

Chapter 5 Coping with Stress

Chapter Preview

Chapter 5 concludes the two-chapter unit on stress with its focus on coping with stress. The first section of the chapter explores the various ways—some healthy, some unhealthy—in which people cope with stress. These coping strategies can be broadly categorized as either emotion-focused or problem-focused. Coping style also differs according to gender and socioeconomic status.

The next section discusses factors affecting the ability to cope, beginning with a description of the stress-busting benefits of hardiness and resilience (in children). These traits may make individuals healthier because the people are less likely to become overwhelmed by stressful situations. Similarly, optimistic people who maintain a positive explanatory style, people who perceive strong control over their lives, and people with strong self-regulation skills generally adopt more effective coping responses than people whose explanatory style is negative, those who feel a sense of helplessness, and people with weak regulatory control. Social support helps people cope more effectively (buffering hypothesis) and in enhancing the body's response to stress (direct-effect hypothesis). The section concludes with a brief discussion of other factors such as a sense of humor that help people cope.

The last section discusses various approaches to stress management. Regular physical activity and relaxation techniques such as progressive muscle relaxation can improve a person's psychological and physiological ability to cope with stress. Although results from studies of biofeedback's effectiveness are mixed, this method remains a viable means of treating some anxiety and stress-related disorders. Finally, cognitive therapies are aimed at breaking the cycle of irrational thought patterns that distort people's perception of everyday events and prevent them from adopting healthy coping behaviors. Cognitive behavioral stress management is a multimodal therapy that helps people to confront stressful events with coping strategies that can be put in place before stressors become overwhelming.

Learning Objectives

After completing their study of Chapter 5, students should be able to:

1. Define *coping*, and differentiate problem-focused and emotion-focused coping skills.
2. Compare and contrast the coping styles of women and men, and discuss whether these differences are true gender differences.
3. Discuss the relationship between socioeconomic status and coping style.
4. Define the hardy personality, and discuss the relationships among this trait, coping style, and health.
5. Discuss the relationships among explanatory style, the perception of control, stress, and illness.
6. Describe the relationship between physiological responses such as vagal tone and regulatory control, and give evidence linking regulatory control with coping style.

7. Differentiate the types of social support, and discuss two hypotheses regarding the beneficial effects of social support.
8. Discuss who is most likely to benefit from social support, and identify the circumstances under which social support is not beneficial.
9. Discuss the physiological and psychological benefits of exercise.
10. Describe several relaxation techniques, and discuss evidence regarding their effectiveness as stress-management tools.
11. Discuss the use and effectiveness of biofeedback as a stress-management technique.
12. Describe the assumptions and goals of the cognitive therapies and their application in stress management.

Chapter Outline

Responding to Stress

Emotion-Focused and Problem-Focused Coping Strategies

Coping, Gender, and Socioeconomic Status

Diversity and Healthy Living: Understanding Gender Differences in Coping Styles

Coping and Ethnicity

Factors Affecting the Ability to Cope

Hardiness

Evaluating the Hardiness Hypothesis

Resilience

Explanatory Style

Pessimism

Optimism

Personal Control and Choice

Personal Control and Coping Strategies

Regulatory Control

Cardiovascular Reactivity

Choice, Culture, and Control

Emotional Disclosure

Social Support

How Social Support Makes a Difference

Who Receives Social Support?

When Social Support Is Not Helpful

Other Factors

Gratitude

Humor

Pets

Stress Management

Exercise

Physiological Effects of Exercise

Psychological Effects of Exercise

Relaxation Therapies

Deep Breathing and Visualization

Biofeedback

How Effective Is Biofeedback?

Cognitive Therapies

Cognitive Behavioral Stress Management

Weigh In on Health

Suggestions for Classroom Activities

1. Fact or Falsehood?

Before students read the chapter, have them respond to the true-false statements in Handout 5.1. The correct answers are shown below, along with the text page numbers on which the answers can be verified. Class discussion should focus on the origins of any examples of faulty thinking that are demonstrated in the students' incorrect answers.

- | | | |
|---------------|----------------|----------------|
| 1. T (p. 125) | 6. T (p. 158) | 11. F (p. 155) |
| 2. T (p. 126) | 7. F (p. 158) | 12. T (p. 157) |
| 3. F (p. 127) | 8. T (p. 141) | |
| 4. T (p. 133) | 9. F (p. 144) | |
| 5. F (p. 135) | 10. T (p. 150) | |

2. Evaluating Students' Coping Styles

As noted in the text, Richard Lazarus and his colleagues distinguish between problem-focused coping and emotion-focused coping. Problem-focused coping is a coping strategy for dealing directly with a stressor, either by reducing the stressor's demands or increasing our resources for meeting those demands. Problem-focused coping can involve an outer-directed action, such as trying to alter a situation or the behavior of another person, or it can be inner-directed, such as engaging in physical exercise, practicing meditation, or seeking social support from others. Research studies have shown that people are most likely to use problem-focused coping when they believe a problem is controllable and emotion-focused strategies when problems appear beyond our control. In practice, however, people often rely on both strategies.

Handout 5.2 can be used to assess your students' overall coping styles. The questionnaire identifies 32 coping strategies, some of which are clearly emotion-focused ("Tried to reduce tension by smoking more"), and others are problem-focused ("I knew what had to be done and tried harder to make things work"). The authors of the scale extend the problem-focused and emotion-focused distinction to include active-cognitive strategies (active efforts to construct thoughts to help cope with a problem), active-behavioral

(active efforts to change a situation), and avoidance (efforts to keep a problem from conscious awareness). A student's score on the active-cognitive subscale is the sum of the scores for items 1, 6, 7, 10, 11, 15, 20, 21, 23, 26, and 29. Active-behavioral is assessed by items 2, 3, 5, 8, 12, 13, 17, 18, 22, 25, 28, 31, and 32. Avoidance is assessed by items 4, 9, 14, 16, 19, 24, 27, and 30.

After students have completed the scale, ask them which strategies they believe to be most effective and whether certain personality types are more likely to use specific coping strategies than others. Research evidence suggests that people who have a strong desire for control in their lives rely on more active strategies; that women are more likely than men to use active-behavioral and avoidance strategies more; that easygoing and self-confident people are more likely to use active-cognitive and active-behavioral techniques; and that people with less education, fewer financial resources, and weaker social support networks are most likely to use avoidance.

Holahan, C., & Moos, R. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, 52, 946-955.

3. Resilience

You may wish to expand on the text's discussion of resilience. Students are fascinated by stories of individuals who have overcome adversity, and even thrived in the face of seemingly overwhelming odds.

Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats, or even significant sources of stress—such as family and relationship problems, serious health problems, or workplace and financial stressors.

Many experts credit Emmy Werner as being the first researcher to empirically study resilience in children. Werner's seminal research involved a cohort of 698 infants born on the island of Kauai, Hawaii, in 1955. As a group, these infants were exposed to a variety of reproductive and environmental risk factors, including low birth weight, preterm birth, and unstable households. Two-thirds of the at-risk children later exhibited

developmental problems, including delinquency, poor mental and physical health, and unstable relationships. However, among Werner's most significant findings was that one-third of all high-risk children displayed resilience and developed into caring, competent, and confident adults, despite their problematic development histories.

Werner identified a number of protective factors in the lives of these resilient individuals that helped balance out the risk factors at critical periods in their development. Among these factors were personal attributes, such as having an outgoing nature and a positive self-concept; family attributes, such as having a strong bond with a nonparent caretaker (such as an aunt, babysitter, or teacher); and involvement in a church or a community group like the YMCA. Following are more protective factors that seem to promote resilience.

Protective Factors for Resilience

- Within the Person
 - Easy temperament; adaptable personality
 - Positive self-perceptions; self-efficacy
 - Positive outlook; sense of meaning in life
 - Talents valued by self and society
 - Good sense of humor
 - Good self-regulation of emotional arousal and impulses
- Within the Family
 - Authoritative parenting
 - Positive family climate
 - Organized home environment
 - Postsecondary education of parents
 - Parents involved in child's education
 - Socioeconomic advantages
- Within the Community
 - Effective schools
 - Availability of prosocial organizations and clubs
 - Neighborhoods with high collective efficacy
 - High levels of public safety
 - Good emergency social services
 - Good public health and health care

These findings highlight the fact that resilience is best thought of as a process rather than an individual trait. It is the result of individuals interacting with their environments.

Subsequent research has shown that resilience is not as extraordinary a phenomenon as is commonly believed. Furthermore, resilience is not a trait that people either have or do not have. It involves behaviors, thoughts, and actions that can be learned and developed in anyone. Nor does

being resilient mean that a person doesn't experience difficulty or distress. Emotional pain and sadness are common in people who have suffered major adversity or trauma in their lives. In fact, the road to resilience is likely to involve considerable emotional distress.

To promote resilience, the American Psychological Association (2010) offers the following 10 steps.

1. Make connections

Good relationships with close family members, friends, or others are important. Accepting help and support from those who care about you and will listen to you strengthens resilience. Some people find that being active in civic groups, faith-based organizations, or other local groups provides social support and can help with reclaiming hope. Assisting others in their time of need also can benefit the helper.

2. Avoid seeing crises as insurmountable problems

You can't change the fact that highly stressful events happen, but you can change how you interpret and respond to these events. Try looking beyond the present to how future circumstances may be a little better. Note any subtle ways in which you might already feel somewhat better as you deal with difficult situations.

3. Accept that change is part of living

Certain goals may no longer be attainable as a result of adverse situations. Accepting circumstances that cannot be changed can help you focus on circumstances that you can alter.

4. Develop realistic goals and move toward them

Develop some realistic goals. Do something regularly—even if it seems like a small accomplishment—that enables you to move toward your goals. Instead of focusing on tasks that seem unachievable, ask yourself, "What's one thing I know I can accomplish today that helps me move in the direction I want to go?"

5. Take decisive actions

Act on adverse situations as much as you can. Take decisive actions, rather than detaching completely from problems and stresses and wishing they would just go away.

6. Look for opportunities for self-discovery

People often learn something about themselves and may find that they have grown in some respect as a result of their struggle with loss. Many people who

have experienced tragedies and hardship have reported better relationships, greater sense of strength even while feeling vulnerable, increased sense of self-worth, a more developed spirituality, and heightened appreciation for life.

7. Nurture a positive view of yourself

Developing confidence in your ability to solve problems and trusting your instincts helps build resilience.

8. Keep a long-term perspective

Even when facing very painful events, try to consider the stressful situation in a broader context and keep a long-term perspective. Avoid blowing the event out of proportion.

9. Maintain a hopeful outlook

An optimistic outlook enables you to expect that good things will happen in your life. Try visualizing what you want, rather than worrying about what you fear.

10. Take care of yourself

Pay attention to your own needs and feelings. Engage in activities that you enjoy and find relaxing. Exercise regularly. Taking care of yourself helps keep your mind and body primed to deal with situations that require resilience.

American Psychological Association. (2010). The road to resilience. Retrieved December 9, 2010, from www.apa.org/helpcenter/road-resilience.aspx.

4. Updating Students' Wellness Profile

As part of their continuing term project, you might ask your students to do a thorough self-evaluation of how they typically cope with everyday stressors. Referring to the stress log they began earlier in the course (described in Chapter 4 of these resources) should help students determine whether they tend to rely more on emotion-focused or problem-focused strategies, whether they tend toward a positive or negative explanatory style, their degree of "hardiness," and so forth. Make sure that students focus on their coping behaviors as well as their psychological reactions to everyday stressors. Are they establishing dangerous habits when under stress that may be difficult to change (for instance, smoking, not exercising, eating unwisely, or using alcohol or other drugs)? As part of their personal assessment, students should also evaluate the extent and quality of their social support networks, social skills, perceived personal control over the events of their lives, and their ability to self-regulate as stress-buffering resources. Some

research studies have shown that the absence of resources such as these may be as great a health risk as cigarette smoking and sedentary living.

5. How Students Cope

Health psychologists have discovered that peer-based interventions are among the most effective techniques for modifying unhealthy behaviors such as maladaptive coping reactions. College is, of course, a stressful experience at certain times, and no one knows better than students themselves which coping strategies work (and which don't). To cope with everyday stress, Pamela Edwards, psychiatrist and director of the adult psychiatry clinic at Oregon Health Sciences University, offers the following tips:

- Use time management principles. Use calendars and lists to prioritize important tasks. Be realistic in allowing sufficient time to finish jobs. Make sure to leave room for unexpected demands on your time.
- Come up with 10 ways to say no. Learning how to say no helps keep your "stress bucket" from overflowing. Once you get the knack of saying no (which many students find very difficult to develop), it gets much easier.
- Get enough sleep and exercise. Research studies have shown that the average adult gets about 1 hour less sleep per night today than he or she did a generation ago, yet works an average of 5–8 hours more each week. At the same time, people are more apt to be sedentary today than ever before. You don't have to join a gym to achieve the health benefits of exercise; just being more active will do it.
- Other tips to minimize stress include avoiding an unhealthy diet; minimizing intake of caffeine, nicotine, and alcohol; trying out relaxation techniques like meditation, tai chi, massage, or stretching; and incorporating more pleasant activities into everyday routines.

After outlining these suggestions, break the class into groups and have them share their own successes and failures in coping with the demands of college life. Afterward, have the groups report to the rest of the class as you list new strategies on the board.

Stone, M. (1999, June 1). *Stress, coping and balance*. <http://cnn.com/HEALTH>.

6. Health Psychology in Action: Managing Traumatic Stress

Given the tragic attacks on the World Trade Center, Pentagon, and the federal building in Oklahoma

City in the United States and the American Embassies in Africa, you may wish to prepare a brief lecture focusing on how people recover from disastrous events such as these, as well as floods, hurricanes, and other natural disasters, which seem to occur more and more frequently these days—and often in unexpected places.

The Practice Directorate of the American Psychological Association maintains a Web site that answers general questions about psychological health, including what happens to people after a disaster. Shock and denial are natural responses to trauma, especially soon after the event. As the initial shock subsides, reactions vary from one person to another and often include several (or all) of the following:

- Feelings become intense and unpredictable. Some people become more irritable than usual, others experience dramatic mood swings.
- Thoughts and behavior patterns are affected by the trauma. Some people have repeated flashbacks of the event that lead to physical reactions such as rapid heartbeat or sweating. Others find it difficult to concentrate or make even the simplest decisions.
- Recurring emotional reactions. Anniversaries of the event, such as at 1 month, 1 year, and so forth can trigger upsetting memories and traumatic relapses of symptoms.
- Interpersonal relationships often become strained. Many survivors experience more frequent arguments with coworkers, family, and friends. Others become isolated and withdrawn from their usual social networks.
- Physical symptoms may accompany the extreme stress. Among the more common physical symptoms are headaches, nausea, and chest pain. In addition, preexisting conditions may worsen.

Many factors affect the length of time required for recovery. Among these are the following:

- The degree of intensity and loss. Traumas that pose greater threat or involve the loss of life or property typically require longer recovery periods.
- A person's general ability to cope with emotionally challenging situations. People who have weathered other stressful circumstances successfully may have an easier time coping with traumatic events.
- Other stressful events preceding the traumatic experience. People who are struggling concur-

rently with other challenging situations, such as health problems or difficulties in interpersonal relationships, may have more intense reactions to traumatic events and require longer recovery time.

APA recommends a number of steps to help people restore their sense of control and overall well-being following a traumatic experience, including these:

- Allow yourself time to heal. Survivors should expect that recovery will take time and so should be patient with changes in their emotional state.
- Ask for support from people who care about you.
- Find out about local support groups. Group discussion led by experienced professionals often helps survivors realize that their reactions and emotions are normal.
- Engage in healthy behaviors such as eating well-balanced meals, getting plenty of rest, trying various relaxation techniques, and avoiding alcohol and other drugs.
- Establish or reestablish routines. These include eating meals and exercising at regular times. Taking time off from everyday demands offers a change of pace that may help people regain their feeling of control over the events of their lives.
- Avoid major life decisions such as changing careers or making irrevocable decisions about relationships.

Traumatic events often take the strongest toll on children. There are several things parents and others who care for children can do to assist children in recovery, including these:

- Spend more time with them and allow them to be more dependent on you as an adult during the immediate aftermath of the traumatic event.
- Provide play experiences to help relieve tension. Younger children, in particular, often find it easier to share their feelings about traumatic events through nonverbal activities such as drawing and painting.
- Encourage older children to share their thoughts and feelings and respond to questions in terms they can understand.
- Keep regular schedules for everyday activities, including mealtimes, bedtimes, and so forth. Consistency in the daily schedule helps restore the child's sense of security.

Last, APA acknowledges that it is not unusual for some people to feel continuing nervousness or lingering sadness that disrupts their daily lives and interpersonal relationships. When these reactions are prolonged and disruptive to daily functioning, the survivor should consult with a trained and experienced mental health professional. With children, continual and aggressive emotional outbursts, serious problems at school, preoccupation with the traumatic event, extreme social withdrawal, and other signs of emotional anxiety are clear indicators of the need for professional intervention. The APA Practice Directorate can be contacted at 202-336-5800 for the name and telephone number of the survivor's state psychological association. This association will be able to make referrals to local psychologists, support groups, and other organizations that help victims of disasters and other traumatic events.

Source: www.apa.org/practice/traumaticstress

7. Measuring Students' Hardiness

As noted in the textbook, some health psychologists believe that "hardiness" is an important factor in how people cope with stress. According to Suzanne Kobasa Ouellette, hardy people possess three important traits: commitment to self, work, family, and other important values; a sense of personal control over one's life; and the ability to see unexpected changes in life as challenges to master rather than insurmountable obstacles. According to this line of reasoning, hardy people are less likely to engage in negative, catastrophic cognitive appraisal and thus do not become anxious and aroused in the first place, which over time makes them less susceptible to stress-related illnesses. Handout 5.3 is an abbreviated version of the hardiness scale developed by Suzanne Kobasa Ouellette that will give students a basic idea of how hardy they are. Instructions for scoring the test are included on the handout.

8. Vacations Are a Serious Matter

A marginal note in the text cites a 2000 study showing that people who take annual vacations are less likely to die young, especially from heart disease. If you wish to elaborate on this intriguing study, the following information will prove useful.

Brooks Gump and Karen Matthews, the authors of the study, analyzed data from the 9-year Multiple Risk Factor Intervention Trial (MRFIT) investigation of nearly 13,000 men—all between the ages of 35 and 57—who were at risk for cardiovascular disease. The participants completed a variety of lifestyle questionnaires, but in analyzing the

data, Gump and Matthews focused on answers to one question: "Within the last 12 months, have you taken a vacation?"

The results showed that 13 percent of the sample had not taken regular vacations over the course of the longitudinal study. Those who took regular vacations every year had a lower risk of death compared to those who did not. Specifically, the relative risk (RR) associated with regular annual vacations was 0.83 for all-cause mortality. That is, their risk of death from any cause was 83 percent of that of people who don't take vacations. For specific causes of death, the RRs were 0.71 and 0.98 for cardiovascular and non-cardiovascular causes, respectively.

The value of vacations may lie in the change of pace itself. "It's taking time out from the everyday relentless stressors," note the researchers. "Even anticipating a vacation can ease stress levels. It removes anticipated threats, provides a period of what we call 'signaled safety.' Anticipated threats are known to have adverse effects as great as, if not greater than, the threat itself." Vacations can also give stressed-out workers a renewed sense of personal control over the events and pace of their lives, and that in itself can relieve stress.

But a true vacation, note the researchers, means leaving work and other everyday stressors behind. "Bring along your pager or cell phone, and you won't get the full benefit of the vacation. You're constantly on guard for potential stress." This is a clear example what health psychologists call "rumination," dwelling on stressful thoughts to excess. Ruminating while you're on vacation can undermine its stress-busting effects.

Gump, B. B., & Matthews, K. A. (2000). Are vacations good for your health? The 9-year mortality experience after the multiple risk factor intervention trial. *Psychosomatic Medicine*, 62, 608–612.

9. Critical Thinking Exercise: Humor and Health

Handout 5.4 is a print version of the Critical Thinking Exercise that appears on the Health Psychology 3e Web site, which can be accessed through www.worthpublishers.com/straub. It is provided here for those who wish to make copies and hand out to their classes.

The exercise asks students to think critically about the relationship between humor and health. It describes Norman Cousins' classic anecdotal evidence in which he credits his recovery from a chronic illness to a daily dose of comedy films. It also discusses two theories of how humor buffers stress. Students are asked to provide answers to the following questions. Sample answers follow.

1. Suppose a health psychologist wished to test her hunch that humor relieves stress. How would she set about doing this? What factors should she consider in designing her study?

As one test of the effectiveness of humor in buffering a short-term stressor, a health psychologist might set up the following study. From a population of interest (for example, college students), a large group would be randomly selected and exposed to a short-term laboratory stressor (for instance, viewing an unpleasant film depicting surgery or treatment of accident victims). Afterward, one-half of the participants would be randomly chosen to watch a brief video of a standup comic, while the remainder of the participants simply sat quietly for the same amount of time. At the end of this period, both groups of participants might complete a questionnaire assessing their reactions to the stressful film.

2. Why don't health psychologists consider anecdotal accounts such as Norman Cousins' as valid evidence for testing research hypotheses? What would constitute valid evidence?

Anecdotal personal accounts are not considered as valid evidence for testing research hypotheses. This is because such accounts offer little or no objective documentation regarding a patient's diagnosis or the effectiveness of a treatment. Instead, as with Cousins' story, the "evidence" presented consists almost entirely of subjective opinions. Health psychologists and biomedical researchers demand evidence from controlled clinical trials and true experiments, in which hypothesis testing and scientific reasoning are used to isolate the independent variables that cause disease, as well as those treatment variables that are clinically effective.

3. Suppose a friend asks for your opinion regarding whether or not having a sense of humor helps buffer the effects of stress. What should your response be?

At this point the safest conclusion is that for some people, laughter can help buffer some of the psychological effects of stress. This is especially true for short-term stressors. However, other studies have shown that excessive humor may also lead to an unrealistic belief that things will always turn out for the best. This may cause some people to underestimate the dangers of some defensive coping behaviors such as cigarette smoking, use of alcohol and other drugs, or sedentary living. Whether the

physical effects of humor in promoting health are significant remains to be demonstrated.

10. *Demonstrating Stress-Management Techniques*

Students are endlessly fascinated with biofeedback, meditation exercises, and relaxation training. You may have access to one of the numerous inexpensive biofeedback devices on the market (for instance, a hand-held GSR device) that can be passed around for a class demonstration. In my class, I demonstrate biofeedback using a laptop computer connected to a multichannel event recorder that monitors heart rate, respiration, and GSR. The laptop is also connected to a projector that displays in real time each of these measures on a large screen. The demonstration is simple, and nearly infallible. I invite a volunteer to come forward and take a seat with his or her back to the class. After connecting the transducers (two finger electrodes for GSR, a set of wrist and ankle electrodes for heart rate, and chest strap for respiration), I start a software program that displays these measures as bouncing bar graphs. When heart rate is stable, for instance, the height of a bar graph remains stable. As heart rate increases or decreases, the bar rises and falls, respectively. Because of the power of the audience effect, it is quite easy to demonstrate the sensitivity of the feedback instrument (even with all the wise-cracking about lie detectors and so forth). After things settle down a bit (a baseline period, you might note to students), I ask the student to sit quietly, think of a pleasant memory (I sometimes lead them through this exercise by reading from a relaxation script), and try to make the bar graph drop.

If you don't have access to this type of equipment, you might also conduct a progressive muscle relaxation exercise with the entire class or arrange for a guest lecture and demonstration of relaxation training or hypnosis from a local practitioner. Demonstrating progressive muscle relaxation (PMR) with the entire class is quite easy. Turn off the lights in the classroom, then have students shut their eyes and concentrate on their breathing. Have them take several deep, cleansing breaths until they begin to feel the tension sweeping out of their bodies. Next, ask students to tense a specific muscle group for 5 or 10 seconds and then gradually release the tension, while focusing on the difference in sensations. Start them off with their foreheads, followed by their facial muscles, shoulders, and so on. To complete the exercise, have students take a few more deep breaths and then turn the lights back on. Discussion can focus on whether students feel more relaxed, why this type of exercise is effective.

tive in relieving stress, and how students might adopt it in their lives.

11. *Scientific American Frontiers Series, Segment 12: Sports Imports* (Time: 5:38)

The fast-growing field of sports science—including the subfield of sports psychology—is the subject of this segment, which is filmed at the training ground for Israel's top athletes.

Boris Blumenstein is coaching Alex, who represented Israel in previous Olympic games. Boris has developed a biofeedback technique to help athletes like Alex improve their concentration. Electrodes placed on scalp muscles measure Alex's state of arousal. After a brief period of relaxation, Boris plays a videotape of Alex's last wrestling match. As Alex watches his excitement level rises and his concentration falters.

The goal is control. Boris is teaching Alex to raise and lower his excitement level at will. This will give the athlete an important concentration tool that can be used during actual matches.

In the next segment, sports scientists who specialize in biomechanics are helping a weight lifter who has reached a plateau in his training. Using sensors to analyze his motions, a computer constructs a model of the optimal weight lifting motion. As they compare this with the weight lifter's actual motion, it is easy to see what the weight lifter is doing wrong—he's leaning too far forward and his knees are not bent enough. Although it looks obvious on the computer, the problem was too subtle a problem for the coaches to see during training.

The scientists are also working with a young sprinter. A sensor in his running shoes records his stride as he runs. The sensors reveal stride length, how much time between each step, when the heel and toe of each foot touch down, and so forth. The problem they are attempting to solve is the runner's inconsistent speed.

Once again, the computer compiles this information with the runner's height and weight and comes up with his ideal running tempo and a training regimen to improve his running form.

This segment provides a brief introduction to the new field of sports psychology. It can profitably be used as a supplement to your overview of stress-management techniques.

Topics for Discussion

Sports psychology
Relaxation training
Optimal arousal theory
Biofeedback

Discussion Questions

1. How is the new field of sports psychology attempting to improve athletic performance? What specific examples are highlighted in the video segment?
2. What is the relationship between arousal and athletic performance? How are sports psychologists using biofeedback and relaxation training to help athletes manage their arousal?

12. *Biofeedback on a Budget*

Margaret Martin suggests the use of Biodots—small, microencapsulated liquid crystal circles that are held between the thumb and forefinger or stuck on the back of the hand—as an effective demonstration of biofeedback. Because they change color in response to changes in skin temperature, Biodots can be used to demonstrate the fundamental principles of self-monitoring (biofeedback). Like the “mood rings” of yore, Biodots presumably display how much stress or relaxation the wearer is experiencing from minute to minute. They are inexpensive (\$15–\$20 for a package of 100) and can be purchased from Biodots International, P.O. Box 29009, Indianapolis, IN 46206 (317-637-5776). They are also available through several Internet suppliers, including The Stress Institute (www.stress-institute.com/biodot.html), and Whole Person Associates (www.wholeperson.com/wpa/dp/bio/bio.htm). Martin suggests that students wear the biodots for three days while maintaining a journal that notes the color of the Biodot and their accompanying thoughts and mood at 10 random times during each day. Students are directed to bring their journals to class at the end of the journal-entry period and share their experiences. (She cautions, however, against having students read their journals aloud, since some may include sensitive, personal information.) Class discussion can focus on the following questions:

- a. Did the Biodots show any relationship between color and activity? Between color and thoughts?
- b. What color did the Biodot turn prior to a test, speech, or some other anxiety-producing activity?
- c. In what situations did the Biodot show the “relaxed state”?

Martin, M. (1990). Biofeedback on a budget. In V. P. Makosky et al. (Eds.), *Activities handbook for the teaching of psychology* (Vol. 3, p. 243). Washington, DC: American Psychological Association.

Name _____

Section _____

Handout 5.1

Fact or Falsehood?

- | | | |
|---|---|--|
| T | F | 1. People tend to rely on emotion-focused coping when they believe little or nothing can be done to alter the stressful situation. |
| T | F | 2. Men and women exhibit a number of different physiological reactions to stress. |
| T | F | 3. When women and men of similar socioeconomic status are compared, gender differences in coping strategies still remain. |
| T | F | 4. Psychologically "hardy" people have been shown to experience less stress-related illness. |
| T | F | 5. Depression is more common in non-Western cultures, where individualism is subordinate to a sense of community. |
| T | F | 6. HIV-positive men who are pessimistic about their fate display a faster onset of AIDS symptoms than men who are more optimistic. |
| T | F | 7. People with a strong sense of personal control are more likely to engage in emotion-focused coping. |
| T | F | 8. Women and men with high levels of social support are less likely to suffer heart attacks. |
| T | F | 9. Social support is always beneficial to the recipient's stress level and overall health. |
| T | F | 10. Physically fit college students report fewer stress-related health problems than less active students. |
| T | F | 11. Most health psychologists agree that biofeedback is an ineffective technique for managing stress. |
| T | F | 12. There is a well-documented, reciprocal relationship between maladaptive thinking and behavior. |

Name _____

Section _____

Handout 5.2

Coping Styles

Take a few minutes to identify the most important problem you have faced during the last year. Then, using the scale below, indicate how often you used each of the following strategies to deal with it.

0 = not at all
 1 = a little
 2 = occasionally
 3 = fairly often

- _____ 1. Took things a day at a time.
- _____ 2. Got away from things for a while.
- _____ 3. Tried to find out more about the situation.
- _____ 4. Tried to reduce tension by drinking more.
- _____ 5. Talked with a professional person (e.g., doctor, lawyer, clergy).
- _____ 6. Made a promise to myself that things would be different next time.
- _____ 7. Prepared for the worst.
- _____ 8. Let my feelings out somehow.
- _____ 9. Took it out on other people when I felt angry or depressed.
- _____ 10. Prayed for guidance and/or strength.
- _____ 11. Accepted it; nothing could be done.
- _____ 12. Talked with spouse or another relative about the problem.
- _____ 13. Talked with a friend about the problem.
- _____ 14. Tried to reduce tension by taking more tranquilizing drugs.
- _____ 15. Told myself things that helped me feel better.
- _____ 16. Kept my feelings to myself.
- _____ 17. Bargained or compromised to get something positive from the situation.
- _____ 18. Tried to reduce tension by exercising more.
- _____ 19. Tried to reduce tension by smoking more.
- _____ 20. Tried to see the positive side of the situation.
- _____ 21. Considered several alternatives for handling the problem.
- _____ 22. Made a plan of action and followed it.
- _____ 23. Went over the situation in my mind to try to understand it.
- _____ 24. Tried to reduce tension by eating more.
- _____ 25. Got busy with other things to keep my mind off the problem.
- _____ 26. Drew on my past experiences.
- _____ 27. Avoided being with people in general.
- _____ 28. I knew what had to be done and tried harder to make things work.
- _____ 29. Tried to step back from the situation and be more objective.
- _____ 30. Refused to believe that it happened.
- _____ 31. Sought help from persons or groups with similar experiences.
- _____ 32. Tried not to act too hastily or follow my first hunch.

Source: Holahan, C., & Moos, R. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, 52, 946–955. Copyright © 1987 by the American Psychological Association. Reprinted with permission.

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Handout 5.3

How Hardy Are You?

Write down how much you agree or disagree with each statement by placing a number in the blank before it. Use the following scale.

0 = strongly disagree

1 = mildly disagree

2 = mildly agree

3 = strongly agree

- _____ A. Trying my best at work makes a difference.
- _____ B. Trusting to fate is sometimes all I can do in a relationship.
- _____ C. I often wake up eager to start on the day's projects.
- _____ D. Thinking of myself as a free person leads to great frustration and difficulty.
- _____ E. I would be willing to sacrifice financial security in my work if something really challenging came along.
- _____ F. It bothers me when I have to deviate from the routine or schedule I've set for myself.
- _____ G. An average citizen can have an impact on politics.
- _____ H. Without the right breaks, it is hard to be successful in my field.
- _____ I. I know why I am doing what I'm doing at work.
- _____ J. Getting close to people puts me at risk of being obligated to them.
- _____ K. Encountering new situations is an important priority in my life.
- _____ L. I really don't mind when I have nothing to do.

To Score Yourself:

These questions measure control, commitment, and challenge. For half the questions, a high score (like 3, "strongly agree") indicates hardiness; for the other half, a low score (like 0, "strongly disagree") indicates hardiness.

To get your scores on control, commitment, and challenge, first write in the number of your answer—0, 1, 2, or 3—above the letter of each question on the score sheet below. Then add and subtract as shown. (To get your score on "control," for example, add your answers to questions A and G; add your answers to B and H; and then *subtract* the second number from the first.)

Add your scores on commitment, control, and challenge together to get a score for total hardiness.

A total score of 10–18 shows a hardy personality. 0–9: moderate hardiness, below 0: low hardiness.

$$\frac{\quad}{A} + \frac{\quad}{G} = \frac{\quad}{\quad}$$

$$\frac{\quad}{C} + \frac{\quad}{I} = \frac{\quad}{\quad}$$

$$\frac{\quad}{E} + \frac{\quad}{K} = \frac{\quad}{\quad}$$

$$\frac{\quad}{B} + \frac{\quad}{H} = \frac{\quad}{\quad}$$

$$\frac{\quad}{D} + \frac{\quad}{J} = \frac{\quad}{\quad}$$

$$\frac{\quad}{F} + \frac{\quad}{L} = \frac{\quad}{\quad}$$

$\frac{\quad}{\quad} +$
Control
Score

$\frac{\quad}{\quad} +$
Commitment
Score

$\frac{\quad}{\quad} =$
Challenge
Score Total
Hardiness
Score

Source: Kobasa, S. (1984, September). How much stress can you survive? *American Health Magazine* (pp. 64–77). Reprinted by permission of Suzanne (Kobasa).

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Handout 5.4

Critical Thinking Exercise: Humor and Health

There ain't much fun in medicine, but there's a heck of a lot of medicine in fun.

—Josh Billings, Humorist

Everyone likes a good joke. A sense of humor can help people through difficult situations and can make setbacks seem less serious. In one of the best-known personal accounts of coping with chronic disease, Norman Cousins (1979) described how a daily dose of viewing comedy films helped relieve his pain, thus crediting laughter with helping him to regain his health. Cousins referred to the healing processes of laughter as internal jogging.

Although personal accounts such as Cousins' are captivating, they provide only anecdotal evidence of the health-enhancing effects of humor. But is there really something to this bit of folk wisdom? Is there scientific evidence that laughter is an effective stress buster?

To date, only a few studies have systematically investigated humor and stress. In one study, Rod Martin and Herbert Lefcourt (1983) divided college students into two groups: those who scored high on a measure of sense of humor and those who scored low on the same measure. The researchers found that students who had a good sense of humor had better self-concepts and higher self-esteem than the others. They also seemed better able to shrug off setbacks and cope more effectively with everyday stressors. In a similar study, Arthur Nezu and his colleagues (Nezu, Nezu, & Blissett, 1988) found that humor helped students deal with depression.

Two theories have been offered to explain how humor buffers stress. The first is that humor gives you a time out from ongoing stress and buys time for appraising/reappraising the situation, evaluating your options, and altering your otherwise automatic stress response. The second theory is that a sense of humor enhances immune functioning. Among people who report high levels of daily stress, those who use humor to cope have higher levels of immunoglobulin A, a protein-based antibody synthesized by the B cells of the immune system. One study demonstrated that immunoglobulin A increased in subjects after they had watched a comedy film, but did not increase in subjects who watched an instructional film.

On the other hand, some evidence suggests that cheerfulness and a sense of humor may not always be beneficial to health. Howard Friedman and colleagues, for example, have found that humor may help people cope effectively in the short run, but that in the long run, humor may actually be maladaptive (Friedman et al., 1993; Friedman et al., 1995a; Friedman et al., 1995b).

Friedman's data come from Lewis Terman's famous research with gifted children. Beginning in 1921, Terman studied more than 1,500 California schoolchildren, 8 to 12 years old, with IQ scores above 135. Over the next six decades, Terman carefully followed this group of gifted people, collecting data on their physical development, emotional well-being, and academic success. After Terman's death in 1956, other researchers continued to study the sample, as well as their children and their grandchildren. Contrary to the popular myth that gifted children are often socially and emotionally maladjusted, these people were found to be unusually healthy, well adjusted, and academically successful.

With this wealth of longitudinal data in hand, Friedman set out to determine whether psychosocial traits of the study participants as children could be used to predict their longevity. Terman and his colleagues had collected enough data to permit Friedman to test six psychosocial dimensions: sociability, self-esteem, conscientiousness, sense of humor, physical energy, and emotional stability.

Of all these factors, only two correlated with longevity: conscientiousness and humor. Adults who scored high in conscientiousness *as children* did live longer. In fact, childhood conscientiousness predicted how long a child would live just about as well as variables such as diet, exercise, cholesterol level, and blood pressure. Friedman speculates that conscientious people are more likely to take better care of themselves and to engage in fewer risky or health-compromising behaviors throughout their lives.

Surprisingly, Friedman found that children who scored high on the humor dimension tended to have shorter lives than those who scored lower on this dimension. Friedman speculates that while a sense of humor often is helpful in coping with short-term stressors, excessive humor may also lead to an unrealistic belief that things will always turn out for the best and may cause some people to

underestimate the dangers of health-compromising behaviors such as cigarette smoking, sedentary living, or a poor diet.

The safest conclusion thus seems to be that laughter can help people feel better and buffer

some of the psychological effects of stress. Whether the physical effects of humor in promoting health are significant remains to be demonstrated.

1. Suppose a health psychologist wished to test her hunch that humor relieves stress. How would she set about doing this? What factors should she consider in designing her study?
2. Why don't health psychologists consider anecdotal accounts such as Norman Cousins' as valid evidence for testing research hypotheses? What would constitute valid evidence?
3. Suppose a friend asks for your opinion regarding whether having a sense of humor helps buffer the effects of stress. What should your response be?