newborn babies in dumpsters and run away. Conversely, some men choose peace over violence (Gandhi and Martin Luther King, Jr., come to mind) and, when times get tough, some men are known to bond together over a beer or game of golf.

## Types of Stress

To the disbelief of some, not all stress is bad for you. In fact, there are many who believe that humans need some degree of stress to stay healthy. The human body craves homeostasis, or physiological calm, yet it also requires physiological arousal to ensure the optimal functioning of several organs, including the heart and musculoskeletal system. How can stress be good? When stress serves as a positive motivation, it is considered beneficial. Beyond this optimal point, stress of any kind does more harm than good.

Actually, there are three kinds of stress: **eustress**, **neustress**, and **distress**. Eustress is good stress and arises in any situation or circumstance that a person finds motivating or inspiring. Falling in love might be an example of eustress; meeting a movie star or professional athlete may also be a type of eustress. Usually, situations that are classified as eustress are enjoyable and for this reason are not considered to be a threat. Neustress describes sensory stimuli that have no consequential effect; it is considered

**Co-rumination:** Stress-based conversations between women as a means of coping by finding support among friends.

**Eustress:** Good stress; any stressor that motivates an individual toward an optimal level of performance or health.

**Neustress:** Any kind of information or sensory stimulus that is perceived as unimportant or inconsequential.

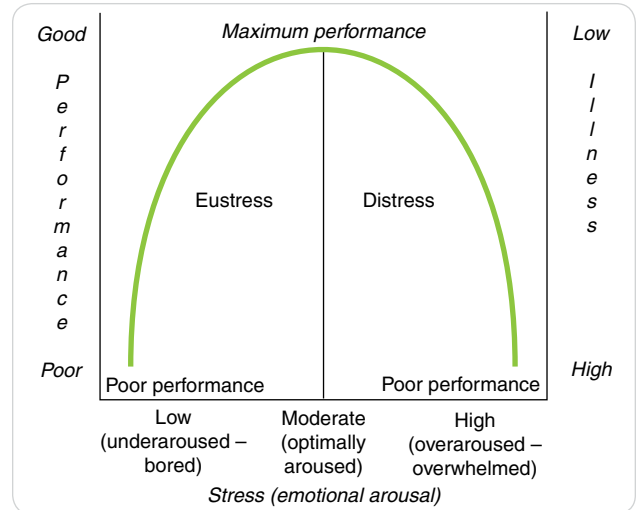
**Distress:** The unfavorable or negative interpretation of an event (real or imagined) to be threatening that promotes continued feelings of fear or anger; more commonly known simply as stress.



neither good nor bad. News of an earthquake in a remote corner of the world might fall into this category. The third type of stress, *distress*, is considered bad and often is abbreviated simply as *stress*. There are two kinds of distress: **acute stress**, or that which surfaces, is quite intense, and disappears quickly; and **chronic stress**, or that which may not appear quite so intense, yet seems to linger for prolonged periods of time (e.g., hours, days, weeks, or months). An example of acute stress is the following. You are casually driving down the highway, the wind from the open sunroof is blowing through your hair, and you feel pretty good about life. With a quick glance in your rearview mirror you see flashing blue lights. Yikes! So you slow down and pull over. The police car pulls up behind you. Your heart is racing, your voice becomes scratchy, and your palms are sweating as you try to retrieve license and registration from your wallet while rolling your window down at the same time. When the officer asks you why you were speeding you can barely speak; your voice is three octaves higher than usual. After the officer runs a check on your car and license, he only gives you a warning for speeding. Whew! He gets back in his car and leaves. You give him time to get out of sight, start your engine, and signal to get back onto the highway. Within minutes your heart is calm, your palms dry, and you start singing to the song on the radio. The threat is over. The intensity of the acute stress may seem cataclysmic, but it is very short-lived.

Chronic stressors, on the other hand, are not as intense but their duration is unbearably long. Examples might include the following: being stuck for a whole semester with “the roommate from hell,” a credit card bill that only seems to grow despite monthly payments, a boss who makes your job seem worse than that of a galley slave, living in a city you cannot tolerate, or maintaining a relationship with a girlfriend, boyfriend, husband, or wife that seems bad to stay in but worse to leave. For this reason, chronic stressors are thought to be the real villains. According to the American Institute of Stress (AIS), it is this type of stress that is associated with disease because the body is perpetually aroused for danger.

A concept called the **Yerkes-Dodson principle**, which is applied to athletic performance, lends itself quite nicely to explaining the relationship between eustress, distress, and health. As can be seen in **FIG. 1.5**, when stress increases, moving from eustress to distress, performance or health decreases and there is greater risk of disease and illness. The optimal stress level is the midpoint, *prior* to where eustress turns into distress.



**FIGURE 1.5** The Yerkes-Dodson curve illustrates that, to a point, stress or arousal can actually increase performance. Stress to the left of the midpoint is considered to be eustress. Stress beyond the midpoint, however, is believed to detract from performance and/or health status and is therefore labeled distress.

Studies indicate that stress-related hormones in optimal doses actually improve physical performance and mental-processing skills like concentration, making you more alert. Beyond that optimal level, though, all aspects of performance begin to decrease in efficiency. Physiologically speaking, your health is at serious risk. It would be simple if this optimal level was the same for all people, but it's not. Hence, the focus of any effective stress-management program is twofold: (1) to find out where this optimal level of stress is for you so that it can be used to your advantage rather than becoming a detriment to your health status, and (2) to reduce physical arousal levels using both coping

**Acute stress:** Stress that is intense in nature but short in duration.

**Chronic stress:** Stress that is not as intense as acute stress but that lingers for a prolonged period of time (e.g., financial problems).

**Yerkes-Dodson principle:** The theory that some stress (eustress) is necessary for health and performance but that beyond an optimal amount both will deteriorate as stress increases.