



# GET **STAY** FIT **FIT**

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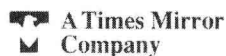
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# PREFACE

If you believe what you hear, see, and read in the media you would think that every person in America has become a “fitness junkie.” It is true that millions of people exercise in some way, shape, or form on a somewhat consistent basis. But the fact is, that for the vast majority of Americans the thought of going out and “exercising” never even crosses their minds. Through TV and videos, in magazines or newspapers, our society is constantly bombarded by images that suggest the importance of being physically fit and healthy. It seems that people in your generation, in contrast to all the previous ones, are finally starting to realize that there really is a reason for living a healthy lifestyle and for incorporating regular exercise into that lifestyle.

*Get Fit: Stay Fit* is a text designed to tell you not only how you can go about getting yourself fit, but also why it is to your advantage to make fitness and exercise a regular part of your lifestyle. It begins by discussing the basic principles of fitness that apply to any type of exercise program, and then explains how being fit relates to a healthy lifestyle. Specific techniques and guidelines for developing cardiorespiratory endurance, for improving muscular strength and endurance, for increasing flexibility, and for maintaining appropriate body weight and composition are described in detail so that you can put together a personalized fitness program based on your individual needs. This book also provides recommendations and suggestions on selecting and using the exercise equipment available to help you get fit, as well as tips for making your exercise program as safe and free of injury as possible.

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## FEATURES

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- Practical application chapters are dedicated to Starting your own fitness program (3), Becoming a wise consumer (9), and Practicing safe fitness (10). These chapters cut through a world of confusion and provide essential information on how to start up, equip yourself, and safely execute an individual fitness program.
- Special boxes—Fit Lists, Health Links, and Safe Tips—highlight, summarize, and provide quick reference to important information.
- Lab Activities assist in evaluating a number of personal measures of fitness as well as providing guidelines for increased health.
- Clear and professional photographs of individuals from a range of fitness levels provide an excellent visual guide to the proper execution of exercises, stretches, and activities.
- Key terms are in color and are defined in margin boxes to help build a working vocabulary of concepts, terms, and principles necessary for understanding, beginning, and maintaining any fitness program.

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## ANCILLARIES

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Also available for your class as a supplement to this book is Mosby’s Laboratory Activity Software and a computerized Test Bank.

- **Mosby Laboratory Activity Software**  
Including both health and fitness activities from Prentice: *Fitness for College and Life*, fourth edition, and Anspaugh: *Wellness: Concepts and Applications*, second edition, this software includes over 100 lab activities. Assessment performances can be recorded and saved, and instructors can track and assess student performance (available on IBM 3.5" and 5.25" to qualified adopters). Students may also purchase this useful assessment software with the text for a nominal fee.
- **ESATEST Computerized Test Bank**  
A test bank with 300 multiple choice, true-or-false, fill-in-the-blank, and short essay questions is available in IBM DOS and Macintosh formats to qualified adopters.

## ACKNOWLEDGMENTS

Several individuals have been instrumental in the development of this first edition of *Get Fit: Stay Fit*. My editors, Christy Wells and Brian Morovitz, have provided a great deal of help and support with this project. Their input and suggestions have been greatly appreciated and are reflected throughout the text. Our photographer, Missy Bello and our models, Meleata Smalls, Jonathan Raynor, Lina Patel, Angela Deal, Liz Roede, Douglas Horelick, John White, Jose Dominguez, David Carter, and Connie Waggoner Regnerus did a professional and artistic job and I respect and again appreciate their contribution. The reviewers for this text, Dr. Mary Slaughter from the University of Illinois, Dr. Ed Acevedo from Kansas State University, and Dr. Frank Servedio from the University of

Southern Mississippi provided a number of constructive recommendations relative to organization and content, and I thank them for their support. I also thank Lisa Ives for writing the test bank that is available to accompany this book. And finally, as always, this is for my wife Tena and our boys, Brian and Zach, who each day make my life more worthwhile.

By writing this book, I have tried to provide you with all the details you need to know about getting yourself fit and to stress the importance of developing a healthy lifestyle. But the bottom line is that to get fit, you need to stop reading about it and start doing it. There is no better time than now!

William E. Prentice

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# GETTING FIT

## WHY SHOULD YOU CARE?

### OBJECTIVES

*After completing this chapter, you should be able to do the following:*

- Give several reasons why being fit should be important to you.
- Discuss the physical, social, and psychological benefits of being fit.
- List the component parts of physical fitness.
- Determine your reasons for wanting to become physically fit.

**S**o, you've finally decided it's time to get fit. Why is that? People have many different reasons and motivations for beginning a fitness program. Are you interested in improving your overall health and well-being? Are you concerned about the way you look to your friends? Are you tired of being a couch potato? Are you interested in fitness primarily because you are required to take this fitness class? Whatever your motivation happens to be, engaging in fitness activities can have many positive benefits on your style of living.

### Key Terms

*physical fitness  
health-related components  
skill-related components  
cardiorespiratory endurance  
flexibility  
muscular strength  
muscular endurance  
body composition  
speed  
atherosclerosis  
caloric intake  
caloric expenditure  
power  
agility  
reaction time  
neuromuscular coordination  
balance*



## WHY SHOULD YOU CARE ABOUT BEING PHYSICALLY FIT?

Have you noticed that it is virtually impossible to go through a day without being exposed to something involving **physical fitness**? We eat, sleep, go to class, and some of us even try to include some form of exercise in our busy schedules. Fitness information comes from many sources. “Experts” give advice on television or radio and in magazines, books, and newspapers. Even our friends and classmates are willing to give opinions on the best ways to work out or on how to lose weight. Furthermore, the image of the attractive, healthy, physically fit person is used to market everything—clothing, food, cosmetics, health care products, sports equipment, weight loss programs—the list goes on. People of all ages and backgrounds are deciding to take responsibility for their own physical and emotional well-being by becoming physically active.

Our society is characterized by a fast-paced lifestyle, with obligations and stresses that affect our physical and emotional fitness. One of the most obvious reasons for becoming physically fit is the benefit you may derive from a healthy lifestyle that includes proper exercise and nutrition.

Being fit allows you to satisfy your needs regarding mental and emotional stability, social consciousness and adaptability, spiritual and moral fiber, and physical health consistent with your heredity. Being fit means that the various systems of your body are healthy and function efficiently so as to enable you to engage in activities of daily living, as well as recreational pursuits and leisure activities, without unreasonable fatigue.

Physical fitness is not entirely dependent on exercise. Desirable health practices also play an important role. Physical fitness affects the total person, including intellect, emotional stability, physical conditioning, and stress

levels. The road to physical fitness includes proper medical care, eating the right foods in the right amounts, appropriate physical activity that is adapted to individual needs and physical limitations, satisfying work, healthy play and recreation, and proper amounts of rest and relaxation.

## THE PHYSICAL BENEFITS OF BEING FIT

Human beings are designed to be active creatures. Although changes in civilization have resulted in a decrease in the amount of activity needed to accomplish the basic tasks associated with living, the human body has not changed. Therefore it is important to be aware of the requirements for good health and recognize the importance of vigorous physical activity in your life. If you do not, your health, productivity, and effectiveness are likely to suffer. The accompanying Health Link on page 3 lists 10 physical benefits associated with physical activity.

## THE SOCIAL REWARDS OF BEING FIT

If you are not willing to participate in physical activities that help keep you fit, you may be depriving yourself of the social outlets, companionship, and feelings inherent in such activities. Participation in physical activity provides an opportunity for socializing. Physical fitness affects the entire person, and rich dividends come to the person who concentrates on the development of the body as well as the mind.

**physical fitness:** the various systems of your body are healthy and function efficiently so as to enable you to engage in activities of daily living, as well as recreational pursuits and leisure activities, without unreasonable fatigue.

# Health Link

## Benefits of Being Physically Fit

1. Regular, vigorous activity increases muscle size, strength, and power and develops endurance for sustaining work and resisting fatigue.
2. Exercise strengthens the heart muscle and improves the efficiency of the vascular system in delivering oxygenated blood to the working tissues and in using it.
3. Exercise improves the functioning of the lungs by deepening the respiration process.
4. Exercise helps to keep the digestive and excretory organs in good condition.
5. Muscular exercise enhances nerve-muscle coordination.
6. Exercise helps a person to maintain a healthy body weight by reducing the percentage of total body weight that is made up of fat tissue.
7. Exercise contributes to improved posture and appearance through the development of proper muscle tone, greater joint flexibility, and a feeling of well-being.
8. Physical activity generates more energy and thus contributes to greater individual productivity for both physical and mental tasks.
9. The person who is fit has more strength, energy, and stamina; an improved sense of well-being; better protection from injury (because strong, well-developed muscles safeguard bones, internal organs, and joints and keep moving parts limber); and improved cardiorespiratory function.
10. It is often the case that people who become physically active will pay more attention to such things as proper nutrition, rest, and relaxation and may also drink less alcohol and stop smoking because they do not want to undo the benefits gained through physical activity. They are likely to be committed to engaging in health-promoting, rather than health-harming, behavior.

### THE PSYCHOLOGICAL BENEFITS OF BEING FIT

Many people use regular exercise, especially of a recreational nature, as a means of mental relaxation. Exercise can play a significant role in reducing stress. It diverts attention from stress-producing thoughts to a more relaxing and positive focus. Exercise may also help us to feel better about ourselves and to feel that we are more capable of handling potential stress-producing situations.

### THE BENEFITS OF EXERCISE IN THE AGING PROCESS

At this point in your life chances are that your physical health is fine. However, a fact which we wish we could change, but unfortunately cannot, is that aging begins immediately at birth and involves a lifelong series of changes in physiological and performance capabilities. These capabilities increase as a function of the growth process throughout adolescence, peak sometime between the ages of 18 and 30 years, then steadily decline with

increasing age. Interestingly, this decline may be caused by the sociological constraints of aging as much as by biological effects. It is possible for you to maintain a relatively high level of physical function if you maintain an active lifestyle.

In most cases, after age 30, qualities such as muscular endurance, coordination, and strength begin to decrease. Furthermore, as we age, recovery from vigorous exercise requires a longer amount of time. Regular physical activity, however, tends to delay and in some cases prevent the appearance of certain degenerative processes. If you were active as a child, became fit as a teenager, and continue to stay fit throughout your life, it is very likely that you will have greater strength, flexibility, and cardiorespiratory health and a lower percentage of body fat than if you chose a more sedentary lifestyle.

## WHAT COMPONENTS OF FITNESS ARE IMPORTANT TO YOU?

Engaging in fitness activities can have a positive effect on many different physical attributes. For the vast majority of people in our society, regardless of age, the focus should be on those components of fitness which are concerned with the development of qualities necessary to function efficiently physically and to maintain a healthy lifestyle. Those fitness components include cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition. Collectively, they are referred to as **health-related components**. The Fit List above summarizes the fitness components.

**Cardiorespiratory endurance** is the ability to persist in a physical activity requiring oxygen for physical exertion without experiencing undue fatigue (Figure 1-1). If you go out and run 2 miles or swim 2000 yards you are displaying cardiorespiratory endurance. The functioning of the heart, lungs, and blood

vessels is essential for distribution of oxygen and nutrients and removal of wastes from the body. For performance of vigorous activities, efficient functioning of the heart and lungs is necessary. The more efficiently they function, the easier it is to walk, run, work, and concentrate for longer periods. Exercise of this nature involves the heart, the vessels supply-

# Fit List

## Fitness Components

### Health-related Components

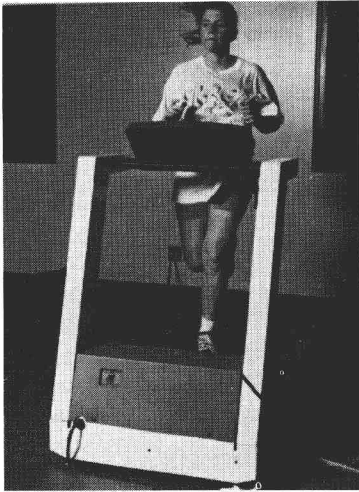
- Cardiorespiratory endurance
- Flexibility
- Muscular strength
- Muscular endurance
- Body composition

### Skill-related Components

- Speed
- Power
- Agility
- Neuromuscular coordination
- Balance

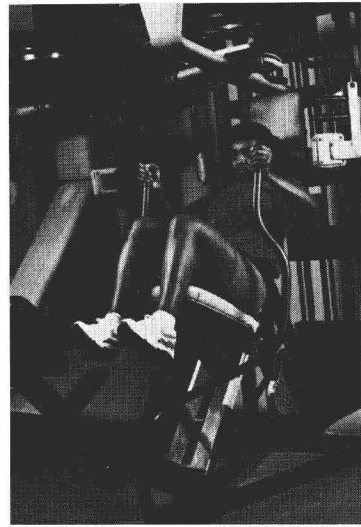
**health-related components:** components of a healthy lifestyle, including muscular strength, muscular endurance, cardiorespiratory endurance, flexibility, and body composition.

**cardiorespiratory endurance:** the ability to persist in a physical activity requiring oxygen for physical exertion without experiencing undue fatigue.



**Figure 1-1. Cardiorespiratory Endurance.**

*Perhaps the most essential fitness component for both good health and skill-related performance.*



**Figure 1-2. Muscular Strength.**

*The ability to generate force against resistance.*



**Figure 1-3. Muscular Endurance.**

*The ability to perform muscular contractions repeatedly over a period of time.*

ing blood to all parts of the body, and the oxygen-carrying capacity of the blood.

**Muscular strength** is the ability or capacity of a muscle or muscle group to exert force against resistance (Figure 1-2). It refers to a muscle's ability to exert maximal force in a single effort. Strength is needed in all kinds of work and in physical activity, and strong muscles provide better protection of body

joints, resulting in fewer sprains, strains, and muscular difficulties. Furthermore, muscle strength helps in maintaining proper posture and provides greater endurance, power, and resistance to fatigue.

**Muscular endurance** is the ability of muscles to perform or sustain a muscle contraction repeatedly over a period of time (Figure 1-3). Muscular endurance is closely related to muscular strength. If you are strong, you will be more resistant to fatigue because relatively less effort will be required to produce repeated muscular contraction.

**muscular strength:** the ability or capacity of a muscle or muscle group to exert force against resistance.

**muscular endurance:** the ability of muscles to perform or sustain a muscle contraction repeatedly over a period of time.

**Flexibility** is the ability to move your arms, legs, and trunk freely throughout a full, nonrestricted, pain-free range of motion (Figure 1-4). It may be improved by engaging regularly in stretching. Flexibility is important for performance in most active sports; it is also important for maintaining good posture. Flexibility is also essential in carrying on many daily activities and can help to prevent muscle strain and muscular problems such as backaches.

**Body composition** refers to the different types of tissues that make up your body. These primarily include bones, muscles, tendons, ligaments, skin, and fat (Figure 1-5). Body



**Figure 1-4. Flexibility.**

*The ability to move freely through a full range of motion.*

**flexibility:** the ability to move your arms, legs, and trunk freely throughout a full, nonrestricted, pain-free range of motion.

**body composition:** the percentage of fat in the body relative to the percentage of all the other tissues.

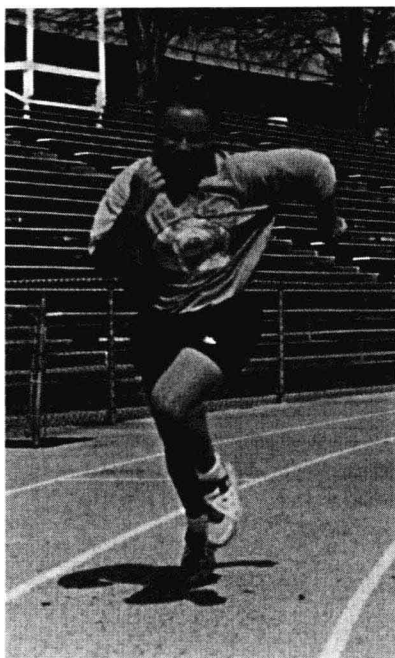
composition particularly refers to the percentage of fat in the body relative to the percentage of all the other tissues. An excess of fat in the body is unhealthy because it causes the body to expend more energy for movement, and it may reflect a diet high in saturated fat. The demand on the cardiorespiratory system is greater when the percentage of body fat is high. Furthermore, it is believed that obesity contributes to degenerative diseases such as high blood pressure and *atherosclerosis*. Obesity can also result in psychological maladjustments and may shorten life. A balance between caloric intake and caloric expenditure is necessary to maintain proper body fat content. Adequate exercise, therefore, is effective in controlling body fat. *Caloric intake* is the total number of calories consumed in a 24-hour period regardless of the type of foods ingested. *Caloric expenditure* is the number of calories burned off in a 24-hour period from basal metabolism and exercise.



**Figure 1-5. Measuring Body Composition.**

*Exercise reduces the percentage of total body weight that is fat tissue.*





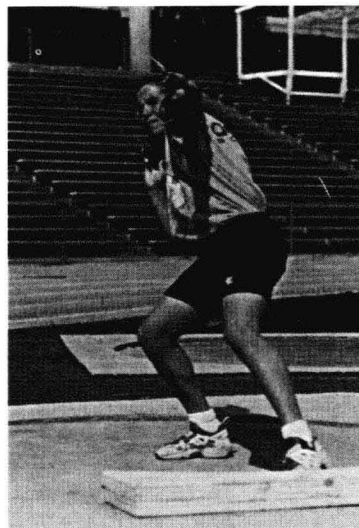
**Figure 1-6. Speed.**

*An important component in many competitive athletic situations.*

Other components of fitness, called **skill-related components**, are also important for any physically active person. These components deal more with performance in sports and other physical activities than with basic physical health and include speed, power, coordination, balance, and agility.

**Speed** is the ability to perform a particular movement very rapidly. It is a function of distance and time (Figure 1-6). Speed is an important component for successful performance in many competitive athletic situations.

**Power** is the ability to generate great amounts of force against a certain resistance in a short period (Figure 1-7). Power is a function of both strength and speed. The ability to drive a golf ball, hit a softball, or kick a ball a long distance requires some element of power.



**Figure 1-7. Power.**

*The ability to generate large amounts of force rapidly.*

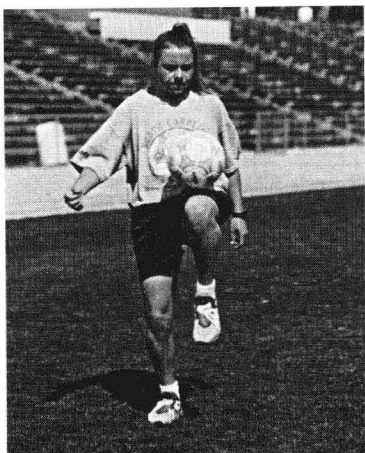
**Coordination** is the ability to integrate the senses—visual, auditory, and proprioceptive (knowing the position of your body in space)—with muscle function to produce

**skill-related components:** fitness components associated with athletic performance, including speed, power, coordination, balance, and agility.

**speed:** the ability to perform a particular movement very rapidly. It is a function of distance and time.

**power:** the ability to generate great amounts of force against a certain resistance in a short period of time.

**coordination:** the ability to integrate the senses with muscle function to produce smooth, accurate, and skilled movement.



**Figure 1-8. Neuromuscular Coordination.**

*The ability to integrate the senses with motor function to produce coordinated movement.*

smooth, accurate, and skilled movement (Figure 1-8).

**Balance** is the ability to maintain some degree of equilibrium while moving or standing still (Figure 1-9).

**Agility** is the ability to change or alter—quickly and accurately—the direction of body movement during activity. Agility to a large extent depends on coordination. Agility may be improved with increased flexibility and muscular strength (Figure 1-10).

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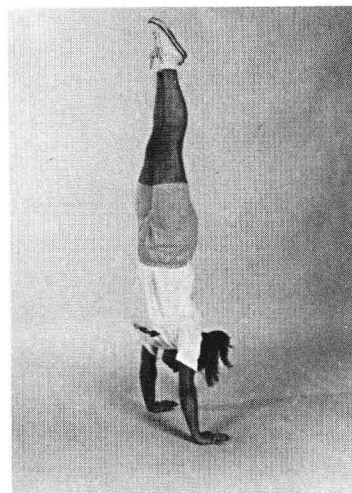
## DETERMINING YOUR REASONS FOR WANTING TO BE FIT

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Perhaps the most important thing that you have learned by this point in your life is that

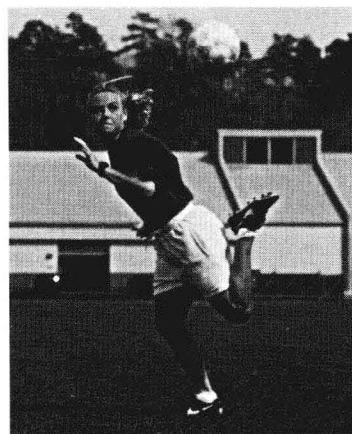
**balance:** the ability to maintain some degree of equilibrium while moving or standing still.

**agility:** the ability to change or alter—quickly and accurately—the direction of body movement during activity.



**Figure 1-9. Balance.**

*The ability to maintain equilibrium when moving or stationary.*



**Figure 1-10. Agility.**

*The ability to change direction of movement quickly and accurately.*

people are different. These differences are evident in all aspects of our being. Certainly, each person has his or her individual reasons for engaging in a fitness program. Before you begin your personal fitness program, it may be helpful to determine your personal reasons for

wanting to get fit and your present level of activity.

Whatever your motivation for starting an individualized fitness program, you should first consider exactly what it is that you are trying to accomplish. The exercise program you choose should be one that results in the development of the desired fitness component(s). This means that activities selected should be specific to goals. For example, if your goal is increasing stamina or endurance, this may be achieved effectively by engaging in activities such as running, swimming, skating, or cycling—all activities that maximize the use of the circulatory system. Lab Activity 1-1 will help you to determine your individual reasons for wanting to become physically fit.

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## **HOW LONG WILL IT TAKE YOU TO GET FIT?**

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There is no shortcut to fitness; it takes time. You should not expect results in a matter of hours or even days. After a month of appropriate activity on a regular basis, some improvement should be noted, depending on what your physical condition was when you started. After an extended period of gradual improvement, you may reach a plateau at which you experience no improvement but instead seem to stay at the same level of fitness. This is a natural phenomenon. In time, with regular workouts, improvement will occur; after several months, the desired results will be attained. Make a commitment to your fitness program and keep at it; you will feel better, and this will in turn motivate you to continue. Once you have attained a desirable physical fitness level, you will be strongly motivated to maintain this level through regular workouts.

Any physical fitness program requires effort to produce results. Too often, people look for the easy way to achieve their goals. Steam baths, sauna baths, fitness machines, mas-

sages, and gimmicks such as body wraps or fad diets may be relaxing or produce short-term effects, but it is necessary to exert effort to achieve the lasting benefits of physical fitness. The body must do the work. You can't sit and be fit!

### **SUMMARY**

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- Being fit means that the various systems of your body are healthy and function efficiently so as to enable you to engage in activities of daily living, as well as recreational pursuits and leisure activities, without unreasonable fatigue.
- Being physically fit produces various physiological, social, and psychological benefits.
- Engaging in regular exercise throughout your lifetime can delay many of the degenerative processes associated with aging.
- Most people should focus on those components of fitness which are concerned with maintaining a healthy lifestyle, including cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition.
- Other components of fitness are more closely related to skill of performance in sports and other physical activities than to good health; such components include speed, power, coordination, balance, and agility.
- Before starting a personal training program, it is helpful to examine your attitude toward physical fitness and your reasons for wanting to be physically fit.
- There is no short-cut to becoming physically fit. It requires time, hard work, and determination.

### **Suggested Readings**

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