

FOURTEENTH EDITION

# Health & Wellness



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# Preface

It is with particular pride that we present the fourteenth edition of *Health and Wellness*. Publication of this edition in 2022 represents more than 35 years of continuous use of this textbook by students and instructors in many colleges and universities since the first edition appeared in 1982. A lot has happened to us (the authors), to book publishing, and to the world since then. We are much older, books are available online in digital format, and the world has changed in ways too numerous to mention except one: the existential threat of climate change. However, the visions we (the authors) had of health and how to achieve it are as true today as they were 30 years ago. When we conceived of writing a college-level textbook, rather than focusing on hygiene and disease, as was the custom at the time, instead we chose to present the rationale and scientific evidence for prevention of disease and illness and for individual self-responsibility for fostering a state of well-being and maintaining one's health. Well-being and self-responsibility are now accepted as fundamental in health education. Personal behaviors, lifestyle, mental attitudes, and physical activities are what lead to overall health and wellness.

In recent decades, medical science has made truly remarkable advances in curing or alleviating serious health conditions. At the same time, medical science

includes not only better treatment of disease but also acknowledging the importance of patients taking charge of their own health and well-being. As the pandemics of heart disease, obesity, diabetes, and infectious diseases represented by COVID-19, malaria, tuberculosis, and HIV, spread around the world, as pollution threatens the livability of the environment, and climate change threatens the health of the entire planet, everyone must understand how their behaviors and attitudes contribute to their personal health or illness and the living things that share Earth with them. The information and guidelines that we set out in previous editions of this book are no less applicable in today's world.

## How to Use this Text

We have developed several features to help you learn about health and wellness in this book.

Each chapter of the book begins with a list of **Learning Objectives** to help you focus on the most important concepts in that chapter.

### LEARNING OBJECTIVES

1. Describe the medical and wellness models of health.
2. List the key points of the World Health Organization's definition of health.
3. List and describe the six dimensions of wellness.
4. List the three health behaviors responsible for most of the actual causes of death.
5. Define *lifestyle disease*.
6. Identify the goals of *Healthy People 2030*.
7. List and describe the major health issues of college students.
8. Describe the Health Belief Model, Transtheoretical Model, and Theory of Reasoned Action.

Most people think that health is what you have when you are not sick or dying. It's true that not feeling sick is an important aspect of health. Just as important, however, is having a sense of optimal **well-being**—a state of physical, mental, emotional, social, and spiritual wellness. In this view, health is not only being free of disease and disability but also living in harmony with yourself and with your social and physical environments (Sartorius, 2006). You foster your own health and well-being when you:

1. undertake healthy behaviors and practices such as consuming nutritious foods, engaging in daily body movement, attending to your mental and social well-being, and supporting actions that contribute to the health and well-being of your community, and the planet; and
2. refrain from health-harming behaviors (e.g., consuming unhealthy foods, smoking cigarettes, abusing drugs, or becoming overweight) and limit your exposure to health risks (e.g., driving after drinking).



**Key Terms** are defined at the end of each chapter as well as in the glossary at the end of the book.

**Key Terms**

**fertilization:** the fusion of a male's sperm cell with a female's ovum to form a fertilized egg

**fallopian tubes:** a pair of female, pelvic anatomical structures in which fertilization takes place

**ovaries:** a pair of almond-shaped structures in the female pelvic cavity that produce ova (eggs) and sex hormones

**cervix:** the opening in the lower part of the uterus that permits sperm to pass from the vagina to the uterus and a fetus to the outside at birth

**menstruation:** sloughing of the lining of the uterus and associated small blood vessels

**menstrual cycle:** near monthly production of fertilizable ova

**vulvovaginitis:** vaginal irritation, often called a yeast infection

**failure rate:** likelihood of becoming pregnant if using a birth control method for 1 year

**lowest user failure rate:** how well a method performs when used both as intended and consistently

**typical user failure rate:** estimates how well a method performs when all of the errors and problems typically encountered with a method are taken into account

**fertility awareness methods:** methods of birth control in which a couple charts the cyclic signs of

**surgical sterilization:** rendering a person virtually unable to have children but with no effect on the ability to engage in or enjoy sex

**tubal ligation:** a surgical procedure in women in which the fallopian tubes are cut, tied, or cauterized to prevent pregnancy; a form of sterilization

**vasectomy:** a surgical procedure in men in which segments of the vas deferens are removed and the ends tied to prevent the passage of sperm

**emergency contraception:** using contraceptive hormones or an IUD to interrupt a possible pregnancy

**abortion:** the expulsion or extraction of the products of conception from the uterus before the embryo or fetus is capable of independent life; abortions may be spontaneous or induced

**medication abortion:** nonsurgical abortion using specific medications to stop pregnancy

**sexually transmitted disease (STD):** an infection or infestation caused by a biological agent (e.g., virus, bacterium, insect) that is transferred from person to person by sexual interaction

**human immunodeficiency virus (HIV):** the cause of AIDS

**trichomoniasis:** vaginal infection caused by the protozoan *Trichomonas vaginalis*

**Epigrams** enliven each chapter with thought-provoking (and often humorous) quotations about health.

*"The health of a people is really the foundation upon which all their happiness and all their powers as a state depend."*

—Benjamin Disraeli, former Prime Minister of England

**Financial wellness:** attaining and maintaining resources to meet physical, psychological, and social needs, including planning for the future and preparing for unforeseen

**Health Tips** in every chapter enable students to make immediate changes to their behavior.

**The Two-Minute Stress Reducer**

Stressed out?  
Be still.  
And take a  
D  
E  
E  
P  
Breath.

**Center Yourself**  
Focus your attention inward. Allow thoughts, ideas, and sensations to pass through your mind without reacting to any of them. You will notice them pass out of your mind, only to be replaced by new thoughts and sensations. Continue to breathe deeply and slowly and watch the passing of the thoughts that stress you.

**Empty Your Mind**  
Acknowledge that you have preconceived ideas and ingrained habits of perceiving. Know that you can empty your mind of distressing thoughts and replace them with ones that create inner harmony.

**Ground Yourself**  
Feel the sensation of your body touching the Earth. Place your feet (or your bottom if you are sitting, or your entire body if you are lying down) firmly on the Earth, and let your awareness come to your point of contact with the Earth, and feel gravity connecting you to Mother Earth and stabilizing you.

**Connect**  
Allow yourself to feel your physical and spiritual connection with all living things. Remind yourself that with every breath you are reestablishing your connection with all of nature.

Current topics are highlighted in boxes to give a complete perspective in your study of health and wellness. **Global Wellness** boxes explore health and wellness topics as they affect different countries and cultures.

**Type 2 Diabetes as a Lifestyle Disease**

Diabetes is a disease in which the amount of sugar in the blood increases to unhealthy levels as a result of malfunctions in the body's sugar-regulating system. There are two forms of diabetes:

- type 1 (insulin-dependent)** in which the pancreas (a digestive organ) is diseased and unable to manufacture the hormone insulin, which regulates the level of sugar in the blood; and
- type 2 (non-insulin-dependent)**, which is caused by too much fat in the blood (generally from being overweight) and results in the body becoming resistant to the actions of insulin (*insulin resistance*).

In 2021, approximately 8.5% of the world's population—463 million individuals—were affected by type 2 diabetes. Type 2 diabetes is a major cause of blindness, kidney failure, heart attacks, stroke, and lower limb amputation. About 10% of North American population has type 2 diabetes. Worldwide, type 2 diabetes is responsible for approximately 4 million deaths each year, making it the seventh leading cause of death in the world. The disease affects people of all ages and males and females equally. The global prevalence of type 2 diabetes is projected to increase to 700 million individuals by 2045.

The global epidemic of type 2 diabetes is considered to be the result of rapid worldwide economic development and urbanization in the last part of the 20th century. When people moved to cities for work, their living habits changed from consuming traditional diets that were somewhat balanced and moderate amounts of body movement to the consumption of unhealthy, processed, manufactured, and fast foods and a sedentary lifestyle. This is the reason type 2 diabetes is strongly associated with being overweight (Khan, Hashim, King, & Kahn, 2019). For every 20% increase in overweight, the chance of developing type 2 diabetes doubles. Type 2 diabetes is costly and often medically challenging to treat. Rather than drugs to control the medical consequences of type 2 diabetes, it is better for patients to eat healthfully and to engage in regular body movement (Nutrition Source, 2020). As shown in China, Finland, India, Japan, and the United States, community-based health programs are an effective way to help individuals prevent the onset of type 2 diabetes (Shirazi-Zadeh, Afshin-Pour, Angeles, Gaber, & Agarwal, 2019). These programs offer individual and group-based educational sessions to help persons attain a healthy diet and incorporate movement and stress reduction activities into their lives.

World Diabetes Day is November 14 (<https://worlddiabeteday.org/>).

**Wellness Guides** offer tips, techniques, and steps toward a healthy lifestyle and self-responsibility.

**Spirituality and Health**

Many people find that spirituality—experiencing hope, comfort, and inner peace through religion, a connection with Nature, or a force larger than oneself—plays a role in health and illness. Spiritual experiences tend to engender feelings of compassion and empathy; peace of mind; relatedness and communion; and harmony with the environment. Spirituality can be a cornerstone of health because it represents a balance between the inner and outer aspects of human experience. For some, the spiritual dimension of life is embodied in the practice of a specific religion. For others, the spiritual dimension is nonreligious yet part of a personal philosophy. Many practices can help

people experience the spiritual realms of existence, including prayer, meditation, yoga, musical and artistic endeavors, and helping others.

Becoming more spiritually aware, regardless of the chosen path, can lead to a healthier life. Being in touch with your spiritual feelings helps you handle life's ups and downs with understanding and compassion for yourself and others. You become open to love in the highest sense of its meaning, which is acceptance and tolerance. You begin to love yourself despite your problems and hang-ups. You love your family and friends when relations are strained. You see beauty and harmony in more and more aspects of living. And occasionally—however fleetingly—you may experience the truly wondrous feeling of being completely and joyfully alive.

**Managing Stress** boxes give you practical strategies for coping with stress.

### Mind-Body Harmony

When you are well and healthy, your body systems function harmoniously. If one of your organs is not functioning properly, however, the other organs may not be able to function correctly either, and you may become ill. Thus, disease may be regarded as the disruption of a whole person's physical and mental harmony.

In traditional Western science and medicine, mind-body harmony is considered in terms of *homeostasis*, the tendency for coordinated self-regulation among bodily processes that leads to optimal functioning and survival. Many Asian philosophies embody an idea of mind-body harmony. This idea is based on a universal energy called **chi** (or *qi*), which must be distributed harmoniously throughout the mind-body to attain and maintain health. Harmony is expressed as a balance of forces called *yin* and *yang*. Yin and yang represent the opposing and complementary aspects of the universal chi that is present in everything, including our bodies. Yang forces are characterized as light, positive, creative, full of movement, and having the nature of heaven. Yin forces are characterized as dark, negative, quiet, receptive, and having the nature of Earth.

**The Yin-Yang Symbol**  
This symbol represents the harmonious balance of forces in Nature and in people. The white and dark dots show that there is always some yin in a person's yang component and vice versa. The goal in life and Nature, according to the traditional Asian view, is to maintain a harmonious balance between yin and yang forces. In Asian philosophies and medicine, body and mind are regarded as inseparable. Yin and yang apply to both mental and physical processes. When yin and yang forces are in balance in an individual, a state of harmony exists and the person experiences health and wellness. However, if either yin or yang forces come to predominate in a person, a state of disharmony is produced and disease may result. Treatment of disease is designed to reestablish harmony of the mind and body. The balance of yin and yang forces must be restored so that health returns. *Tai chi ch'uan* and *qigong* (pronounced jì-lung) are Chinese mind-body methods that are practiced by many North Americans to help maintain health and harmony. These exercises are especially useful for older persons whose bodies can no longer manage vigorous exercise. People who practice *qigong* experience lower blood pressure, improved circulation, and enhanced immune system functions.

**Dollars & Health Sense** boxes focus on the influence of economic forces on individual and community health; for example, the marketing of worthless and sometimes dangerous supplements and devices for weight management, fitness, and stress relief; direct-to-consumer advertising in the marketing of minimally effective and sometimes dangerous pharmaceuticals; and cigarette advertising to encourage youths to start smoking.

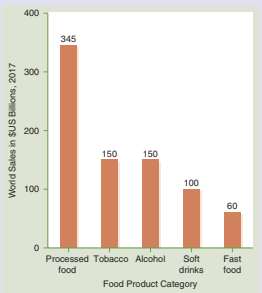
### Profiting from Making People Sick

Heart disease, stroke, lung cancer, colon cancer, type 2 diabetes, and chronic obstructive pulmonary disease account for nearly half of all deaths in the United States. These diseases are caused in large part by unhealthy lifestyle choices: eating poorly, smoking cigarettes, being overweight, and not exercising. Unfortunately, many businesses profit from individuals' unhealthy lifestyles—indeed, some encourage unhealthy behavior as the basis of their business (Allen, 2019).

The tobacco industry is the prime example of profiting financially from harming others. No other industry makes a product that, when used as directed, causes disease and death. Knowing that long-term smokers (i.e., their best customers) tend to begin smoking as teens, the tobacco industry uses sophisticated marketing methods to lure young people to smoke and to get them hooked. The tobacco industry is a friend to no one.

Whereas it is not as obvious as with tobacco, some food companies also profit from harming their customers. A typical serving of fast food (e.g., burger, fries, and a soft drink or shake) contains around 1,000 calories, about half or more of most individuals' energy requirement for one day. This is why a steady diet of fast food can lead to weight problems and associated illnesses like type 2 diabetes.

Some of America's largest corporations are in the business of supplying consumers with less-than-healthy amounts of sugar (Figure 1.1A). The sugar is contained in packaged foods (from ketchup to breakfast cereals),



Food Product Category	World Sales in \$US Billions, 2017
Processed food	345
Tobacco	150
Alcohol	150
Soft drinks	100
Fast food	60

**Figure 1.1A** Sales Figures for 33 Leading Transnational Corporations in 2017 by Sector.

snack foods, fast foods, and sugar-sweetened beverages such as sodas, energy drinks, and sports drinks. Sugar-sweetened beverages alone deliver 36% of the added sugar that Americans consume, contributing to the risk of heart

Chapters conclude with **Critical Thinking About Health**—a set of questions that present controversial or thought-provoking situations and ask you to examine your opinions and explore your biases.

### Critical Thinking About Health

- Identify one time in your life when you have been seriously ill (not counting colds or minor injuries). Describe the nature of the illness and the time it took to become well again. Discuss all of the factors that you think may have contributed to your becoming sick, including stress, emotional problems, poor nutrition, and so forth. Then discuss all of the factors that you believe contributed to your becoming well again, including medical care, prayer, family support, alternative medicines, and other factors. What were the most important factors that led to your becoming sick? What were the most important ones in the healing process?
- In your opinion, what is the role of religion or spirituality in health? To what degree should religion or spirituality be part of a clinical encounter between a patient and a health practitioner?
- Describe any experiences you have had with meditation, hypnosis, yoga, qigong, image visualization, or any other form of mental focusing and relaxation. Describe how you became involved with this activity and for what purpose you used it. Did it help you solve a particular health or emotional problem? Would you recommend this technique to others?

can cause bodily organs to malfunction, thus leading to illness. A dramatic example of the mind's power to affect health is the placebo effect. If a person believes in the power of a pill to cure or prevent disease, taking such a placebo pill will often work as well as a prescribed drug. Belief can heal because the mind has the power to change body chemistry.

Just as the body can be trained to do certain things, the mind also can be trained to calm anxieties and to facilitate healing. Techniques such as meditation, hypnosis, image visualization, and many others increase awareness of thoughts, reduce stress and emotional upset, and even alter body chemistry to promote healing and health. Learning and practicing meditation regularly or another of several mental relaxation techniques can provide lifelong tools for improving health and coping with upsetting situations that one encounters in life.

**Highlights**

- The human mind can cause changes in body chemistry through thoughts and feelings, which may have a positive or negative effect on your health.
- Optimal health is achieved when the mind and body communicate harmoniously.
- Disease can be regarded as disruption of homeostasis or disruption of the harmonious interaction of mind and body.
- The mind and organs of the body communicate

End-of-chapter material includes a **Chapter Summary** and **Highlights** (a brief review of the chapter), **References**, **Suggested Readings**, and **Recommended Websites** where you can find additional health information.

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### Chapter Summary and Highlights

#### Chapter Summary

Our bodies and brains are intimately interconnected. The brain controls thousands of chemical reactions in the body moment by moment; conversely, the state of the body directly affects thoughts, feelings, and emotions. Optimal health depends on maintaining mind–body harmony so that both work together to keep you feeling well, energetic, strong, and aware of yourself and others. The brain automatically regulates essential functions of the body such as breathing, digestion, blood pressure and flow, and reaction to the environment such as stopping you from walking in front of a moving car or pulling your hand away from a flame. Most brain activities occur without conscious control. But the mind can be trained through various mental and physical techniques to be more effective in healing illnesses and injuries. On the other hand, if your mind is disturbed, anxious, or depressed, it

- The mind and organs of the body communicate continuously via the autonomic nervous system, which maintains vital body functions such as heart rate, level of blood sugar, and temperature.
- Psychosomatic illnesses are physical symptoms caused by stress, anxiety, and emotional upsets.
- Somatic symptom disorders are caused by psychosocial problems.
- The placebo effect often is almost as powerful as drugs in treating symptoms of illness.
- Hypnosis and meditation can play a positive role in healing illnesses.
- Belief, faith, and suggestion all have the power to heal because the mind can change disturbed body functions and reestablish homeostasis.
- A key to maintaining or improving health and wellness is to learn and practice a mental-relaxation technique.
- Image visualization can be used to reduce anxiety and stress, modify behaviors, and enhance performance.
- Virtual reality therapies use computer software to treat phobias and severe pain.

to create a new Chapter 15; and 21–23 were combined to create a new Chapter 17. Some material (e.g., birth control methods) was linked to authoritative health resources on the Internet (e.g., MedlinePlus). The **Workbook** was moved to the course website.

## Instructor Resources

Qualified Instructors will receive a full suite of **Instructor Resources**, including the following:

- Test Bank
- Slides in PowerPoint format
- Lecture Outlines
- Image Bank

## Student Resources

- Interactive eBook
- Student Workbook, available in the Navigate course
- Weblinks
- Animations
- Learning Objectives

## What's New

This edition of *Health and Wellness* has been thoughtfully revised to be more efficient at presenting current health topics (e.g., COVID 19, opioid epidemic, climate change) while maintaining complete presentations of topics in prior editions. Some former chapters were carefully edited and combined: 8–11 were combined to create a new Chapter 8; 17–18 were combined to create a new Chapter 14; 19–20 were combined



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