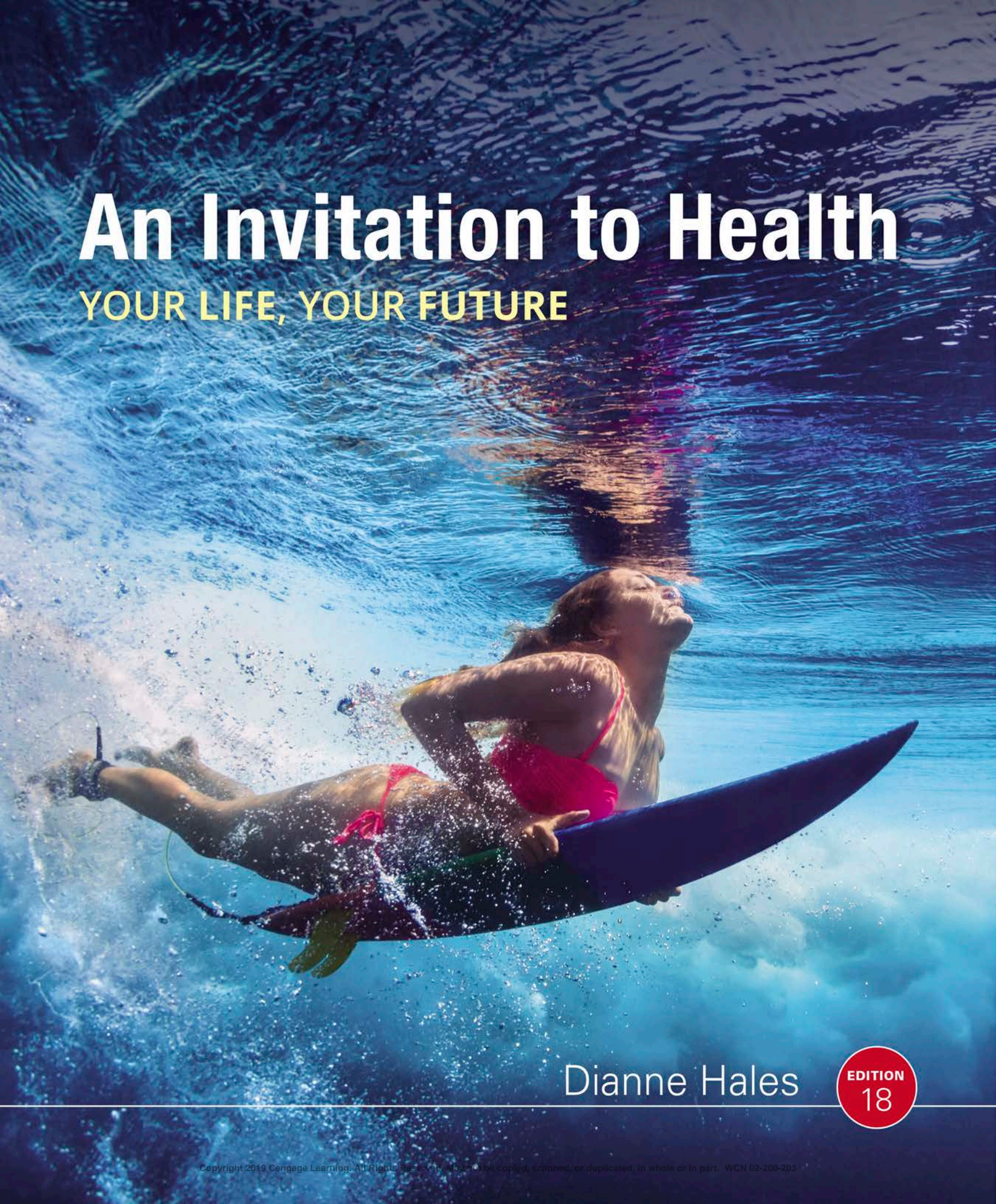


An Invitation to Health

YOUR LIFE, YOUR FUTURE



Dianne Hales

EDITION
18



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An Invitation to Health

Your Life, Your Future

Dianne Hales

18th Edition



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Preface

Any college course may expand knowledge, broaden perspective, and deepen understanding in some way. Personal health and wellness courses do more: They can change a life and shape a future.

Other classes cover subjects that range from anthropology to mathematics to zoology. But health and wellness are not topics that instructors simply “teach” and undergraduates merely “study.” They are essential parts of living every day to the fullest and creating the foundation for a fulfilling future. This is why we chose “Your Life, Your Future” as the theme for this edition of *Invitation to Health*.

Every chapter not only presents the latest medical research and health statistics, but goes beyond these facts to provide step-by-step guidance on how students can incorporate what they are learning into how they are living. The lessons learned in health and wellness classes, as research has confirmed, can influence choices and habits that have a lifelong impact.

Today’s students are more diverse than ever before. A growing percentage are older than the traditional ages of undergraduates. Many have a wide range of life experiences, including full-time employment and military service. Although the specific circumstances of their day-to-day lives may vary greatly, students in health and wellness courses share a commitment to realizing their potential and becoming their best, healthiest selves.

If you are a student, this textbook is our invitation to live what you learn and to make the most of your health—now and in the future. By using *An Invitation to Health: Your Life, Your Future* as an owner’s manual for your body and mind, you can acquire a special type of power—the power to make good decisions, to assume responsibility, and to create and follow a healthy lifestyle. If you are an instructor, I look forward to working with you as you explore the dimensions of health and how they relate to your students’ daily lives. I welcome feedback from any and all of you at www.cengage.com/health.

Stay well,

Dianne Hales

What’s New in *An Invitation to Health: Your Life, Your Future*

As in previous editions, this *Invitation* presents up-to-date, concise, research-based coverage of all the dimensions of health. It also continues to define health in the broadest sense of the word—not as an entity in itself, but as an integrated process for discovering, using, and protecting all possible resources within the individual, family, community, and environment.

Every chapter begins by engaging students with a “What do you think?” feature, with four questions that stimulate students to evaluate what they already know—or think they know—about a subject. We ask the same questions under the heading of “What did you decide?” at the end of each chapter to see whether and how the material they’ve studied may have changed students’ perspective.

Every chapter includes updated statistics, research findings, and guidelines on topics such as nutrition, physical activity, and immunizations. An interactive feature, “Snapshot: On Campus Now,” showcases the latest research on student behavior, including sleep habits, stress levels, and safe sex practices. “Health Now!” presents

practical, ready-to-use tips related to real-life issues such as making healthier fast-food choices, protecting yourself from infection, and recognizing substance abuse. “Consumer Alert” explores subjects such as dubious diets, fitness monitors, and e-cigarettes.

Each of the 20 chapters, reordered in response to reviewers’ suggestions, concludes with “Your Life, Your Future,” a checklist that students can use to assess their current status and work toward specific goals, whether by getting in better shape, taking charge of their alcohol intake, or caring for Mother Earth.

Because health is an ever-evolving field, this edition includes many new, expanded, and updated topics, as detailed in the following chapter-by-chapter summaries:

Chapter 1

Healthy habits of college students; latest statistics on life expectancy and death rates; trends in racial-ethnic health disparities; health and health behaviors 1 year after high school graduation and through college; weight and fitness changes in college; motivating and maintaining physical activity by undergraduates.

Chapter 2

Self-compassion; new research on happiness and health; optimism and hope in chronic disease; religiosity and mental health of college students; gratitude interventions; students’ sleep patterns and problems; sleep’s impact on health.

Chapter 3

Depression, anxiety, and stress on campus; students’ view of benefits and drawbacks of seeking mental health care; positive mental imaging for depression; mindfulness for college students; ADHD and GPAs; nonmedical use of prescription stimulants; onset of suicidal thoughts in college.

Chapter 4

Social support and women’s stress response; new Stress in America survey, student’s fear of public speaking; perceived stress in students; stress responses in military veteran and civilian students; mindfulness for stress reduction in students; yoga and cognitive performance; perceived stress and self-efficacy in young people.

Chapter 5

USDA Dietary Guidelines for Americans; protein’s impact on fullness, metabolism, aging, lean muscle, and diabetes risk; added sugar intake and cardiovascular disease; whole grains, fiber, and all-cause mortality; fish oil supplements; folic acid; effects of dietary sodium on health; benefits of the Mediterranean diet; vegetarian diets and weight reduction; students’ food skills and knowledge of dietary guidelines; sugar-sweetened beverage consumption; energy drinks; nutrition label reading skills.

Chapter 6

Childhood obesity; overweight and obesity statistics; body weight and academic performance in college; physical activity and weight in college women; BMI, body fat, and mortality; physical activity, sedentary behavior, and health; perceived racial discrimination and obesity; hypertension and obesity; diabetes and obesity; suicide risk and obesity; vaping to lose weight; diet and exercise for weight loss; long-term success of gastric bypass; pros and cons of bariatric surgery in adolescents; binge-eating disorder rates; mindfulness and risk of eating disorders; psychotherapy for bulimia nervosa.

Chapter 7

Physical activity and college students; exercise for prevention of diabetes; physical activity and happiness; exercise for substance use; health benefits for weekend warriors; electronic activity monitors; high-intensity interval training; running's benefits for knees.

Chapter 8

Friendships and loneliness; gender role and social anxiety; cognitive behavior therapy for social anxiety disorder; mindfulness-based stress reduction for young adults with social anxiety disorder; social media use and anxiety in emerging adults; using social media to monitor stress; problematic smartphone use; Internet addiction and gaming disorder; hookups on campus; marriage and health for same- and different-sex couples; blended families.

Chapter 9

Routine pelvic exams; reproductive lifespan and longevity in women; physical activity and PMS, transgender health care; meaning of “having sex”; statistics on sex in America; longitudinal research on other-sex partners; milestones in sexual orientation; oral versus vaginal sex among college students; men's sexual functioning and health status; sexual dysfunction in female college students.

Chapter 10

Challenges in contraception; update on oral contraceptives; long-acting hormonal contraceptives; safety of IUDs in young women; injectable contraceptives; emergency contraception; smoking during pregnancy; Zika virus and pregnancy; STIs and infertility; male infertility.

Chapter 11

New recommendations from the U.S. Preventive Services Task Force; prospects for new vaccines against STIs; sexual transmission of Zika virus; reducing risky sexual behavior among college students; substance use and STI acquisition; campus-wide condom distribution; correlation between pubic hair grooming and STIs; HPV-associated cancers; impact of HPV vaccines; interventions for a first episode of genital herpes; gonorrhea control; HIV testing among young adults; HIV preexposure; progress in HIV treatment and vaccine development.

Chapter 12

Updated statistics on heart disease and stroke; genetics, lifestyle, and coronary disease; trends in metabolic syndrome; dietary interventions and cardiometabolic risk; socioeconomic level and cardiometabolic risk factors; prediabetes; screening for type 2 diabetes; physical activity/exercise and diabetes; blood pressure and African Americans; blood pressure and stroke prevention; optimal salt intake; blood pressure control in hypertension; fitness, BMI, and the risk of hypertension; young adults with acute myocardial infarction; stroke in young adults; updated cancer statistics; new federal report on carcinogens; indoor tanning and melanoma; prophylactic mastectomy and long-term survival; prevention and screening for colon cancer; prostate cancer treatments; epilepsy research.

Chapter 13

Infectious disease mortality trends; new pathogens; vaccination and fear of autism; CAM treatments for colds and flu; viral load and influenza symptoms; meningitis vaccines; hepatitis C management; updates on Zika virus spread, risks, and prevention; evolution of Ebola virus and vaccine.

Chapter 14

Update on health insurance; impact of Affordable Care Act; health-related consumer behaviors; evidence-based medicine; mobile health technologies; wearable fitness and health devices; laser surgery;

complications with lip and tongue piercings; CAM for colds and flu; use of CAM in the United States and on campus.

Chapter 15

Updated statistics on drug use in United States and on campus; U.S. surgeon general's new report on addiction in America; polysubstance abuse; video gaming disorder; addiction and indoor tanning; food addiction; Internet addiction; texting dependence; alcohol consumption in problem gamblers; gender and addiction; prescription stimulants and opioids; transition from prescription opioids to heroin; medical and legalized marijuana; benefits of 12-Step programs.

Chapter 16

Updated statistics on alcohol in the United States and on campus; happiness and drinking; impact of adolescent drinking or abstinence; high-risk partying behavior; impact of social norms; influence of residence status and ethnicity; solitary predrinking; AMED use; digital interventions to reduce heavy drinking; alcohol's impact on heart; alcohol-related harm in men and women; prenatal alcohol use and FASD; pharmacotherapy of alcoholism.

Chapter 17

Updated statistics on smoking in the United States and on campus; impact of childhood tobacco and alcohol use; co-use of tobacco and drugs; depression and tobacco use in college students; flavored and sweet tobacco products; gateway nicotine products; e-cigarette risks; hookah use statistics; risk factors for hookah use; quitting hookah use; effects of hookahs on indoor air pollution; large cigars; use of snus; reducing harm from continued tobacco use; e-cigarettes for smoking cessation; thirdhand smoke exposure.

Chapter 18

Update on mortality statistics; risky driving among young men; impaired driving in young women; understanding and treating violence; campus safety initiatives; microaggressions; online victimization; sexting; sexual violence; changing campus culture and sexual violence on campus; bystander intervention to prevent sexual assaults; social drinking and incapacitated sexual assault; rape myths on campus; rape-prone cultures on campus; trauma in student sexual assault survivors; violence prevention programs.

Chapter 19

Student development of pro-environmental views; climate change; health impact of air pollution; health disparities and environmental air quality; traffic-related air pollution; lead poisoning in water; electromagnetic radiation and health; mobile phone use and health risks; impact of transportation noise; earphone use and hearing; daily music exposure and hearing problems.

Chapter 20

Causes of death and mortality rates; healthy adjusted life expectancy (HALE); aging well; disability among elderly; the aging brain; use of hormones in menopause; sex and aging; mild cognitive impairment; diagnosis and treatment of Alzheimer's disease; osteoporosis; death literacy and education; a “good” death; grieving college students; complicated grief.

Supplemental Resources

Health MindTap for *An Invitation to Health: Your Life, Your Future*

A new approach to highly personalized online learning. Beyond an eBook, homework solution, digital supplement, or premium website, MindTap is a digital learning platform that works alongside your

campus LMS to deliver course curriculum across the range of electronic devices in your life. MindTap is built on an “app” model allowing enhanced digital collaboration and delivery of engaging content across a spectrum of Cengage and non-Cengage resources.

Diet & Wellness Plus

Diet & Wellness Plus helps you understand how nutrition relates to your personal health goals. Track your diet and activity, generate reports, and analyze the nutritional value of the food you eat. Diet & Wellness Plus includes over 75,000 foods as well as custom food and recipe features. The Behavior Change Planner helps you identify risks in your life and guides you through the key steps to make positive changes. Diet & Wellness Plus is also available as an app that can be accessed from the app dock in MindTap.

Instructor Companion Site

Everything you need for your course in one place! This collection of book-specific lecture and class tools is available online via www.cengage.com/login. Access and download PowerPoint presentations, images, instructor’s manual, chapter references, videos, and more.

Global Health Watch

Bring currency to the classroom with Global Health Watch from Cengage Learning. This user-friendly website provides convenient access to thousands of trusted sources—including academic journals, newspapers, videos, and podcasts—for you to use for research projects or classroom discussion. Global Health Watch is updated daily to offer the most current news about topics related to nutrition.

Cengage Learning Testing Powered by Cognito

This flexible online system allows the instructor to author, edit, and manage test bank content from multiple Cengage Learning solutions; create multiple test versions in an instant; and deliver tests from an LMS, a classroom, or wherever the instructor wants.

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It takes a team of top-notch professionals to create a successful and effective textbook. I appreciate and applaud our product manager Krista Mastroianni; content developer Miriam Myers, who shepherds both the print book and MindTap; product assistant Marina Starkey; production project manager Carol Samet; SPI Global project manager Michael McGranaghan; art director Michael Cook; and marketing manager Ana Albinson.

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John Janowiak, *Appalachian State University*
Peggy Jarnigan, *Rollins College*
Jim Johnson, *Northwest Missouri State University*
Chester S. Jones, *University of Arkansas*
Herb Jones, *Ball State University*
Jane Jones, *University of Wisconsin, Stevens Point*
Lorraine J. Jones, *Muncie, Indiana*
Walter Justice, *Southwestern College*
Becky Kennedy-Koch, *The Ohio State University*
Margaret Kenrick, *Los Medanos College*
Anthony F. Kiszewski, *Bentley University*
Mark J. Kittleson, *Southern Illinois University*
Darlene Kluka, *University of Central Oklahoma*
John Kowaczyk, *University of Minnesota Duluth*
Debra A. Krummel, *West Virginia University*
Roland Lamarine, *California State University, Chico*
Gina LaMonica, *Ed.D. Adjunct Health and Nutrition Instructor, Exercise Physiologist, Health and Nutrition Consultant, Ventura College*
David Langford, *University of Maryland, Baltimore County*

Terri Langford, *University of Central Florida*
Beth Lanning, *Baylor University*
Norbert Lindskog, *Harold Washington College*
Loretta Liptak, *Youngstown State University*
Raymond A. Lomax, *Kean University*
Michelle Lomonaco, *The Citadel*
David G. Lorenzi, *West Liberty State College*
S. Jack Loughton, *Weber State University*
Rick Madson, *Palm Beach Community College*
Ashok Malik, *College of San Mateo*
Michele P. Mannion, *Temple University*
Jerry Mayo, *Hendrix College*
Wajeeha Mazhar, *California Polytechnic State University-Pomona*
Jessica Middlebrooks, *University of Georgia*
Claudia Mihovk, *Georgia Perimeter College*
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Anthony V. Parrillo, *East Carolina University*
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About the Author

Dianne Hales is one of the most widely published and honored freelance journalists in the country. She is the author of 15 trade books, including *Mona Lisa: A Life Discovered*; *La Bella Lingua*; *Just Like a Woman*; *Think Thin, Be Thin*; and *Caring for the Mind*, with translations into Chinese, Japanese, Italian, French, Spanish, Portuguese, German, Dutch, Swedish, Danish, and Korean.

Hales has received the highest honor the government of Italy can bestow on a foreigner, an honorary knighthood, with the title *Cavaliere dell' Ordine della Stella della Solidarietà Italiana* (Knight of the Order of the Star of Italian Solidarity) in recognition of her book *La Bella Lingua*, a *New York Times* bestseller, as “an invaluable tool for promoting the Italian language.”

Hales is a former contributing editor for *Parade*, *Ladies' Home Journal*, *Working Mother*, and *American Health* and has written more than 1,000 articles for publications including *Family Circle*, *Glamour*, *Good Housekeeping*, *Health*, *The New York Times*, *Reader's Digest*, *The Washington Post*, *Woman's Day*, and *The World Book Encyclopedia*.

Hales has received writing awards from the American Psychiatric Association and the American Psychological Association, an EMMA (Exceptional Media Merit Award) for health reporting from the National Women's Political Caucus and Radcliffe College, three EDI (Equality, Dignity, Independence) awards for print journalism from the National Easter Seal Society, the National Mature Media Award, and awards from the Arthritis Foundation, California Psychiatric Society, CHADD (Children and Adults with Attention Deficit/Hyperactivity Disorder), Council for the Advancement of Scientific Education, and New York City Public Library.



Julia Hales



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WHAT DO YOU THINK?

- What does “health” mean to you?
- How healthy are today’s college students?
- Do race and gender affect health?
- Can people successfully change their health behaviors?

After reading this chapter, you should be able to:

- | | |
|--|---|
| 1.1 Define health and wellness. | 1.6 Describe the impact of habits formed in college on future health. |
| 1.2 Outline the dimensions of health. | 1.7 Explain the influences on behavior that support or impede healthy change. |
| 1.3 Assess the current health status of Americans. | 1.8 Identify the stages of change. |
| 1.4 Discuss health disparities based on gender and race. | |
| 1.5 Evaluate the health behaviors of undergraduates. | |

An Invitation to Health

Keisha always thought of health as something you worry about when you get older. Then her twin brother developed a health problem she'd never heard of: prediabetes (discussed in Chapter 12), which increased his risk of diabetes and heart disease. At a health fair on campus, she found out that her blood pressure was higher than normal. She also learned that young adults with high blood pressure could be at greater risk of heart problems in the future.¹

"Maybe I'm not too young to start thinking about my health," Keisha concluded. Neither are you, whether you're a traditional-age college student or, like an ever-increasing number of undergraduates, years older.

An Invitation to Health is both **about** and **for** you; it asks you to go beyond thinking about your health to taking charge and making healthy choices for yourself and your future. This book includes material on your mind and your body, your spirit and your social ties, your needs and your wants, your past and your potential. It will help you explore options, discover possibilities, and find new ways to make your life worthwhile.

What you learn from this book and in this course depends on you. You have more control over your life and well-being than anything or anyone else does. Through the decisions you make and the habits you

develop, you can influence how well—and perhaps how long—you will live.

The time to start is **now**. Every day, you make choices that have short- and long-term consequences for your health. Eat a high-fat meal, and your blood chemistry changes. Spend a few hours slumped in front of the television, and your metabolism slows. Chug a high-caffeine energy drink, and your heart races. Have yet another beer, and your reflexes slow. Text while driving, and you may weave into another lane. Don't bother with a condom, and your risk of sexually transmitted infection (STI) skyrockets.

Sometimes making the best choices demands making healthy changes in your life. This chapter shows you how—and how to live more fully, more happily, and more healthfully. This is an offer that you literally cannot afford to refuse. Your life may depend on it—starting now.<

Health and Wellness

By simplest definition, **health** means being sound in body, mind, and spirit. The World Health Organization defines *health* as "not merely the

absence of disease or infirmity" but "a state of complete physical, mental, and social well-being." Health involves discovering, using, and protecting all the resources within your body, mind, spirit, family, community, and environment.

Health has many dimensions: physical, psychological, spiritual, social, intellectual, environmental, occupational, and financial. This book integrates these aspects into a *holistic* approach that looks at health and the individual as a whole rather than part by part.

health A state of complete well-being, including physical, psychological, spiritual, social, intellectual, and environmental dimensions.



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Health is the process of discovering, using, and protecting all the resources within our bodies, minds, spirits, families, communities, and environment.

Your own definition of health may include different elements, but chances are you and your classmates would include at least some of the following:

- A positive, optimistic outlook.
- A sense of control over stress and worries, time to relax.
- Energy and vitality, freedom from pain or serious illness.
- Supportive friends and family, and a nurturing intimate relationship with someone you love.
- A personally satisfying job or intellectual endeavor.
- A clean, healthful environment.

✓**check-in** How would you define health?

Wellness can be defined as purposeful, enjoyable living or, more specifically, a deliberate lifestyle choice characterized by personal responsibility and optimal enhancement of physical, mental, and spiritual health. In the broadest sense, wellness is:

- A decision you make to move toward optimal health.
- A way of life you design to achieve your highest potential.
- A process of developing awareness that health and happiness are possible in the present.
- The integration of body, mind, and spirit.
- The belief that everything you do, think, and feel has an impact on your state of health and the health of the world.

✓**check-in** What does wellness mean to you?

The Dimensions of Health

By learning more about the dimensions of health, you gain insight into the complex interplay of factors that determine your level of wellness. The following are the most commonly recognized dimensions of health and wellness, but some models treat emotional, cultural, or financial health as separate categories rather than aspects of psychological, social, or occupational health.

✓**check-in** What do you consider the most important or relevant dimensions of health?

Physical Health The 1913 *Webster's Dictionary* defined *health* as “the state of being hale, sound, or whole, in body, mind, or soul,

especially the state of being free from physical disease or pain.” More recent texts define physical health as an optimal state of well-being, not merely the absence of disease or infirmity. Health is not a static state but a process that depends on the decisions we make and the behaviors we practice every day. To ensure optimal physical health, we must feed our bodies nutritiously, exercise them regularly, avoid harmful behaviors and substances, watch for early signs of sickness, and protect ourselves from accidents.

Psychological Health Like physical well-being, psychological health, discussed in Chapter 2, encompasses our emotional and mental states—that is, our feelings and our thoughts. It involves awareness and acceptance of a wide range of feelings in oneself and others, as well as the ability to express emotions, to function independently, and to cope with the challenges of daily stressors.

Spiritual Health Spiritually healthy individuals identify their own basic purpose in life; learn how to experience love, joy, peace, and fulfillment; and help themselves and others achieve their full potential. As they devote themselves to others’ needs more than their own, their spiritual development produces a sense of greater meaning in their lives.

Social Health Social health refers to the ability to interact effectively with other people and the social environment, to develop satisfying interpersonal relationships, and to fulfill social roles. It involves participating in and contributing to your community, living in harmony with fellow human beings, developing positive interdependent relationships, and practicing healthy sexual behaviors. (See Chapter 8.)

Intellectual Health Every day, you use your mind to gather, process, and act on information; to think through your values; to make decisions; set goals; and figure out how to handle a problem or challenge. Intellectual health refers to your ability to think and learn from life experience, your openness to new ideas, and your capacity to question and evaluate information. Throughout your life, you’ll use your critical thinking skills, including your ability to evaluate health information, to safeguard your well-being.

Environmental Health You live in a physical and social setting that can affect every aspect of your health. Environmental health refers to the impact your world has on your well-being. It involves protecting yourself from dangers in

wellness A deliberate lifestyle choice characterized by personal responsibility and optimal enhancement of physical, mental, and spiritual health.

the air, water, and soil, as well as in products you use—and working to preserve the environment itself. (See Chapter 19.)

Occupational and Financial Health

Even a part-time job can have an impact on your health. In a recent study, freshmen who worked more than 10 hours a week were somewhat more likely to drink and smoke than students who weren't employed.² However, they may be gaining valuable experience in managing their time, setting priorities, and finding a healthy balance in their lives.

After graduation, you will devote much of your time and energy to your career. Ideally, you will contribute your unique talents and skills to work that is rewarding in many ways—intellectually, emotionally, creatively, and financially. College provides the opportunity for you to choose and prepare for a career that is consistent with your personal values and beliefs and to learn how to manage your money and safeguard your financial well-being.

Community Health Educators have expanded the traditional individualistic concept of health to include the complex interrelationships between one person's health and the health of the community and environment. This change in perspective has given rise to a new emphasis on **health promotion**, which educators define as “any planned combination of educational, political, regulatory, and organizational supports for actions and conditions of living conducive to the health of individuals, groups, or communities.”³ Examples on campus include establishing smoke-free policies for all college buildings, residences, and dining areas; prohibiting tobacco advertising and sponsorship of campus social events; ensuring safety at parties; and enforcing alcohol laws and policies.

Health in America

✓**check-in** Do you exercise regularly?
Eat nutritious meals? Maintain a healthy weight? Avoid smoking? If you answer yes to all four questions, you're among the 2.7 percent of Americans who do so.

According to a national survey of more than 4,700 people, 97.3 percent get a failing grade in healthy lifestyle habits. For the minority who do



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Your choices and behaviors during your college years can influence how healthy you will be in the future.

adapt these health guidelines, the payoff includes a lower risk of many health problems, including type 2 diabetes, heart disease, and cancer. Although few Americans get a perfect health-habit score, a significant number report at least one healthy habit:

- 71 percent do not smoke.
- 46 percent get sufficient amounts of physical activity.
- 38 percent eat a healthy diet.
- 10 percent have a normal body fat percentage (see Chapter 6).

Women are more likely than men to not smoke and to eat a healthy diet but less likely to have adequate physical activity levels. Mexican Americans are more likely to eat a healthy diet than blacks or whites.⁴

Life expectancy at birth in the United States has declined recently to 76.7 years in men, with about 66.8 of those years spent in good health. For women, life expectancy averages 81.5 years, with 69.5 years spent in good health. Higher death rates from heart disease, diabetes, kidney disease, Alzheimer's, unintentional injuries, and suicide have contributed to the decline in life expectancy.⁵

health promotion Any planned combination of educational, political, regulatory, and organizational supports for actions and conditions of living conducive to the health of individuals, groups, or communities.

If you are under age 50, such calculations may not seem relevant to you. Think again. The Americans experiencing the greatest health deficits and losing the most years to illness, disability, and premature death are not the elderly but young adults. As a young American, your probability of reaching your 50th birthday is lower than in almost every other high-income nation. The main reasons for the gap in life discrepancy between the United States and 12 comparable countries are motor vehicle accidents, firearm-related injuries, and drug poisonings and overdoses.⁶

Quality of life matters as much as quantity. Rather than focus solely on life expectancy, experts are calculating healthy life expectancy (HALE), based on years lived without disease or disability. The average HALE for Americans is considerably shorter than their life expectancy: about 68 years.⁷

.....
 ✓check-in How do you think your life expectancy and your healthy life expectancy (HALE) compare?

Healthy People 2020

Every decade since 1980, the U.S. Department of Health and Human Services (HHS) has published a comprehensive set of national public health

objectives as part of the Healthy People Initiative. The government's vision is to create a society in which all people can live long, healthy lives. Its mission includes identifying nationwide health improvement priorities, increasing public awareness of health issues, and providing measurable objectives and goals.⁸

The overarching goals for *Healthy People 2020* are as follows:

- Eliminate preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote healthy development and healthy behaviors across every stage of life.

Here are examples of specific new recommendations that have been added to the national health agenda for 2020:

- **Nutrition and weight status:** Prevent inappropriate weight gain in youths and adults.
- **Tobacco use:** Increase smoking-cessation success by adult smokers.
- **Sexually transmitted infections:** Increase the proportion of adolescents who abstain from sexual intercourse or use condoms if sexually active.
- **Substance abuse:** Reduce misuse of prescription drugs.
- **Heart disease and stroke:** Increase overall cardiovascular health in the U.S. population.
- **Injury and violence prevention:** Reduce sports and recreation injuries.

.....
 ✓check-in If you were setting personal health objectives to attain by 2020, what would they be?

Health Disparities

Despite improvements in the overall health of the nation, Americans who are members of certain racial and ethnic groups—including African Americans, American Indians, Alaska Natives, Asian Americans, Hispanics, Latinos, and Pacific Islanders—are more likely than whites to suffer disease and disability, including major depression, poor physical health, functional limitations, and premature death. However, there has been progress in some

YOUR STRATEGIES FOR PREVENTION

If You Are at Risk

Certain health risks may be genetic, but behavior influences their impact. Here are specific steps you can take to protect your health:

- **Ask if you are at risk for any medical conditions or disorders based on your family history or racial or ethnic background.**
- **Find out if there are tests that could determine your risks.** Discuss the advantages and disadvantages of such testing with your doctor.
- **If you or a family member requires treatment for a chronic illness, ask your doctor whether any medications have proved particularly effective for your racial or ethnic background.**
- **If you are African American, you are significantly more likely to develop high blood pressure, diabetes, and kidney disease.** Being overweight or obese adds to the danger. The information in Chapters 6 through 8 can help you lower your risk by keeping in shape, making healthy food choices, and managing your weight.
- **Hispanics and Latinos have disproportionately high rates of respiratory problems, such as asthma, chronic obstructive lung disease, and tuberculosis.** To protect your lungs, stop smoking and avoid secondary smoke. Learn as much as you can about the factors that can trigger or worsen lung diseases.

important areas, including less racial discrepancy in infant death rates, cesarean birth rates, and smoking among women.⁹

Genetic variations, environmental influences, and specific health behaviors contribute to health disparities, but poverty may be a more significant factor. A much higher percentage of blacks (26 percent) than non-Hispanic whites (10 percent) live below the federal poverty level and may be unable to get needed medical treatment.¹⁰ This may be changing for young Americans. The expected lifespan for those under age 20 is less affected by whether they are rich or poor now than in the past.¹¹

If you are a member of a racial or ethnic minority, you need to educate yourself about your health risks, take responsibility for those within your control, and become a savvy, assertive consumer of health-care services. The federal Office of Minority Health and Health Disparities (www.cdc.gov/omhd), which provides general information and the latest research and recommendations, is a good place to start.

.....
✓**check-in** Are you a member of a racial or ethnic minority? If so, do you think this status affects your health or health care?
.....

Why Race Matters If, like many other Americans, you come from a racially mixed background, your health profile may be complex. Here are just some of the differences race makes:¹²

- Black Americans lose substantially more years of potential life to homicide (nine times as many), stroke (three times as many), and diabetes (three times as many) as whites.
- About 1 to 3 Hispanics has prediabetes; only about half of Hispanics with diabetes have it under control.¹³
- Caucasians are prone to osteoporosis (progressive weakening of bone tissue), cystic fibrosis, skin cancer, and phenylketonuria (PKU, a metabolic disorder that can lead to cognitive impairment).
- Native Americans, including those indigenous to Alaska, are more likely to die young than the population as a whole, primarily as a result of accidental injuries, cirrhosis of the liver, homicide, pneumonia, and complications of diabetes.
- The suicide rate among American Indians and Alaska Natives is 50 percent higher than the national rate. The rates of co-occurring mental illness and substance abuse (especially alcohol abuse) are also higher among Native American youth and adults.



Heredity places this Pima Indian infant at higher risk of developing diabetes, but environmental factors also play a role.

Cancer Overall, black Americans are more likely to develop cancer than persons of any other racial or ethnic group.¹⁴ As discussed in Chapter 12, medical scientists have debated whether the reason might be that treatments are less effective in blacks or whether many are not diagnosed early enough or treated rigorously enough.

Although blacks continue to have higher cancer death rates than whites, the disparity has narrowed for all cancers combined in men and women, and for lung and prostate cancers in men. However, the racial gap in death rates has widened for breast cancer in women and remained level for colorectal cancer in men.¹⁵

- African American women are more than twice as likely to die of cervical cancer as are white women, and are more likely to die of breast cancer than are women of any racial or ethnic group except Native Hawaiians.

- Native Hawaiian women have the highest rates of breast cancer. Women from many racial minorities, including those of Filipino, Pakistani, Mexican, and Puerto Rican descent, are more likely to be diagnosed with late-stage breast cancer than white women.
- Cancer has surpassed heart disease as the leading cause of death among Hispanics in the United States, with an overall prevalence rate of 4 percent.¹⁶

Cardiovascular Disease Heart disease and stroke are the leading causes of death for all racial and ethnic groups in the United States, but mortality rates of death from these diseases are higher among African American adults than among white adults. African Americans also have higher rates of high blood pressure (hypertension), develop this problem earlier in life, suffer more severe hypertension, and have higher rates of stroke.

Diabetes American Indians and Alaska Natives, African Americans, and Hispanics are twice as likely to be diagnosed with diabetes as are non-Hispanic whites.

Infant Mortality African American, American Indian, and Puerto Rican infants have higher death rates than white infants.

Mental Health American Indians and Alaska Natives suffer disproportionately from depression and substance abuse. Minorities have less access to mental health services and are less likely to receive needed high-quality mental health services.¹⁷ The prevalence of dementia varies significantly among Americans of different racial and ethnic groups, with the highest rates among blacks and American Indians/Alaskan Natives and the lowest among Asian Americans. Hispanics and whites have intermediate rates.¹⁸

Infectious Disease Asian Americans and Pacific Islanders have much higher rates of hepatitis B than other racial groups. Black teenagers and young adults become infected with hepatitis B three to four times more often than those who are white. Black people also have a higher incidence of hepatitis C infection than white people. Almost 80 percent of reported cases affect racial and ethnic minorities.

HIV and Sexually Transmitted Infections Although African Americans and Hispanics represent only about one-quarter of the U.S. population, they account for about two-thirds of adult AIDS cases and more than 80 percent of pediatric AIDS cases.¹⁹

Sex, Gender, and Health

Medical scientists define sex as a classification, generally as male or female, according to the reproductive organs and functions that derive from the chromosomal complement. *Gender* refers to a person's self-representation as male or female or how social institutions respond to a person on the basis of the individual's gender presentation. Gender is rooted in biology and shaped by environment and experience.

The experience of being male or female in a particular culture and society can and does have an effect on physical and psychological well-being. In fact, sex and gender may have a greater impact than any other variable on how our bodies function, how long we live, and the symptoms, course, and treatment of the diseases that strike us (see Figure 1.1).

Here are some health differences between men and women:

- Boys are more likely to be born prematurely, to suffer birth-related injuries, and to die before their first birthdays than girls.
- Men around the world have shorter lifespans than women and higher rates of cancer, heart disease, stroke, lung disease, kidney disease, liver disease, and HIV/AIDS.²⁰ They are four times more likely to take their own lives or to be murdered than women.
- Cardiovascular disease is the leading cause of death for women in the United States, yet only about one-third of clinical trial subjects in cardiovascular research have been female.
- Lung cancer is the leading cause of cancer death among women, with increased rates particularly among young female nonsmokers.
- Women are 70 percent more likely than men to suffer from depression over the course of their lifetimes.

.....
 ✓**check-in** How do you think your gender affects your health?

Among the reasons that may contribute to the health and longevity gap between the sexes are the following:

- **Biological factors.** For example, women have two X chromosomes and men only one, and men and women have different levels of sex hormones (particularly testosterone and estrogen).
- **Social factors.** These include work stress, hostility levels, and social networks and supports.

He:



- averages 12 breaths a minute
- has lower core body temperature
- has a slower heart rate
- has more oxygen-rich hemoglobin in his blood
- is more sensitive to sound
- produces twice as much saliva
- has a 10 percent larger brain
- is 10 times more likely to have attention deficit disorder
- as a teen, has an attention span of 5 minutes
- is more likely to be physically active
- is more prone to lethal diseases, including heart attacks, cancer, and liver failure
- is five times more likely to become an alcoholic
- has a life expectancy of 76 years

She:



- averages 9 breaths a minute
- has higher core body temperature
- has a faster heart rate
- has higher levels of protective immunoglobulin in her blood
- is more sensitive to light
- takes twice as long to process food
- has more neurons in certain brain regions
- is twice as likely to have an eating disorder
- as a teen, has an attention span of 20 minutes
- is more likely to be overweight
- is more vulnerable to chronic diseases, like arthritis and autoimmune disorders, and age-related conditions like osteoporosis
- is twice as likely to develop depression
- has a life expectancy of 81 years

FIGURE 1.1 Some of the Many Ways Men and Women Are Different

- **Behavioral factors.** Men and women differ in risky behavior, aggression, violence, smoking, and substance abuse.
- **Health habits.** The sexes vary in terms of regular screenings, preventive care, and minimizing symptoms.

Sexual orientation can also affect health. Lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQQ) individuals are more likely to encounter health disparities linked to social stigma, discrimination, and denial of their human and civil rights.²¹ Gender-based discrimination increases the risk of psychiatric disorders, substance abuse, and suicide. On campus, transgender students may face particular stigma over so-called “bathroom bills” that require them to use public facilities corresponding with the sex designated on their birth certificates.²² The *Healthy People 2020* initiative has made improvements in LGBTQQ health one of its new goals.

Health on Campus

As one of an estimated 21 million college students in the United States, you are part of a remarkably diverse group. Today’s undergraduates come from every age group and social, racial, ethnic, economic, political, and religious background. Some 12 million are female; 9 million, male. You may have served in the military, started a family,

or emigrated from another country. You might be enrolled in a two-year college, a four-year university, or a technical school. Your classrooms might be in a busy city or a small town—or they might exist solely as a virtual campus. Although the majority of undergraduates are “traditional” age (between 18 and 24 years), more of you than ever before—8 million—are over age 25.²³

Today’s college students are both similar to and different from previous generations in many ways. Among the unique characteristics of current undergraduates are the following:

- They are the first generation of “digital natives,” who’ve grown up in a wired world.
- They are the most diverse in higher education history. About 15 percent are black; an equal percentage are Hispanic.
- They are both more connected and more isolated than their predecessors, with a “tribe” of friends, family, and acquaintances in constant contact through social media but with weak interpersonal, communications, and problem-solving skills.
- More students are working, working longer hours, taking fewer credits, requiring more time to graduate, and leaving college with large student loan debts.
- They are more coddled and protected by parents, who remain very involved in their daily lives.
- They face a future in which the pace and scale of change will constantly accelerate.