

APPENDIX

B

Reading a Textbook Chapter

Read the following chapter from the college textbook *Total Fitness: Exercise, Nutrition, and Wellness*. As you read, complete the labels in the four figures with information from the passage. After you finish the reading, answer the questions that follow the passage.

Stress Management and Modifying Unhealthy Behavior

- 1 Although many behaviors affect your health, the five that are most important for promotion of good health are: regular exercise, good nutrition, weight control, stress management, and modification of unhealthy behaviors that increase your risk of disease or increase your risk of an accident. Earlier chapters have focused on improving health through physical fitness, proper diet/weight control, and actively reducing the risk of cancer and heart disease. This chapter expands on these strategies by introducing the concepts of stress reduction and behavior modification aimed at reducing your risk of disease. Let's begin our discussion with an overview of stress management.

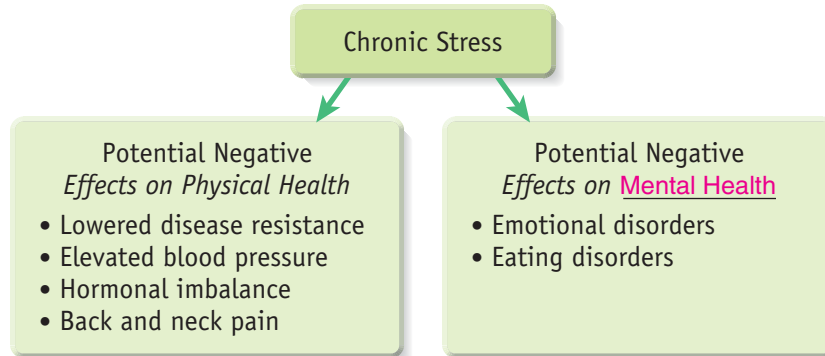
STRESS MANAGEMENT

- 2 Studies suggest that 10% to 15% of U.S. adults may be functioning at less than opti-

mal levels because of stress-related anxiety and depression. Indeed, millions of people take medication for stress-related illnesses. Stress-related problems result in annual losses of billions of dollars to both businesses and government due to employee absenteeism and health care costs. Therefore, stress is a major health problem in the United States that affects individual lives and the economy as a whole. In the following sections, we will discuss several key aspects of stress management.

Stress: An Overview

Stress is a physiological and mental response 3 to something in our environment that causes us to become uncomfortable. The factor that produces stress is called a **stressor**. Stressors can be physical in nature (such as an injury) or mental (such as emotional distress result-

▼ **Figure 14.1** Health Effects of Stress

ing from a personal relationship). Regardless of the nature of the stressor, the physiological and mental responses to stress usually include the feelings of strain, tension, and anxiety.

4 From a medical standpoint, stress can impact both emotional and physical health. Chronic (persistent) stress has been linked to elevated blood pressure, hormonal imbalances, reduced resistance to disease, eating disorders, and emotional disorders (see Figure 14.1).

5 There are many sources of stress in everyday life. Driving in heavy traffic, being involved in an automobile accident, encountering emotional conflicts at work or school, and experiencing personal financial problems are just a few. Let's continue our discussion of stress by examining your stress profile.

Assessment of Stress

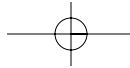
6 Stress can be acute (e.g., the death of a loved one), cumulative (such as a series of events leading to a divorce), or chronic (such as daily job-related stress). Although it is clear that chronic or extreme stress is unhealthy, some degree of stress is required to maximize per-

formance. For instance, athletes and business professionals often perform better when faced with mild-to-moderate stress. A stress level that results in improved performance is called **eustress** or positive stress. Although some level of stress is desirable, each of us has a breaking point in terms of stress. This idea is illustrated in Figure 14.2.

7 When we surpass the stress level needed to optimize performance (optimal stress), we reach our stress break point and **distress** (negative stress) results. Distress promotes a decline in performance, and chronic distress can increase the risk of disease.

8 Different people may react differently to the same stressful situation. For example, a violent movie may evoke anger in one person and no emotion at all in another. This difference in "stress perception" is due to personality differences. When it comes to stress, individuals can be classified into one of three personality categories: type A, type B, and type C (Figure 14.3).

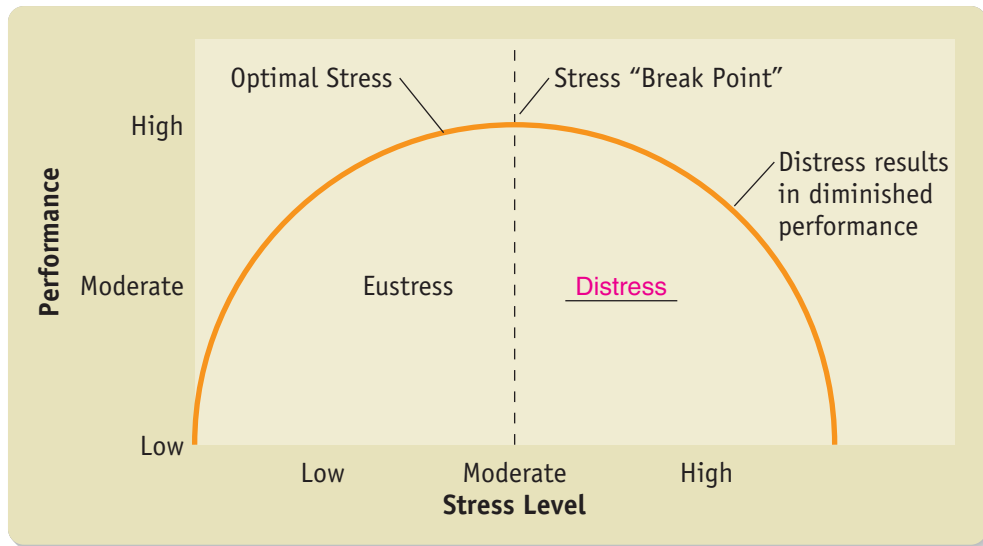
9 Type A individuals are highly motivated, time-conscious, hard driving, sometimes hostile, and impatient. They have a



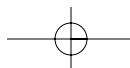
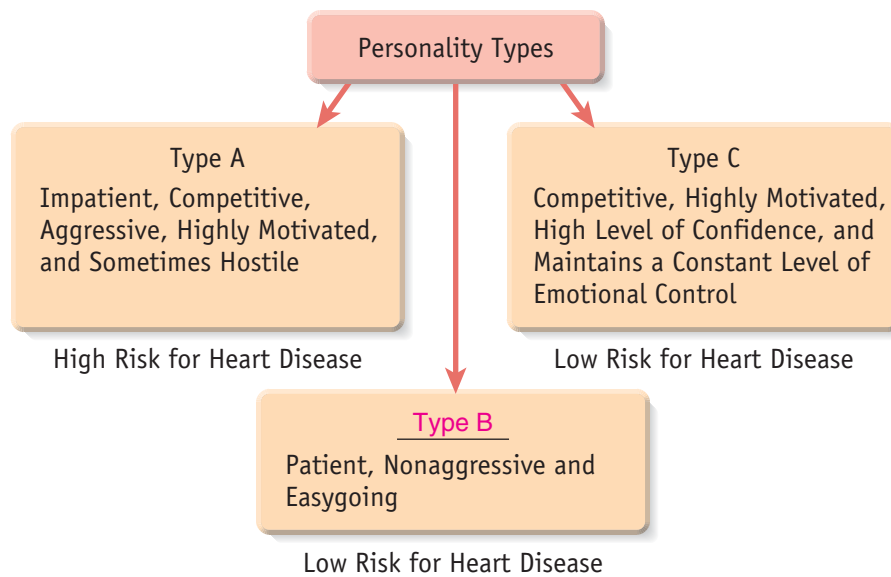
heightened response to stress. Because stress is a risk factor for heart disease, type A people exhibit this risk. In contrast, type B individuals are easygoing, nonaggressive, and patient.

Type B personalities do not generally respond greatly to stress and are considered to be at low risk (from a stress perspective) for heart disease. People with type C personalities have

▼ **Figure 14.2** The Concepts of Eustress and Distress



▼ **Figure 14.3** Personality Types



many of the qualities of type A people. They are confident, highly motivated, and competitive. However, these unique individuals use their personality traits to their advantage by maintaining a constant level of emotional control and channeling their ambition into creative directions. Interestingly, although type C personalities are highly driven, they experience the same low stress-related risk for heart disease as type B personalities.

- 10 The first step in learning to deal with stress is to examine your stress level. Laboratory 14.1 is designed to accomplish this goal.¹

Steps in Stress Management

- 11 Now that you have examined your stress level, it is time to deal with stress by using techniques known collectively as “stress management.” Although there are no magic formulas or nutritional supplements capable of eliminating stress, there are two general steps to managing stress: Reduce the amount of stress in your life, and learn to cope with stress by improving your ability to relax. Let’s discuss each of these steps individually.
- 12 **Stress Reduction.** Reducing sources of stress is the ideal means of lowering the impact of stress on your life. The first step in stress reduction is to recognize those factors that promote daily stress. After identification of these factors, you should eliminate activities that result in daily stress. While it may not be possible to avoid all sources of stress, many “unnecessary” forms of stress can be eliminated.
- 13 A classic example of stress that can often be avoided is overcommitment, a frequent cause of stress in college students. Plan your time carefully and prioritize your activities. It

may not be possible to do everything that you want to do during a given day or week. Plan a daily schedule that permits doing the things you need to accomplish without being overwhelmed with less important activities.

Coping with Stress: Relaxation Techniques.

Because it is impossible to eliminate all forms of stress from daily life, it is necessary to use stress management techniques to reduce the potentially harmful effects of stress. Most of these techniques are designed to produce relaxation, which reduces the stress level. The following are some of the more common approaches used in stress management.

Progressive relaxation. Progressive relaxation is a stress reduction technique for reducing muscular tension using exercises designed to promote relaxation. In essence, the technique is practiced as follows. While sitting quietly or lying down, contract and then relax various muscle groups one at a time, beginning with your feet and then moving up the body to the hands and neck, until a complete state of muscle relaxation is achieved.

The proponents of progressive relaxation techniques for reducing stress argue that relaxing the muscles in this manner will also relax the mind and therefore relieve stress. The theory behind this concept is that an anxious (stressed) mind cannot exist in a relaxed body.

Breathing exercises. A simple means of achieving relaxation is by performing breathing exercises. A sample exercise designed to reduce stress is performed as follows:

1. Assume a comfortable position, sitting or lying down, with eyes closed.
2. Begin inhaling and exhaling slowly. Count from one to three during each

¹Laboratory 14.1 is not included here.

inhalation and each exhalation to maintain a slow and regular breathing pattern.

3. Now combine stretching and breathing to provide greater relaxation and stress reduction. For example, stretch your arms toward the ceiling as you inhale, then lower your arms during exhalation.
- 18 Try this exercise for 5 to 15 minutes in a quiet room. Although breathing exercises may not reduce all stress, they have been shown to be a simple means of stress reduction.
- 19 **Rest and sleep.** One of the most effective means of reducing stress and tension is to get an adequate amount of rest and sleep. How much sleep do you need? It appears that individual needs vary greatly; however, a good rule of thumb is 7 to 9 hours of restful sleep per night. Further, because of the body's natural hormonal rhythms, it is recom-

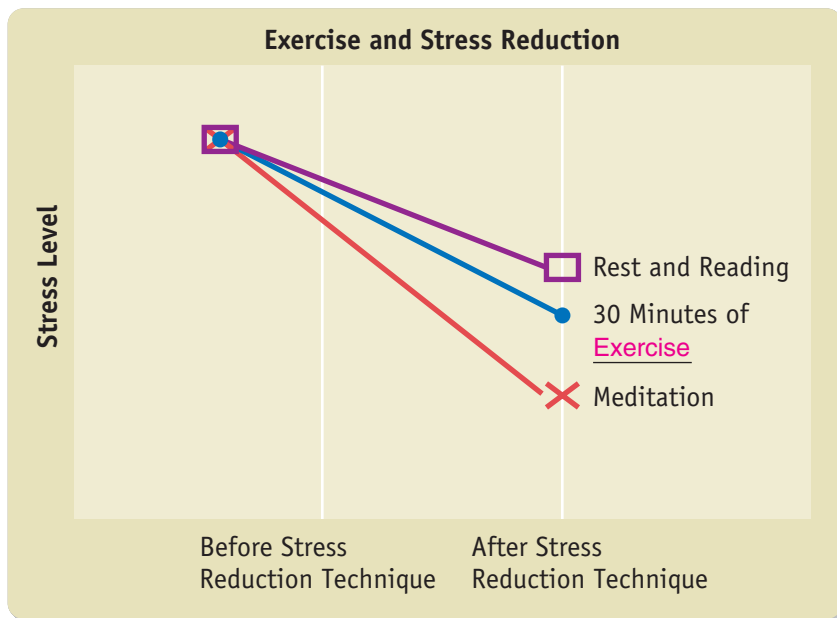
mended that you go to bed at approximately the same time every night.

In addition to a good night's sleep, 15 to 20 30 minutes of rest per day is useful in stress reduction. This can be achieved as simply as putting your feet up on a desk or table and closing your eyes. A well-rested body is the best protection against stress and fatigue.

Exercise. Although prolonged or high- 21 intensity exercise can impose both mental and physical stress, research has shown that light-to-moderate exercise can reduce many types of stress. The recommended types of exercise for optimal stress reduction are low-to moderate-intensity aerobic exercises (such as running, swimming, and cycling).

How good is exercise at reducing stress? 22 Studies have shown that exercise is a very effective form of stress reduction. Figure 14.4 compares the effects of a 30-minute bout of

▼ **Figure 14.4** Exercise and Stress Reduction



light-to-moderate exercise (running) to three other common forms of stress reduction: rest, reading, and meditation. In this study, meditation provided the greatest stress reduction, with exercise finishing a close second.

- 23 Why does regular exercise reduce stress? Several possibilities exist. One theory is that exercise causes the brain to release several naturally produced tranquilizers, called *endorphins*, which reduce stress levels. Endorphins work by blocking the effects of stress-related chemicals in the brain. Another theory is that exercise may be a diversion that frees your mind from worry or other stressful thoughts. Another possibility is that regular exercise results in an improvement in physical fitness and self-image, which increases your resistance to stress. A final possibility is that all of these factors may be involved in the beneficial effects of exercise on stress management. The next time you feel stressed, try exercise; you will feel and look better as a result.

- 24 **Meditation.** Meditation has been practiced for ages in an effort to produce relaxation and achieve inner peace. There are many types of meditation, and there is no scientific evidence that one form is superior to another. Most types of meditation have the same common elements: sitting quietly for 15 to 20 minutes twice a day, concentrating on a single word or image, and breathing slowly and regularly. The goal of meditation is to reduce stress by achieving a complete state of physical and mental relaxation. Although beginning a successful program of meditation may require initial instruction from an experienced individual, the following is a brief overview of how meditation is practiced.

1. To begin, you must choose a word or sound, called a *mantra*, to be repeated

during the meditation. The idea of using a mantra is that this word or sound should become your symbol of complete relaxation. Choose a mantra that has little emotional significance for you, such as the word *red*.

2. To begin meditation, find a quiet area and sit comfortably with your eyes closed. Take several deep breaths and concentrate on relaxation; let your body go limp.
3. Concentrate on your mantra. This means that you should not hear or think about anything but your mantra. Repeat your mantra over and over again in your mind and relax. Avoid distracting thoughts and focus only on the mantra.
4. After 15 to 20 minutes of concentration on the mantra, open your eyes and begin to move your thoughts away from the mantra. End the session by making a fist with both hands and saying to yourself that you are alert and refreshed.

Visualization. Visualization (sometimes called imagery) uses mental pictures to reduce stress. The idea is to create appealing mental images (such as a quiet mountain setting) that promote relaxation and reduce stress. Visualization is similar to meditation except that instead of using a mantra, you substitute a relaxing scene.

To practice visualization, simply follow the instructions presented for meditation, substituting your relaxing scene for the mantra. If you fail to reach a complete state of relaxation after your first several sessions, don't be discouraged. Achieving complete relaxation with this technique may require numerous practice sessions.

27 In summary, there are many ways to successfully manage stress. The key is to find the technique that is best for you and stick with it. Regular exercise may be the only type of stress management you require. However, if exercise alone is not sufficient, try one of the other forms of stress management as well. Remember, regardless of your personality type or your lifestyle, you can successfully manage stress by applying one or more of the previously discussed techniques.

MODIFYING UNHEALTHY BEHAVIOR

28 A healthy lifestyle is achieved by eliminating unhealthy behavior; this requires behavior modification. Behavior modification is the process of changing an undesirable behavior to a more desirable behavior. In the next two sections, we will discuss behavior modification and provide specific examples of how unhealthy behavior can be eliminated.

Model for Changing Behavior

29 The general plan to modify behavior is similar for all types of behavior modification (see Table 14.1). A logical starting point in eliminating unhealthy behavior is to analyze your current behavior and identify problem areas. Laboratory 14.2 is designed to assist you.²

30 The desire to change is the key point in any behavior modification plan. Without a personal desire to make lifestyle changes, any behavior modification plan is doomed to fail.

31 After identifying the problem and establishing a desire to change a specific behavior, the next move is to analyze the history of the problem. The objective here is to learn what factors contribute to the development of the

²Laboratory 14.2 is not included here.

▼ **Table 14.1**
General Steps in Behavior Modification

Step No.	Action
1	Identify problem.
2	Desire change.
3	Analyze history of problem (past and current).
4	Establish short-term goals (written).
5	Establish long-term goals (written).
6	Sign contract (with friends)
7	Identify strategy for change.
8	Start strategy and learn new coping skills to deal with problem.
9	Evaluate your progress in making behavioral changes. Provide friends with progress reports.
10	Plan long-term maintenance for behavior change.

behavior to be modified. Learning the cause is useful when developing a strategy for change.

The next two steps (steps 4 and 5 in Table 14.1) in the behavior modification plan are the development of both short- and long-term goals for behavior change. Short-term goals establish the need for a rapid change in behavior. Long-term goals provide the incentive required to maintain behavior changes. The importance of goal setting in behavior modification cannot be overemphasized. A behavior modification plan without goals is like a race without a finish line.

The subsequent stage in the behavior modification plan is to sign a behavior modification contract in the presence of friends. The purpose of signing a formal contract is to

confirm in writing your commitment to a behavior change. Having friends present during the signing of the contract is important. They provide moral support and encouragement during the difficult early periods of behavior change.

34 The final four steps (steps 7–10) incorporate the development of a strategy for behavior change, the learning of new coping skills, evaluation of your progress, and the planning of long-term maintenance for behavior change.

35 Many people who have had previous difficulty in changing behavior develop the attitude that some bad habits cannot be changed. This is not true! Unhealthy behaviors are learned; therefore, they can be unlearned.

Specific Behavior Modification Goals

36 Let's extend our behavior modification model by illustrating how these plans can be applied specifically to weight loss.

37 Losing weight and maintaining the weight loss is difficult for many people. Clearly, the application of behavior modification principles is essential in the weight loss process. Although there is no single weight loss program that works for all people, the following eight components are common ingredients of most successful efforts.

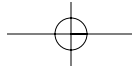
1. The individual desires to lose weight.
2. The program begins with a 2-week dietary diary that includes the kind and

amount of food eaten and the environmental and social circumstances.

3. Short- and long-term weight loss goals are established.
4. The individual signs a weight loss contract with friends.
5. The new dietary plan includes a balanced diet that results in a negative caloric balance and a fat deficit so that a loss of fat will result. Further, the addition of a regular exercise program is a key factor in any weight loss plan.
6. New coping skills for overeating include avoiding those environments or social settings that promote it (such as parties).
7. The individual evaluates weight loss progress on a weekly basis and gets positive feedback from a support group (such as spouse, friends, or relatives).
8. After obtaining weight loss goals, the individual makes a plan for long-term behavioral changes that maintain the desired weight.

In summary, weight control is a specific 38 application of general behavior modification principles. Indeed, these eight components incorporate most of the general behavior modification principles outlined in Table 14.1. Remember that the key elements in a weight control program are the desire to lose weight, establishment of goals, development of a plan, and positive feedback from peer/family support.

—Excerpted and adapted from Powers and Dodd, *Total Fitness*, 2nd ed., pp. 302–12

**Supporting Details**

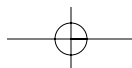
- c 5. Which of the following did the author offer as an example of chronic stress?
- the death of a loved one
 - a series of events leading to a divorce
 - daily job-related stress
 - being a type A personality
- c 6. The sentence in paragraph 9 “Type B personalities do not generally respond greatly to stress and are considered to be at low risk (from a stress perspective) for heart disease” is a
- main idea.
 - major supporting detail.
 - minor supporting detail.
 - conclusion.

Thought Patterns

- b 7. The main thought pattern used to organize paragraphs 6 through 8 is
- time order.
 - classification.
 - cause and effect.
 - comparison and contrast.
- b 8. The thought pattern used to organize paragraph 15 is
- definition and example.
 - time order.
 - cause and effect.
 - classification.
- a 9. The overall thought pattern that organizes the reading is
- cause and effect.
 - time order.
 - comparison and contrast.
 - generalizations and example.

Thought Patterns

- d 10. “Stress-related problems result in annual losses of billions of dollars to both business and government due to employee absenteeism and health care cost. Therefore, stress is a major health problem in the United States that affects individual lives and the economy as a whole.” (paragraph 2)
- Which thought pattern best describes the relationship of ideas between these two sentences?
- time order
 - comparison
 - addition
 - cause and effect
- d 11. “There are many sources of stress in everyday life. Driving in heavy traffic, being involved in an automobile accident, encountering emotional conflict at work or school, and experiencing personal financial problems are just a few.” (paragraph 5)



Which thought pattern best describes the relationship of ideas between these two sentences?

- a. time order
- b. cause and effect
- c. comparison and contrast
- d. generalization and examples

- b 12. “Although there is no single weight loss program that works for all people, the following eight components are common ingredients of most successful efforts.” (paragraph 37)

Which thought pattern do you find in the relationship of ideas within this sentence?

- a. time order
- b. comparison and contrast
- c. generalization and example

Advanced Skills

Fact and Opinion

- c 13. “Clearly, the application of behavior modification principles is essential in the weight loss program.” (paragraph 37)

This sentence is

- a. a fact.
- b. an opinion.
- c. a mixture of fact and opinion.

- a 14. Overall, the author uses details that are
- a. fact.
 - b. opinion.
 - c. a mixture of fact and opinion.

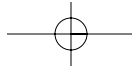
Purpose and Tone

- b 15. “Without a personal desire to make lifestyle changes, any behavior modification plan is doomed to fail.” (paragraph 30)

What word best expresses the tone of the sentence?

- a. regretful
- b. pessimistic
- c. scornful
- d. neutral

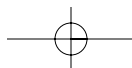
- c 16. The author’s main purpose is
- a. to persuade readers to apply behavior modification principles to their own lives.
 - b. to delight readers with long sought-after solutions to stress management problems.
 - c. to inform readers about ways to identify and control stress.

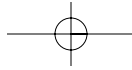
**Inferences**

- a 17. Based on the information in paragraph 6, an example of eustress is
- the nervousness an athlete feels before a game.
 - feelings of failure after losing a game.
 - an overwhelming sense of insecurity.
 - a sense of loss such as going through a divorce or the death of a loved one.
- c 18. Based on the information in the passage we may infer that meditation and visualization
- are religious practices that help one deal with stress.
 - should be taught in public schools to reduce the health risks of stress.
 - may require training and practice to master effectively.
 - are automatic responses to stress.

Argument

- c 19. The following group of ideas contains a claim and supports for that claim. Write the letter of the claim in the blank.
- Short-term goals establish the need for a rapid change in behavior.
 - Long-term goals provide the incentive required to maintain behavior changes.
 - The importance of goal setting in behavior modification cannot be overemphasized.
 - A behavior modification plan without goals is like a race without a finish line.
- c 20. **Claim:** Stress is a major health problem in the United States that affects individual lives and the economy as a whole.
- Which statement does *not* support the claim?
- Studies suggest that 10% to 15% of U.S. adults may be functioning at less than optimal levels because of stress-related anxiety and depression.
 - Millions of people take medication for stress-related illnesses.
 - Stress management techniques can reduce the threat of stress.
 - Stress-related problems result in annual losses of billions of dollars to both businesses and government due to employee absenteeism and health care costs.





Discussion Questions

1. Identify and discuss sources of stress not mentioned in the article.
2. In what ways is eustress helpful? What are examples from your life?
3. How can meditation or visualization techniques enhance a behavior modification plan?
4. Why do you think the author included weight control as an example of how to apply a behavior modification plan? Identify and discuss other lifestyle choices that could have been included.

Writing Topics

1. Identify which of the three personality types you are and discuss the ways in which your personality type is affected by or causes stress in your life.
2. Identify a source of stress and create a stress management plan to help you reduce its negative effects.
3. Write a letter to a friend or family member advising that person how to manage stress.

