Stress Management

Model Program For Maintaining Firefighter Well-Being

Federal Emergency Management Agency
United States Fire Administration

FA-100/February1991

The United States Fire Administration's
Stress Management Model Program for Firefighter Well-Being

Prepared by

International Association of Fire Chiefs Foundation
101 E. Holly Avenue, Suite 10B
Sterling, VA 22170

With the assistance of:

Allen B. Craven
Ray Hawkins
Tom Healy
JoAnne Fish Hildebrand
Murrey E. Loflin
Lou Paulson
Ed Stauffer
Marla Zipin, Ph.D.

Federal Emergency Management Agency
United States Fire Administration
Emmitsburg, Maryland 21727

Dear Stress Management Program Facilitator:

Stress is one of the most serious occupational hazards facing the modern fire service. It is important to recognize. exactly how stress can adversely affect our health, job performance, career decision-making, morale and family life. We also know that a certain amount of stress is essential for maintaining our vitality.

Because fire service professionals work in a pressured environment, it is imperative that we educate firefighters on how to manage stress. By its definition, "stress management" is learning what stress is, what effects it has on our lives and how to control it effectively.

The main objective of the United States Fire Administration (USFA) in publishing this Stress Management Model Program is to provide the fire service with the means to conduct a stress management program, possibly under the realm of a member assistance program.

Because the fire service is comprised of many professionals, USFA'S program is designed as a basic framework that can be expanded or otherwise modified for its intended audience, whether it is for a suppression captain, an emergency medical technician, a rookie firefighter, a public information officer or an entire fire department.

The United States Fire Administration hopes that users of this Model Program will be able to effectively manage stress, thereby achieving an increased sense of personal control, self-esteem and mastery of the task at hand -- helping to reduce this nation's tragic fire problem.

Yours for a fire-safe America,

Olin L. Greene

Olin L. Greene
U.S. Fire Administrator

Table of Contents

Abstract

Stress is recognized as one of the most serious occupational hazards affecting a firefighter's health, well-being and career. On the other hand, we know that stress is not something to be avoided absolutely, as it is essential for vitality and optimal functioning.

In this program, participants will learn about fire service stress and how to apply sound stress managing principles for the purpose of minimizing the health-ravaging and costly consequences of excessive stress. Participants will learn how to become active, competent architects of career and life.

Stress Management Program Recommendations

During a briefing conducted at the National Emergency Training Center in Emmitsburg, Maryland on July 9, 1986, the following program recommendations were presented to the U.S. Fire Administration and the Federal Emergency Management Agency and accepted by those representatives present.

These recommendations serve as a basis upon which the stress management program is constructed.

1. The user needs to understand and acknowledge the following program premises:

   A. Stress is one of the most serious occupational hazards in the fire service, affecting health, job performance, career decision-making, morale and family life. Emotional problems,, as well as problems with alcohol and drugs, are becoming increasingly evident. High rates of attrition, divorce, occupational disease and injury continue.

   B. Stress can be managed effectively and inexpensively. Stress management is learning what stress is, what effects it has and how to control it effectively.

   C. Unlike therapy or other treatment, stress management is highly preventive in practice, inexpensive, adaptable and self-directed. It can be administered in-house. There is no stigma attached to stress management training; it enables the fire service to deal with a nearly limitless range of concerns that stem not only from the job but from the home. Stress management also helps firefighters recognize more severe problems that may require therapy and enables them to seek help with greater confidence and readiness for healing.

   D. Stress management is not difficult to learn and apply. There is no need to sacrifice lifestyles or organizational goals. When properly managed, stress becomes a useful catalyst for productivity and personal growth. Stress management promotes good health and "psychological hardiness." Pleasant side effects of stress management are increased sense of personal control, self-esteem and mastery.

   E. On the other hand, there are limits to what can .be expected from stress management. Stress management is not psychotherapy; it cannot take the place of alcohol and drug treatment; it will not ameliorate incompetent or deficit leadership, nor will it eradicate racism and sexism. It will not substitute for firefighting training, adequate safety precautions, protective clothing or necessary medical care. It will not screen deficient applicants or convince public administrators that fire department budgets should be enlarged.

F. Furthermore, although the stress management program might identify organizational stress factors and environmental hazards, actual redesign or structure/function changes undertaken to eliminate or reduce occupational stressors remain entrenched within the fire department's rules and regulations, not within the purview of the stress management program.

2. The program should be educational in format and designed for group training within the fire department organizational setting with opportunity for individual study.

3. The program should not enter therapeutic or treatment areas unless the individual fire department assumes responsibility for safeguarding confidentiality and addresses other ethical issues.

4. The program should be multidimensional and flexible enough to meet a person's individual needs and preferences.

5. The program should be designed for all members of the fire department, regardless of rank, volunteer/paid/civilian status, time-in-service, sex, age, or any other demographic factor.

6. The core of the program should be short in duration and concise so as to not intrude unreasonably into established training protocols. It should not strain the department's manpower, facility and economic resources. Whenever possible, it should be conducted through established health promotion or employee assistance delivery channels,

7. Voluntary or mandatory participation in the program is a matter of individual fire department prerogative; however, the program should be designed for voluntary participation.

8. The program should include the following components:

A. A Program Implementation and Evaluation (PIE) Committee

B. A core program that thoroughly explains fire service stress and various stress management strategies

C. Program evaluation

D. Supplemental modules

E. Organizational needs assessment

F. One-year follow-up/refresher

Program Implementation and Evaluation (PIE) Committee

1. The purpose of this committee is to coordinate program entry and implementation for the fire department. This includes acting as a liaison between the fire chief, medical officer or employee assistance coordinator, as well as providing general program leadership and support, in-house publicity and motivation-building.

2. The committee should assume responsibility of logistics, such as student scheduling, securing appropriate facilities and training aids, keeping training records and administering and scoring the needs assessment.

3. Once the program is implemented, the committee should provide oversight in maintaining and modifying it so that the needs of individuals and the department are met. The committee should also provide necessary oversight in the development of additional stress management satellite modules.

4. The committee should be comprised of at least one firefighter, the physical fitness coordinator, the safety officer or an administrative officer, and a representative of any special interest group within the fire department that wishes to participate in the planning, implementation, evaluation and continuation of the stress management program. The training officer, personnel services officer and department chaplain may also wish to participate.

5. A committee spokesperson should be chosen or appointed.

The Core Program

1. The core program should be based upon a recognized psychophysiologic stress theory.

2. The core program should meet the following training objectives: knowledge acquisition, skills acquisition, and program feedback that involves providing participants with useful information about their stress levels and coping techniques.

Program Evaluation

1. A program evaluation should be conducted for the purpose of measuring the extent to which program objectives are realized.

Supplemental Modules

1. Additional stress management satellite modules should be developed by the fire department or other designee.

2. These individual modules should be self-paced, flexible and interactive. Each should be a complete short course designed to be presented (by a trainer or self-administered) within a two-hour segment. There should be no prerequisites other than completion of the core program. Certificates of completion may be awarded.

3. Modules should be formatted for self-study, group study or classroom training. Training aids should include slides, video, computer programs or workbook inserts. Guest speakers from the community may be included.

4. Satellite modules should include the following topics:

   - Relaxation skills practice
   - Alcohol & drug education
   - Advanced preventive stress management: nutrition and exercise
   - Dealing with people who are under stress
   - Critical incidents
   - Death and dying
   - Marriage and family
   - Pre-retirement planning
   - Creative use of leisure
   - Cardiac-disease-correlated behavior (Type A)
   - Time management
   - Peer counseling
   - Life events and normal life stress

Organizational Needs Assessment

1. A needs assessment of the entire fire department should be conducted for the purpose of identifying unmet stress-related needs and for assigning program development priorities.

2. The needs assessment survey should be used as an aggregate data gathering device and program planning tool. All survey responses must remain anonymous and only the tabulated results should be made available to department members.

One-Year Follow-Up/Refresher:

1. Students should have an opportunity to review the core program on a yearly basis.

2 . Program evaluation measures should be collected and examined on a yearly basis.

The program should also provide the following optional program components:

- in-house stress resource library
- family program

The delivery of the Stress Management Program should include the following:

A. **Core Program:** Students will attend a core program consisting of two 6-hour sessions, to be scheduled consecutively over a two-day period, when possible, and held at a central training facility or at individual field sites. Personnel from the same company or work unit should attend class together. It is advised that support and office staff also attend the core program.

B. **Satellite Modules:** Students may access modules at any time, singularly or in groups when arranged.

How To Use This Program

The American fire service is a vocational community of men and women throughout the United States who provide fire protection services to the public. At present, there are well over a million firefighters, twenty percent of whom are full-time paid personnel and eighty percent of whom are volunteers. These persons are organized into roughly 34,000 fire departments, which not only perform fire fighting and fire suppression duties, but also administer to other emergency and nonemergency community needs, such as emergency medical service, hazardous materials, nonfire rescue and disaster response, building inspections, fire code enforcement and a variety of fire prevention, public education and social services. Additionally, in-service training is provided by fire service personnel.

Clearly, the individual stress management needs of such a diverse vocational and geographic population cannot be met by a single "one-size-fits-all" program. Therefore, this stress management program is designed as a basic framework that can be added to, deleted from, or otherwise modified to best serve the individual user, whether the user is a company officer, a rookie, a public information officer, a training officer, or an entire fire department.

1. This program can be used either for a self-study in stress management or a classroom. As a self-study program, the student should be provided a copy of the main text. It is strongly suggested that the student have access to a resource person who can answer questions, clarify points or direct the student to additional information or professional assistance.

   A classroom setting is the preferred method of presentation. When the program is administered to groups in a classroom, certain class-size standards should be met.

   The class size should range between 15 to 35 students. When more students are present, the effect of the instruction changes in that student participation is reduced and replaced by passive listening. On the other hand, smaller groups may require expert skill in small group leadership.

2. Guidelines for setting up a classroom include:

   a. Tables and chairs should be arranged in a U-shape or round-table arrangement.

   b. The instructor's table should be in the front of the room.

   c. Blackboard, chalk and erasers should be on hand.

   d. A 35mm slide projector with zoom lens (optional), 25 ft. extension cords, a remote slide advance unit and spare bulbs are useful presentation materials.

e . A large projection screen, an overhead projector on wheeled projection table and extension cords will be needed.

3. The instructor should prepare standard lesson plans based upon the text.

4 . Using supplied overhead masters, transparencies should be made and used as a training aid.

5. Slides may be used to depict stressors to illustrate lecture points or to serve as discussion tools. When slides are used, they should be chosen carefully. Most of the students who participated in the pilot procedure of this program felt that slides were useful aids; however, many of them felt that the slides should be local and recent. It is for this reason that generic slides are not provided. When slides are selected, those depicting poor or inadequate safety must be noted as such. When individuals can be identified in the slides, permission to use the slides in the program should be obtained from those individuals. It is imperative to recognize the fact that slides are a powerful medium that WILL bring forth emotional reactions and a wide range of feelings in the viewers. Students must have adequate time to discuss the slides in detail. If the emotional content of a slide is exceptionally strong for an individual, that person should be availed confidential counseling. DO NOT underestimate the impact of visuals!

6 . Students should have writing/note-taking materials and copies of all handouts. A folder or notebook for organizing notes and handouts is also suggested.

7 . Depending upon the instructor's teaching methods, time constraints and other indeterminate factors, students may be supplied with a copy of the entire text or portions of the text for individual study.

Instructor

Given the diversity of fire department staffing throughout the country, there is probably no "right" person who should assume the role of instructor/facilitator for the stress management program. In some departments, for example, stress management may already be available to personnel through an employee assistance coordinator. In this case, the employee assistance coordinator may wish to assume the role of the instructor. In other departments, the physical fitness coordinator, safety officer or personnel officer might provide this function. In some cases, a well-respected training officer who has education and/or experience in the mental health field could provide instruction leadership.

The person chosen to facilitate the program does not need a college degree in psychology or mental health; however, the person should have some coursework or experience in mental health and should be familiar with the fire service writings on the topic. An annotated bibliography on stress management in the fire service begins on page 73 of this program. The person should have good teaching and group-work skills and should be able to facilitate a small group discussion. Ideally, the person should be a member of the fire department (volunteer member, career member, or civilian employee).

Program Evaluation

The training objectives of this program, as noted in the recommendations section, are knowledge acquisition, skills acquisition and program feedback.

In order to assess the degree to which students are adding to their general, self-perceived knowledge about stress management, a five-point rating scale is provided in the appendix. This should be completed by all students prior to the beginning of the core program, and once again at the conclusion of the core program.

Certain training aids are used in the program. The usefulness of these aids and others developed for the program can be evaluated by having the students complete the effectiveness rating scales which are provided in the appendix.

A self-test measuring basic knowledge acquisition is also provided in the appendix. This should be administered at the conclusion of the core program. It is suggested that the instructor go through each item with the class immediately after the students have completed the test so that they may receive immediate performance feedback as well as reinforce what they have learned. Scores can be assigned and recorded aggregately.. Those items most often incorrectly answered may indicate the need for more instructor emphasis on those points, new or different training aids, or other program modifications to make those content sections clearer and easier to learn.

The self-test can be readministered at a time interval to measure retention.

The PIE Committee or the program instructor may establish other evaluation criteria and instruments for measuring to what extent program objectives are realized.

Introduction

When we ask firefighters from across the nation, “What do you need in order to be happy in your work?” they tell us three things:

1. We need to be competent in our work.

2. We need a certain amount of control over the uncertainty of our job.

3. We need a sense of success in our work.

Of particular significance, firefighters often added a fourth qualification:

“We need to know that our health and stamina are not diminished by our work.”

One of the greatest threats to these basic needs-the achievement of competence and job satisfaction, the ability to manage personal resources and the maintenance of good health-is stress.

Stress is often defined as simply the wear and tear on people caused by living in an increasingly complex and fast-changing society. The effects of this wear and tear are so undeniably damaging to our emotional, social, physical, and even spiritual well-being that a plethora of information on stress and coping with stress has flooded this nation’s popular media in recent years.

For example, virtually any magazine on the average newsstand highlights a feature on “How to Cope with.. . ."while television and radio programming, even Sunday sermons, follow suit.

In addition to self-help remedies, our attempts to control the effects of stress pharmaceutically are staggering in scope. To treat the aches and pains of daily life, we consume more than 20 tons of aspirin per day. Valium and similar drugs, noted for their tranquilizing, sedative and muscle-relaxing effects, are prescribed more than 90 million times each year by doctors.

America’s firefighters are not excluded from the wear and tear of living in present-day society. In addition to shouldering the effects of daily stress, firefighters are subjected to a great number of unusually powerful and potentially destructive stressors unique to their work. These stressors include but are not limited to: environmental hazards, such as noise, deadly gases and building collapse; organizational factors, such as various staffing, leadership, training and scheduling policies; and psychological stressors, such as death, trauma, and mass casualties, to name just a few.

No one is certain whether or not stress causes mental illness, alcoholism, drug dependencies, divorce, attrition, criminal behavior or suicide. Stress is known, however, to have the following devastating manifestations:

1. Stress causes, mediates or exacerbates illnesses of all kinds including heart disease, a leading killer and disabling affliction in the fire service.

2. Stress is directly responsible for much as $20 billion in annual losses to the American economy (some sources note $75-$100 billion), a proportion of which is assumed by a national fire service that suffers serious funding problems and budgetary constraints.

3. Stress is implicated in loss of motivation, absenteeism, decreased productivity, decreased quality performance, diminished creativity, and a host of maladaptive coping measures.

There is mounting evidence, however, that stress should not be avoided absolutely. Although stress is usually defined by its capacity to foster disease and pain, an equally important aspect of stress is its capacity to challenge and provide a stimulus for growth and positive development throughout life. Stress is essential for vitality and optimal functioning.

Stress, positive or negative, affects all of us. But why is it so vitally important for members of the fire service to learn about the nature and control of stress? Stress is a key factor that directly influences the breakdown of health and happiness in America's fire service community. By acquiring knowledge about stress and applying sound management principles, fire service members can minimize the unhealthy and costly consequences of stress and become active, competent architects of productive careers and lifestyles.

This program provides a concise overview of stress in the fire service, and aims to help participants achieve the following objectives:

1. Because stress is an ambiguous term that means many different things to each of us, we will *define a number of stress terms and build a vocabulary* so that we can discuss stress with a fair amount of precision and investigative rigor.

2. Among stress managers and researchers, it is a given that the more we understand about the mechanics of stress and how it affects us, the better we will be able to achieve and maintain well-being. This means that we can shape our health through knowledge and understanding of stress. This program will *present the basics of stress and provide an easy-to-follow framework that explains why we feel the way we do under stress.*

3. There are literally dozens of stress-managing techniques-some work well for some people. Instead of loading you down with a confusing batch of methods for dealing with stress, we will *explore several systematic avenues of approach, the rationale for each, and suggestions for when and where they'll work best for different individuals.*

4. As a stress researcher once noted, some of us are racehorses who work well and perform well when experiencing many demands and high levels of stress. On the other hand, some of us (the turtles) perform best when we experience fewer demands and less stress. Where do you fit in? *Learn how we can use stress to improve ourselves up to an optimum point.*

5. And finally, *stir up more questions than answers, providing you with resources to help you continue to add to your knowledge and skills in stress management.*

Before we begin, it's important to sit back and relax. Whether you typically experience a great deal of stress on the job or not, this program will give you much food for thought. Stress management is a useful tool for everyone. Stress management is not difficult to learn and apply. There is no need to sacrifice lifestyles or organizational goals. When properly managed, stress becomes a useful catalyst for productivity and personal growth. Stress management promotes good health and psychological hardiness. Pleasant side effects of stress management are increased sense of personal control, self-esteem and mastery.

Unlike therapy, stress management is highly preventive in practice, inexpensive, adaptable and self-directed. There is no illness or psychiatric stigma attached to stress management training; it enables the fire service to deal with a nearly limitless range of concerns that stem not only from the job but from the home as well. Stress management also helps us recognize more severe problems that might require therapy, and enables us to seek help with greater confidence and readiness for healing.

On the other hand, there are limits to what can be expected from stress management. Stress management is not psychotherapy; it cannot take the place of alcohol and drug treatment; it will not ameliorate incompetent or deficit leadership, nor will it eradicate racism and sexism. It will not substitute for firefighting training, adequate safety precautions, protective clothing or necessary medical care. It will not screen deficient applicants or convince public administrators that fire department budgets should be enlarged.

Furthermore, much stress is a result of organizational practices and environmental hazards. Although these practices and hazards can be modified, changes undertaken to eliminate or reduce these stressors must usually come from within the fire department itself, through management or labor bargaining. Stress management can identify the problems, but some solutions lie within fire department policy, rules and regulations. Some of this has been addressed in national standards, including NFPA 1500, Standard on Fire Department Occupational Safety and Health Program (1987). NFPA 1500 establishes the framework for a comprehensive safety and health program, including medical concerns, physical fitness, rehabilitation and member assistance programs (MAP),

Overview

Instructor notes and comments will be printed in this column throughout the text. Instructors are encouraged to use this column for personal notes as well.

Overview of Stress in the Fire Service: What is stress? What causes it? How do we react to stress? What are its consequences?

Handouts for this section include the Student Note-taking Guide.

Stress: Stress is a physical response of the body that occurs whenever we must adapt to changing conditions.

Stress is not a disease. It is not an environmental event or a mental frustration. Stress is not anxiety or depression. Stress is something we do. We might say that stress is the process of adapting to the challenges and changes of life.

The events and conditions that trigger stress are called stressors. Stressors are innumerable, varied, and change over time. They are usually events or conditions that introduce some functional degree of change in our bodies or our surroundings. When this state of change disrupts our balance, the stress response is triggered in an attempt to restore balance.

Stressor: A stressor is any stimulus that triggers the stress response.

Overhead 1

In the fire service, stressors include extreme temperatures, high levels of noise, deadly gases, carcinogenic agents, as well as explosions, radiation, building collapse and hostile people. Physical trauma, drugs, diet, hormones, viruses, toxins, and tumors are also stressors.

Any sudden, unexpected, high-magnitude stimulus is referred to as **Rapid Onset Stressor.** Examples include a sudden bright flash of light, an unexpected blaring noise or a sharp pain. A good example of a frequently occurring rapid onset stress in the fire service is the fire alarm.

Although many such stressors are inherently stress-producing because they are physically harmful to us, most stressors are mental, or cognitive, in nature. When they occur, it is the way we think and feel about them that causes stress. There are many factors that influence how an individual will perceive a stressful event or condition, such as past experiences and personal history, religious beliefs, cultural values, attitudes, daily moods, learned fears, prejudices, as well as the immediate setting. Some examples of cognitive stressors that commonly affect us include:

Crowding - Waiting in long lines and being shoved into crowds tends to trigger stress for many of us. When someone invades our "personal space, " we often feel uncomfortable.

Social stressors-Interactions with other people can be potent sources of stress, particularly when we expect another to behave in a certain way, or when others expect certain standards of performance from us.

Families as stressors fall into this category. So do many forms of organizational or job stress, such as conflict with co-workers and supervisors, job dissatisfaction, overload of job responsibilities, unclear job expectations, time pressures, boredom and unrealistic demands. In fact, nearly any time conflict or disharmony exists between the individual and the working environment, severe stress can result.

Personal stressors - Some cognitive stressors are personal in nature. According to some stress researchers, we all have an ideal self-image of what we would like to be, When compared to our real perceived self, however, the distance between the two can create stress. Some of us try to change our personal appearance or make changes in daily behavior and lifestyle in an effort to bridge

the gap, often with great effort, expense and time.

Life changes - There is probably no other source of stress that has been more researched than the idea of normal life change. Maybe you've heard of the Holmes and Rahe Social Readjustment Rating Scale, an instrument that assigns numerical value, or life change units, to each of 42 normal life events, such as marriage, retirement, vacation, or trouble with the boss. The number of life change units a person accumulates during a year is used to determine the person's probability of succumbing to a physical illness during the coming year. It is important to note that both positive and negative events are listed.

The process of interpreting an event as stressful is called **Cognitive Appraisal.** This is an important term that we will refer to again.

Cognitive Stressors in the Fire Service

Although cognitive stressors are often idiosyncratic (personal or peculiar) to the individual and may change over time, there are a number of stressors identified in the fire service literature that occur with same regularity among large segments of the fire service community.

Overhead 2

Encountering death on the job is considered one of the most impactful stressors in the fire service. Gerspach* proposes that confrontation with the death of a victim reminds firefighters of their own impending death. Schrodi believes emergency medical personnel often house feelings of failure and helplessness that emerge as anger. In a personal statement by a firefighter of 30 years experience, he recounts "I nurture a savage resentment in my breast. The heart bursts with pride when a life is saved-the heart breaks when one must walk with care so as not to further violate the wretched remains of a life lost."

* Publications of this expert and all other professionals mentioned throughout this document are listed in the Bibliography.

Pediatric death and trauma, as well as mass casualty incidents and high-rise fires where there is a great risk of life loss are other potent stressors. Often, it is the circumstances surrounding a death that determines its impact. Some firefighters are influenced by the age or sex of the victim.

Although firefighting is physically dangerous, psychological aspects are often a source of stress as well. For example, Martin purports that the dangers of the job create anxiety in the firefighter's family. This family anxiety makes the job more stressful. Often, fire response is stressful because the firefighters do not receive feedback on their performance from their superiors. Anticipation of arriving on the fire scene following a fire alarm is a stressor, as is the anticipation of finding victims trapped in a fire. Other stressors include fears of personal injury, death, and making crucial mistakes, as well as concerns of personal disfigurement, physical pain, peer pressure, false alarms and arson.

Disaster rescue and disaster firefighting operations have been identified as stressors, particularly due to the extraordinary carnage of disaster. As Laughlin writes, "A disaster with no survivors can be especially frustrating to deal with because the crews rush in to save lives and find themselves unable to perform their duty. "

Overhead 3

Interactions with survivors and the relatives of victims is also stress-producing. Firefighters often become the object of a victim's anger, and are blamed for not doing enough. Hall notes that responding to a suicidal situation produces anxiety, calling into question the worker's feelings of adequacy or competence to handle such a situation.

Stressors associated with routine fire duty include: public, government and business officials with whom firefighters feel only tolerated, not respected; boredom and the long, inactive periods spent waiting for an alarm; and overall uncertainty that comes with fire service work. A firefighter has little control over what demands will be placed on him or her while on duty. This manifests

itself as tenseness, muscular tension, sleeping lightly, and insomnia. In addition, interpersonal stress develops from ambiguous, inconsistent or weak leadership.

Fiedler, Frost, and Swartout found that fire lieutenants experience stress from interactions with their bosses, while stressors for captains are officer responsibilities, such as the number of hours spent at the fire scene, not having enough experience as a firefighter, or not having enough experience as an officer.

Overhead 4

Firefighters assigned to specialized duty, such as alarm center or emergency medical services, are affected by stressors common to those assignments. Having to make rapid decisions, for example, is stressful to alarm center personnel. One researcher describes a communication center's working atmosphere as "similar to that of a strategic command center in the time of war." Stressors that impact some emergency medical personnel include fire department policies and procedures and management practices, such as lack of feedback or recognition for performance, lack of encouragement for innovation, lack of advancement opportunities, lack of chances for personal development and lack of respect shown to them by management .

Slides, up to 50 in number or as time permits, can be used at this point to illustrate the fire service stressors listed above. Students should discuss each slide thoroughly, identifying the stressors depicted. Some viewers may not interpret the scene depicted in a particular slide as particularly stressful to them. When this occurs, compare and contrast their cognitive appraisal of the scene with the cognitive appraisals of others in the room. Please refer to the cautions of using

slides, as outlined in the "How To Use This Program" section.

At this point, we probably have a pretty good idea of "what" causes stress. Our discussion now turns to the effects. Depending upon how an individual interprets, or cognitively appraises an event, certain emotions, or feelings will be stirred. There are many feelings. Try naming as many as you can. For example, we feel:

- angry
- anxious
- afraid
- competitive
- embarrassed
- defeated
- confused
- jealous
- disappointed
- regretful
- guilty
- depressed
- despairing
- suspicious
- defensive
- frustrated
- hurt
- inferior
- rejected
- repulsed
- pressured
- distressed
- bored
- content
- affectionate
- intimate
- loving
- hopeful
- superior
- trusting
- satisfied
- joyous
- happy
- exhilarated

- delighted
- silly
- whimsical
- pensive
- s h y
- thoughtful
- blue
- moody

Emotions themselves are neither good nor bad; it is how they are expressed and the circumstances of expression that tend to define them as appropriate, inappropriate, healthy or unhealthy. For example, laughter is usually thought of as a good, healthy expression of emotion, although laughing at someone who is hurt is not.

The process of feeling an emotion, created by our cognitive appraisal of a potential stressor, is called **Emotional Arousal.** Remember this term.

Stressors not only cause emotional arousal, but **Physical Arousal** as well. We all know that too much stress can affect us physically. We might feel tired, exhausted, achy, or irritable after a particularly stressful time. Even the so-called "good stress" of holidays can leave us feeling rundown. Many of us have often wished that we could take a vacation to recover from our vacation.

Regardless of the emotional arousal brought on by the stressor-good or bad, pleasant or unpleasant, positive or negative-the body responds in the same way. This may explain why positively impacting events, such as vacations, outstanding personal achievements and the celebration of holidays are associated with stress-related diseases.

We must ask ourselves how our mental experiences, such as aggravation, boredom, apprehension, grief, or even delight causes physical changes in our bodies. Why is it that a rough day is often followed by a headache, or an argument followed by indigestion? How is it that stress is a leading cause of heart disease and even death among firefighters?

Once again, we recall our definition of stress: stress is a physical response of the body that occurs whenever we must adapt to changing conditions.

Even though every firefighter is different when it comes to what causes that person stress, the body's response, or **Physical Arousal,** is virtually identical for everyone, and is characterized by any of the following changes in the body:

Overhead 5

- Heart rate increases
- Blood pressure increases
- Blood vessels in our heart dilate (become larger)
- Respiration increases
- Consumption of oxygen increases
- Blood coagulation increases
- Blood glucose levels increase
- Skeletal muscles become tense and stronger
- Eyes dilate
- Perspiration increases
- Arteries close to the surface of our skin contact, making our hands feel cold and clammy

All these changes, among others, occur every time we experience stress. During a fire, when hot tar drops from the ceiling on our helmets, or when signs of flashover become imminent, these physical changes mobilize our entire body for immediate and sustained action: they energize us, making us alert and quick.

It should be noted that when we are very relaxed and not under stress some of these changes are the opposite. When we relax, our heart rate and our blood pressure decrease. Blood vessels near the surface of our skin dilate, making our hands feel pleasantly warm. This is an important point to remember when we discuss relaxation as a technique for managing stress later in the text.

The changes associated with **Physical Arousal** are brought about by complex interactions between the nervous system and endocrine system. The endocrine system involves our glands, such as the adrenal glands and the hormones they release, such as epinephrine and

corticoids. That is why stress **is** often called a **neuroendocrine** response. During this interaction, the electrical activities of the brain (our thoughts) are transduced into mechanical and chemical activity of our muscles and glands. Some researchers refer to this incredible complex interaction as the **"Mind/Body" Connection.**

Why do we discuss these changes in our muscles and glands? If we know what these changes are, we can recognize them by paying attention **to** our bodies. When our neuroendocrine system is aroused by stress, there are signs that we are experiencing stress called the **Physical Effects** of stress including:

Overhead 6

- Pounding heart
- Cold, sweaty hands
- Rapid, erratic or shallow breathing
- Shortness of breath
- Upset stomach
- Nausea or vomiting
- Sharp abdominal pains
- Muscle tremors
- Shaking hands
- Muscle pain
- Headaches
- Allergy flareups
- Skin rashes
- Insomnia
- Cardiac failure

There is one particularly powerful hormone that cannot be overlooked. During exceptionally stressful times, such as when responding to a critical incident **or** disaster or when you've suffered some severe personal loss, the hormone **thyroxine** may be released from the thyroid gland. One release of thyroxine, triggered by a single stressor, requires 2 to 3 days to produce an observable effect in our bodies, but its effects can linger in us for 6 to 8 weeks. The effects are usually most noticeable at their peak, about 10 days to two weeks following the original stressor.

The main effect of thyroxine is an increase in overall metabolic rate. The metabolic rate is the rate at which chemical processes take place and fuel is burned in the body. Thyroxine can elevate metabolism as much as 60% to 100%. Symptoms of thyroxine release include:

- Fine muscle tremors
- Worry, anxiety
- Paranoia
- Insomnia
- Racing thoughts
- Increased internal body temperature
- Increased gastrointestinal motility
- Increased secretion of digestive juices
- Decreased heart strength
- Increased probability of cardiac failure

As we mentioned before, these signs are most noticeable about 10 days after the event. Let's suppose that you are working at a critical incident, trying to extricate a small child from twisted wreckage. By the time the child is free, the child has died. This is a very severe stressor. In about two weeks time, suddenly you are hit with diarrhea, your thoughts suddenly start racing and you have unexplainable anxious days and sleepless nights. Often, we would not associate these problems with stress because the stressor happened so long ago. When you experience these symptoms, look back about 10 days and see if a major stressor might help to explain the problem. Do not fear these sudden symptoms should they happen to you a few weeks after a critical incident. These effects do not necessarily mean you are going crazy, that you are falling apart or that you are ill. They are the side effects of increased metabolism.

Disease

Overhead 7

If these physical effects of stress continue for a sufficient period of time, this imbalance in normal body functioning can result in **Psychosomatic Disease.** Psychosomatic diseases are not imaginary diseases. They are physical diseases resulting from stress that often include actual tissue damage. Examples of psychosomatic diseases include migraine headaches, hypertension, muscle tension, and peptic ulcers. Stress also influences disease susceptibility and progress (i.e., rate of healing and recovery) of a number of other psychosomatic conditions. Such stress-mediated diseases include infectious diseases, arthritis, atherosclerosis, diabetes, and cancer.

Stress Outcomes in the Fire Service

Overhead 8

Firefighters have an abnormally high incidence of heart disease. In the fire service, heart attacks claim more lives than any other line-of-duty injury. Many autopsies performed on firefighters who died as a result of heart attacks revealed the presence of coronary heart disease., In Los Angeles, California, firefighters receive more disability pensions for heart disease than for any other illness.

Many states have enacted legislation that a heart attack suffered by a firefighter is presumed duty-related unless the employer is able to show that the disability was caused by non-work-related factors. Barnard undertook research to determine whether fire service job stress is implicated in the high incidence of heart disease and concluded that there exists a causal relationship between fire service occupational stress and heart disease.

Activation of the sympathetic nervous system during stress causes the secretion of massive amounts of catecholamines, one of the major groups of stress hormones. Adrenalin, one of the catecholamines, has been

demonstrated to cause direct damage to heart tissue and artery lining. This damage can cause or contribute to heart attack.

In addition to contributing to heart disease and heart attack, stress is recognized as a major health hazard. Stress may cause or mediate hyperventilation and collapse, hypertension, fatigue and exhaustion.

Stress not only causes changes in physical health, but produces adaptive or maladaptive cognitive and behavioral changes as well. Simply ignoring or avoiding a stressor are examples of such adaptation.

Overhead 9

Firefighters adapt or cope with stress in a number of ways. Joking around and gallows humor are employed by many, for example, in an attempt to relieve the tensions of the job. Although some firefighters discuss distressing aspects of their jobs, others rarely discuss their problems, often deny or repress their feelings, and ignore stressors. Lee suggests that firefighters refrain from becoming too involved with victims, block feelings of loss or grief, and internalize stress by not expressing their feelings. Rawlings notes that some firefighters tend to the corpses in order to avoid dealing with the emotional pain of survivors. Because firefighters are aware of the threats to their well-being that exist during firefighting operations, McCarty believes that firefighters may unconsciously label threat as overwhelming, driving them to escape the situation by physically pushing themselves until they are overcome by heat or smoke. Still others may abandon time-consuming safety procedures so as to shorten length of exposure to risks.

Some firefighters take their problems home to their wives and families or seek outside employment (moonlighting) to compensate for the stress and frustration of the firefighting job.

Often, the immediate mode of adaptation, such as joking, is less adaptive over time. In certain circumstances, it may contribute to the overall effects of stress rather than minimize them. For example, bystanders and survivors

react poorly to such joking at their expense. Spouses of moonlighting firefighters report less satisfaction with their marriages. Firefighters overcome by smoke can damage their own bodies and jeopardize the health and safety of co-workers.

Overheads 10 and 11

Murdock explains that stress always has an effect. This effect may be observable either immediately following the stressor or later. The effects of stress are also cumulative and have long-term ramifications. For example, while stress can improve performance, more often it harms the firefighter's performance. The ability to attend to the environment and to make decisions-two crucial aspects of this occupation-is decreased under stress. Forgetfulness is also noted to increase. Maladaptive changes in stress response repertoires exact a price in terms of overall mental stability, anxiety, and interpersonal conflicts, both at home and on the job. They lead to morale problems, decreased productivity, increased accidents, early retirements, high medical costs and chronic absenteeism.

Poor adaptation may also contribute to alcoholism, depression, and a number of mental health problems in the fire service that undermine judgment and adversely affect performance. Poor adaptation also influences fire service attrition-turnover rate in some volunteer departments is as high as 20 percent annually, and as Reid reminds us, suicide is a real and tragic alternative for some.

Fire Service Solutions

An emerging awareness of stress in the fire service and a growing concern for the unacceptable consequences of job-related stress is evident. In response, a number of programs and services have been recommended to treat or prevent excessive stress.

Overhead 12

Stress management is among the most frequently suggested program strategies to help firefighters cope more effectively with real or potential stress and to help the fire service reduce stress-related disabilities, including early medical retirement.

Stress management is the systematic application of one or more therapeutic, educational and common-sense techniques that aim to reduce or eliminate excessive stress. Among the individual techniques recommended in the fire service literature are decompression, biofeedback training, and systematic relaxation, including meditation, Transcendental Meditation (TM) and yoga, progressive muscle relaxation and self-pacing. Others suggest classes on stress and burnout, goal setting and a number of diversionary and pressure releasing techniques, such as taking vacations, traveling, using leisure time creatively, engaging in hobbies and social relationships outside the fire service, and attending conventions.

Overhead 13

Regular, aerobic physical exercise is subsumed under stress management as an ideal method for reducing or counteracting the effects of stress. Barnard explains that regular exercise results in less adrenalin release for any given level of stress, while Boyer notes that the well-trained, physically fit firefighter is better able to adapt to and handle the effects of stress hormones on the heart and blood vessels. Birmingham and others recommend physical exercise as a technique to help reduce firefighter injuries; Barnard recommends excercise to reduce or prevent

the development of heart attack risk factors. The discipline of regular physical exercise also teaches a sense of control and mastery over the body which may develop into a sense of control over many other aspects of the firefighter's life.

Building and using support systems and significant relationships within and outside of the fire service is a highly recommended practice for dealing with stress. Firefighters are also encouraged to talk about their feelings and problems.

Although Hall advocates support and discussion, he feels that true healing cannot be gained without the help of a professional counselor. McGlown recommends psychological counseling for firefighters; Gerspach recommends peer counseling, and other fire service practitioners suggest marriage and family counseling as well. Professional counseling may be necessary for firefighters following disaster work, although Martin also suggests counseling for healthy, well-adjusted firefighters who need to make life transition decisions.

Overhead 14

Continuing education and training within fire departments are favored by many as tools to alleviate stress. In particular, it is believed that educational programs on nutrition and diet will improve the overall health of firefighters while reducing the stressor of being overweight, a stressor that affects the health and performance of large numbers of firefighters. Similar programs for cigarette smoking have been suggested. Specific training in dealing with death, crisis and suicide are needed, and orientation programs may help recruits better prepare for the physical and psychological rigors of their new profession.

Overhead 15

In addition to recommending therapeutic or preventive services and programs, fundamental changes in existing administrative procedures and policies have been promulgated to reduce stress in the workplace, including:

- Rotation of duty assignments and personnel during disaster work to combat fatigue, overload and boredom
- Decreasing workload
- Cross-training
- Matching the stress associated with each rank position to the experience of the officer filling it
- Enforcing no-smoking regulations
- Providing shift structures that reduce uncertainty
- Scheduling officers' meetings to discuss problems

Stout and others suggest that officers provide their subordinates with regular, positive feedback on performances, and that company activities be planned in advance to reduce ambiguity. Jordan recommends post-fire critiques to open lines of communication within the ranks and to provide opportunities for firefighters to receive constructive feedback. Incident debriefings, which incorporate crisis intervention techniques to reduce stress, are also suggested.

Overhead 16

Jarboe strongly advocates basic changes in the fire service philosophy of risk-taking and goes on to suggest that potential dangers to firefighters should be identified and prepared for through frequent and regular pre-emergency planning. Basic fire service attitudes, beliefs and values that are largely masculine and are believed to promote stress, such as omnipotence, a rigid frontier mentality based on strength and toughness, insensitivity, callousness, and extreme risk-taking, may change in a more positive direction with the introduction of women into the fire service.

In addition to staff positions, such as chaplain and medical officer, Szymanski recommends the assignment of a psychological first aid officer who helps firefighters by administering to the needs of both the emergency victims and

the firefighters themselves. Similarly, Graham proposes the hiring of community resource people to provide mental health and crisis support services to the firefighting staff. Chief officers should also be trained to recognize the signs of excessive stress among their personnel and to make appropriate referrals.

While a plethora of recommendations for controlling stress in the fire service exists, few have been implemented and virtually none have been evaluated.

Overhead 17

Some fire departments require psychiatric testing of applicants and require psychiatric evaluation or psychological testing for persons exhibiting "suspicious behavior"; other departments screen for medical problems and risk factors of future problems. Mandatory physical fitness programs are implemented in some departments while others prefer health maintenance programs that include periodic medical exams, physical fitness, and educational programs on nutrition, weight control, substance abuse and stress reduction. Many fire departments have initiated mandatory physical fitness and nutrition programs that provide introductory lectures to recruits, group discussions, written materials and individual counseling to firefighters and their spouses. Yet another fire department has an employee support program that emphasizes stress reduction.

Increasingly, fire departments, fire department associations and fire service organizations are addressing stress problems through special training and education seminars. One workshop program for fire service spouses enables them to help themselves and their families cope more effectively with the occupational stress of firefighting. Often, training programs on stress management are videotaped and distributed to other fire personnel.

Overhead 18

A number of fire departments serving large cities employ department psychologists. These psychologists primarily provide personnel selection services, but also offer training, counseling and disciplinary counseling, testing, performance evaluation, public relations and alcohol treatment. Mental health counselors, such as marriage counselors, are also employed in some fire departments. In some areas, community mental health organizations provide services to fire department personnel.

Employee Assistance Programs and Debriefing Teams

In addition to stress management, two new technologies are emerging in the fire service: Member Assistance Programs (MAPS) and Critical Incident Stress Debriefing Teams (CISD teams).

A MAP, sometimes referred to as an Employee Assistance Program, or EAP, is a generic term used to describe the various methods found in the workplace for the control of alcohol and drug abuse, stress and personal problems that adversely affect job performance. NFPA 1500-1987 addresses fire service MAPS, and offers a concise, yet comprehensive description and explanation in Section A-9-1.1.

Member assistance is typically an identification and referral program, not a treatment program. In addition to member assistance, some departments also use health promotion programs, which are preventive health activities that inform, motivate and help people to adopt and maintain healthy lifestyles.

Health promotion often includes activities such as career advisement, family orientation and education programs on topics such as weight control, healthy heart, hypertension, stress management, nutrition, preventive medicine, substance abuse, smoking cessation and pre-retirement planning. This is also addressed in NFPA 1500.

At this point, the participants might wish to fill out the ASSIST Interests and Issues Checklist, or another similar instrument. This checklist presents 50 topics concerning health, family and emergency services. Respondents check those topics about which they would like to learn more. If collected and compiled, the

results help to indicate which health promotion topics might be given priority, for example, when planning a seminar or assembling information packets. Self-study individuals can use the checklist as a personal guide. Results of the pilot groups are provided in the appendix.

MAPS are considered an enlightened, cost-effective approach to helping fire department members and their families. Through its pro-active broadbrush methods, firefighters with problems are identified early, with little or no stigma, and confidentially referred to one of several pre-selected resources within the helping community. Aftercare and re-entry are planned and systematic; family participation is encouraged; wellness, prevention and education are priorities. MAPS also are tremendously cost-effective and can be evaluated and modified to suit changing needs and resources.

Critical Incident Stress Debriefing Teams

In recent years, specialists in stress management and disaster psychology have learned new methods of helping fire department members who are exposed to extraordinary stressors associated with critical incidents, such as the death of a child, the death of a firefighter or mass casualty. NFPA 1500-1987, Section A-8-6.1 states: "The member health rehabilitation program should include a post-traumatic incident debriefing and follow-up program to assist members in dealing with the psychological impact of these situations." Continuing study has led to the establishment of Critical Incident Stress Debriefing (CISD) teams in fire departments across the country.

An example of this is the CISD team of the Ft. Worth, Texas, Fire Department, which formally commenced operation on May 1, 1985. The establishment, training and implementation of the CISD team has provided a means for maintaining a stress management program within that department.

The CISD team is a multi-dimensional, comprehensive program which includes both pre-stress activities, which aim to prevent the development of psychological stress disorders, and post-stress activities, which attempt to reduce the severity of a stress disorder through appropriate treatment. The pre-stress program begins by introducing new recruits at the training center to methods that will help them recognize and reduce stress in their lives. Management and supervisory levels of the fire department are trained to identify and reduce the stress both in their personal lives and in the fire department. In addition, fire stations provide to all department personnel in-service training that shows methods to alleviate emergency stress response.

The CISD team administers the **reactive** form of treatment either on the scene of a disaster or within a short period of time after the disaster by means of a debriefing.

In Ft. Worth, the CISD team is made up of members of the fire department and mental health professionals who have all undergone extensive cross training in the other's respective fields. A hospital coordinator and a member of the ambulance personnel have been added to the CISD team to achieve a broader range of expertise.

The CISD is part of the Ft. Worth Fire Department's employee assistance program and health promotion program. The CISD has proven to be an effective tool for connecting members with personal problems with professional agencies. Highly trained staff members of the CISD team meet privately with members requesting help, clarify the problems and suggest an appropriate agency from CISD's comprehensive community resource files.

Many communities across the country have CISD teams which utilized local or regional mental health agency personnel, who are on call 24 hours a day. These professionals have received special training on fire service CISD. Private CISD programs are available on a contract basis in many parts of the country as well. It is recommended that all departments have access to some type of sound CISD program. This function may be most appropriately managed as part of a MAP.

It should be noted that neither MAP nor CISD are do-it-yourself programs that can be assembled from printed directors alone. Specialists should be contacted for assistance in planning and implementing this type of program. Furthermore, such programs require a good deal of time and coordinated effort to implement.

It should also be added here that **Chaplaincy Programs** are beneficial in helping fire department members deal with the stress of their work. Members who do not initially relate well to outsiders will often turn to and accept the help of a chaplain who practices strict confidentiality when dealing with personal problems. Often, the chaplain will have academic training and clinical experience in pastoral and other forms of counseling. Other chaplains provide listening, assessment and referral to appropriate community resources.

Designing a Personal Stress Management Plan

As we have learned, many fire departments do not have formal or even semi-formal programs to combat stress. Even among those departments that do have programs such as MAP or CISD teams, systematic, holistic stress management for all personnel is difficult to achieve for several reasons.

Despite the real and potential effects of stress on job performance and the quality of life both on and off the job, stress is a subject that is often misunderstood. This misunderstanding stems from its generalized and subjective effects, the complexity of its physical manifestation in the body and the lack of a proper means of defining and quantifying job stress. Stress is a popular topic; it has proliferated medicine-show remedies with disillusioning effects. No matter how colorful the bandwagon or how earnest the pitch, stress is not something that can be cured; however, it can be managed as a part of a normal life.

It is difficult to distinguish between stress that is caused by the job and stress that is caused by home life or basic lifestyle. Is there a difference? Should we only address job stress?

What is job stress? Clearly, not all fire personnel perform suppression. We also administer to other emergency and non-emergency community needs, such as emergency medical services, hazardous materials, nonfire rescue and disaster response, building inspections, fire code enforcement and fire training, as well as a variety of fire prevention, public education and social services. Supervisory personnel are exposed to different stressors than the front-line firefighters are. Mid-level managers have different stressors than upper level managers, and civilian, non-uniformed personnel and assistants have others. Is it possible to have a one-size-fits-all program for all these people?

We also know that conditions and events that are stressors for some personnel are not stressors for others. It is not the actual event but instead the way we react to the event that largely determines whether or not it will trigger a stress response and become a threat to our health.

People have predispositions to stress and researchers have identified a number of different personality traits that seem to be linked to a person's susceptibility to stress-related disease. These traits include low self-esteem, lack of assertiveness, inability to express anger, hostility or aggression in one's own defense, external loss of control and feelings of helplessness. Furthermore, certain styles of behavior have been found to be highly associated with stress-related disease, such as self-sacrificing behavior and the Type A behavior pattern.

The handout "Type A? Type B?" may be distributed at this time. Discuss the results of the group as a whole.

Type A is a common behavioral style among Americans, and many firefighters seem to fit this pattern. Type A people are always in a hurry and feel a sense of time urgency. They are impatient with others as well as with themselves when obliged to perform repetitious duties. They think and do two or more things at one time and all activities, those that are their own and those that aren't, are subject to analysis in terms of quantity rather than quality. Type A personalities also tend to be competitive and often egocentric.

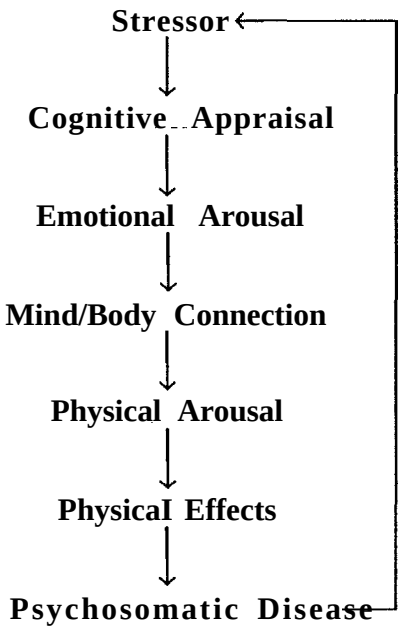
Type A firefighters often lead very frantic lives, but they like it that way. They do not like to waste time and tend to get nervous when they have to sit and relax. Is it best to encourage Type As to practice relaxation as a stress management technique? It's very likely that certain kinds of relaxation techniques will increase their stress, not alleviate it. As a result, they will likely lose interest in such a program.

It is interesting to note that not all Type As are prone to stress-related coronary disease. Type As who successfully manage stress seem to be those who choose to behave in this style and who believe genuinely that it is productive for them. In contrast, those who feel they must behave this way in order to get things done are prone to stress-related coronary disease.

We might therefore conclude that a fixed program of stress-reducing techniques will work well for some but not for others. Clearly, we need a flexible, open system that can be molded to fit the individual-a stress prescription based on the person, the job and the circumstances-one that is flexible enough to meet changing needs over time.

Managing Stress: A Personal Plan

Let's take a look at some of the things we have learned about stress so far. We have been developing a conceptual framework that helps us organize the different aspects of stress, called the **Stress Adaptation Model.** It is based on years of research by Dr. Roger Allen, biomedical and stress professional from the University of Maryland.



We can think of steps in this model as falling dominoes- once the stressor is perceived, all the subsequent steps in the model occur.

The instructor should set up a demonstration of this cascading effect with real dominoes. Using about 10 or 12 pieces, set up one line with the dominoes close enough together that when the first one is

sequence. Set up a second line. Trigger only the first line at this point.

Let's illustrate this model with an example. Let's say that the stressor is a person, a member of your crew. Nearly everyone else on the crew gets along with him, that is, he isn't a stressor to them. But he is to you. Why might this be the case? **Clue: Cognitive Appraisal.** Let's suppose that this crew member habitually tells "white lies" to get out of jams. Based on your family, background, religious beliefs, cultural values and personal attitudes, "white lies" mean trouble. Furthermore, you don't feel it is right for a person to make excuses based on lies. How does this make you feel? Clue: **Emotional Arousal.** Perhaps you feel aggravation, anger, disgust, pity, embarrassment, or other unpleasant emotions when you have work with this person.

Based on what we've learned about the **Mind/Body Connection** and **Physical Arousal,** we might notice certain **Physical Effects.** Which ones? Although everyone responds physically in the same way (arousal), the actual manifestation of physical effects is often an individual matter. Some people always feel the same effect, such as muscle tension, while others react differently on different occasions. For example, one day you might get knots in your stomach when you are around him, and the next day you feel cold and sweaty.

If you must deal with this crew member day after day, week after week, the cumulative effects of stress actually weaken your body, making you more susceptible to a psychosomatic disease. The disease you develop might not necessarily be related to the effects you feel. Often, its your weakest body organ, much like the weakest link in a chain, that breaks first under stress. Can you think of a psychosomatic disease you might develop?

What is not represented with the dominoes is that this chain of events tends to cycle, over and over, day after day, That's why minor stressors build up during the day and you explode at the end of the day. If these dominoes

fall over and over again, not only do you become exhausted or reach the end of your endurance, but you can get sick. Combined with the effects of hundreds of other stressors you must deal with on a daily basis, as well as the powerful effects of major crises, both on the job and at home, you might develop high blood pressure or a peptic ulcer. You can damage your body as a result of your state of mind.

The instructor should ask students to explain the other feedback loops, as indicated in the model, and to give examples.

The purpose of this model, however, is to show how we can manage stress: all **we** need to do is **interrupt** the chain of events. **We** only need to remove or modify one step in the model to prevent the next from occurring.

Remove one of the dominos from the second line about mid-way, then topple the first domino. If the dominos haven't been placed too closely together, the toppling effect should be halted where you removed the piece. Practice this a few times before the actual demonstration.

This is a good place to end the class for the day, if the program has been divided into two fill days. This material can be reviewed briefly at the start of the next day.

Stress Control Techniques

There are many stress control techniques. In addition to those provided in this program, you might learn others in community classes, the YMCA or from a magazine. To be useful and effective, however, a given technique **must** be able to do all of the following:

1. Reduce physical arousal.

2. Succeed without the sacrifice of life goals, productivity or level of achievement. (Stress control does not simply mean taking it easy-it means getting rid of interference.)

3. Fit the individual's personality without calling for adjustments or sacrifices in personal style.

Three basic types of stress control techniques that come from our stress adaption model include:

- Techniques that operate on the environment (the stressors);

- Techniques that operate on the mind (cognition); and

- Techniques that operate on the body (physical reactivity).

There are two philosophies in stress control. The first is that stress can be managed quantitatively. This involves reducing the amount of stress we experience. The quantitative approach is the most common approach due to the fact that many of us feel we have too much stress in our lives, so we logically wish to reduce it. The second is one in which stress is managed qualitatively by changing negative stress into positive stress. This involves learning to use stress to our benefit rather than to our detriment.

I. Dealing with the Environment

Let's begin with our stressors. There are several things we can do at the stressor stage to break the stress cycle.

Obviously, removing the stressor is a great start. Identify those people, events, tasks or conditions that upset you and remove or avoid them whenever possible. Keep in mind that although there are instances where this is advisable, often what we escape from is replaced by something even more stressful. Furthermore, it is neither possible nor desirable to remove all of life's stressors. If we remove the positive stress, our aspirations and challenges would soon disappear as a consequence.

Instead of simply removing or avoiding stressors, we can reorganize our daily behavior to reduce the frequency of encounters with stressors without sacrificing our life's goals. One method for approaching this is a technique developed by Allen and Hyde called **Social Engineering,** which assumes that we don't always go after our goals in the most stress-efficient manner. It asserts that there is usually more than one way to reach a given goal, and we need to examine these different ways and select one that entails a minimum amount of stress.

Social engineering is very similar to using a suggestion box. How many times have you thought, "I could do this a lot easier if I could do it my way, " or, "If we did this differently, we might be able to save time and money." In social engineering, you seek alternative ways of attaining your goal. You devise and try out alternative actions that help you get the job done more effectively and less stressfully.

When is this technique most useful? Social engineering is very basic and is most effective when applied toward routine hassles, the kinds of stressors that we can predict will occur. Keep in mind that it is the small stressors that add up day after day, wearing us down and making us less able to handle the big stressors. In addition, the engineering must be done before the stressor actually appears.

Refer to the handout, "Social Engineering. "

According to Dr. Allen, there are ten steps in this process:

1. **Identify a particular stressor** - It will be something that you regularly encounter, such as paperwork or having to meet with an irritating person.

2. **Define the stressor** - Being as specific as possible, decide what is it about this stressor that upsets you. Consider your emotions, particularly when determining what it is about the stressors that triggers uncomfortable feelings or emotions.

3. **Can the stressor be totally avoided?** If so, and without compromise, simply avoid the stressor. If not, proceed to the next step.

4. **Why can't this stressor be avoided?** At this stage ask yourself, "What outcomes are associated with this stressor?" What will be lost if I totally avoid it?

5. **Generate alternatives** - Brainstorm as many alternatives for avoiding the stress as possible, taking particular note of those that will enable you to acquire all the things you described in step 4.

6. **Evaluate your alternatives** - With plans of actions defined, ask "how well does each alternative meet my goals?" Are compromises required? Recognize and eliminate those alternatives that merely trade off one set of stressors for another set, particularly those that will cause even more stress.

7. **Select the best alternative** - Select the alternative that will best meet your individual goals while decreasing the number or severity of stressors you must encounter in order to attain them.

8. **Try it out** - Next time you run into this problem, try out the alternative action instead of the old way of doing things.

9. **Re-evaluate, revise and fine-tune.** Eventually, you should be able to work in a more stress-efficient manner.

10. **Practice** - With practice, social engineering will occur quite simply and automatically in your mind throughout the day.

Although this technique works well for handling routine stressors, it also works with extremely stressful situations as long as you can predict that they will occur. We'll illustrate this technique with a rather poignant, real-life example: In one fire department where water rescue is routine, a predictable and extremely stressful activity was removing bodies from the lake.

Step 1: Identify the Stressor

Step 2: Define the stressor-what is it about this stress that upsets you? Be as specific as possible. In our example, it was the odors and condition of the body upon removal from the water that was terribly stressful.

Step 3: Can the stressor be totally avoided? If so, without compromise, then simply avoid the stressor. In our example, it might have been possible to avoid this task by having the sheriff's office perform the job of body removal.

Step 4: Why can't this stressor be avoided? What is it that you lose if you totally avoid it? In our example, the fire department would lose funding for rescue equipment and training if another agency took over.

Step 5: Generate alternatives - brainstorm as many alternatives to acquire all the things you described in step 4. In our example, all kinds of alternative behaviors were suggested, including using bigger boats, more personnel or dragging the body to shore.

Step 6: Evaluate your alternatives - how well does each meet your goal? Are compromises required? Eliminate alternatives that merely trade off one set of stressors for another. Eliminate those that will cause you even more stress. This was done.

Step 7: Select the best alternative - select one that will best meet your goals while decreasing stressors. In our example, the firefighters decided that instead of bringing the body up out of the water, that they would instead weight the body bag and submerge it under the water. The body would be guided into the bag while underwater, displacing the water when lifted, and sealed shut. The body would remain intact, not in contact with the air, the boat or the personnel.

Step 8: **Try it out** - Next time the firefighters had to perform this duty, they substituted this new way for the old way. They found that a great deal of the extreme unpleasantness was eliminated.

Step 9: Revaluate, revise and fine-tune. After some small modifications, the firefighters found that they were able to work in a more stress-efficient manner. This new way of removing bodies from water became a standard operating procedure.

Step 10: Practice. With practice, social engineering will occur quite simply and automatically in your mind throughout the day. In fact, social engineering might become your internal "suggestion box" for how to do things more stress-effectively.

Using the handout, the class should break into small groups of four and work through this exercise. Each group selects a predictable, real-life stressor, brainstorms different actions that might be taken to achieve the same end result, and then selects the best alternative. When the groups have reached this point, have the groups stop. A spokesperson from each group should present their exercise to the entire class. The class should be given an opportunity to comment on

each group before moving on to the next group. Other good solutions should also be encouraged from the class. This exercise was very popular with the pilot departments. Allow about 30 minutes for whole-group discussion. Self-study students should try the exercise, at least to Step 7, before progressing further in this text.

Time Management

Time management is another stress control strategy that can be used to identify and eliminate unnecessary stressors without sacrificing productivity, accomplishment or life goals. Like social engineering, time management involves identifying goals and objectives and then engineering time in a way that accomplishes the goals' objectives in the most stress-efficient manner.

There are many suggested procedures for managing time, but the best boil down to three fundamental steps: planning, setting priorities and implementing.

Planning involves identifying your typical daily activities and estimating just how much time you actually spend on each activity. Using this information, plan each day, either in the morning or the night before, factoring in an extra 15% of time per activity for delays or interruptions. Next arrange your planned activities in order of importance, placing at the top of your list those activities that have the most bearing on your objectives. Time managers usually place the most difficult or undesirable tasks higher on the list, so that the easier ones are left for the end of the day, when your energy is lower. It's also nice to end the day with the simple or more pleasant chores. Learn to weed out the unimportant busy work.

We sabotage our time management efforts by doing all the easy things first, or by putting off activities just because they are complicated or difficult. The key seems to be in performing one task at a time, sticking with it until it's done.

Time management is an important aspect of overall stress management, and should be developed and presented as a separate satellite module. However, a small amount of classroom time can be devoted to a general discussion of time management, list-making, pitfalls and the topic of procrastination. Using the "Overload" handout, discuss overload as a potential stressor among the participants.

II. Dealing with the Mind

When dealing with the environment, we are working with stressors that we can predict will happen to us, or routine stressors. Of course, sometimes events happen unexpectedly. In fact, some of our most severe stressors are those that happen unexpectedly.

Even though we often cannot control the outside world or how others behave toward us, we can control how we think. Earlier we noted that most stressors trigger stress because of the ways we interpret or appraise them. Recall that the meaning we assign to stressors during cognitive appraisal is based on our past experiences, religious beliefs, learned attitudes, values and prejudices.

Many types of counseling and psychotherapy are anchored in helping us rethink our problems from a new perspective or in a new light.

In stress management, a technique called **Cognitive Reappraisal** helps us control stress by enabling us to evaluate the meanings and interpretations we make when faced with certain stressors. It helps us recognize and choose alternative points of view that not only reduce an event's distressing aspects but may lend greater purpose to our work. According to many psychologists, there is nothing so horrible that it does not carry some positive element, however small, and possibly the opportunity for growth as well. Cognitive reappraisal helps us find that positive element and focus on it rather than focusing on the negative aspects of a situation.

Cognitive Reappraisal

Cognitive reappraisal is a stress control strategy that helps us rethink potential stressors so that they are interpreted in an adaptive, health-promoting fashion rather than in a maladaptive and stress-fostering pattern of thought.

The steps of cognitive reappraisal are actually very similar to those of social engineering.

1. **Confront the stressor:** Events usually have an actor and an action. Who and what are they? What are the surrounding circumstances? What is the immediate effect on you? Focus on your emotions and feelings. Try to describe them.

2. **Analyze your reaction:** After identifying the stressor, carefully and thoughtfully analyze your original appraisal. What thoughts run through your mind during and immediately following the event? What is it about the event that causes you distress? Does it remind you of a past experience? What value, belief or expectation might be contributing to the stress?

3. **Rethink your situation:** Generate some alternative ways of viewing the event, ways that focus less on the stressful aspects and more on neutral or positive ones. Try to come up with appraisals that interpret the event as a challenge instead of as a cause for despair.

4. **Select one of your alternatives:** Review your list and discard those that sound phony or sugar-coated. Choose one that is genuine and positive, one that will reduce your arousal and help you to deal more effectively with the event.

5. **Try it out:** Deliberately divert your thoughts from your former stressful interpretation and replace it with your new, positive interpretation. Remember, this technique does not involve denial. It is a highly rational effort in which we choose to focus our attention on the elements of a situation that help us stay calm and help us resolve the problem. It is not an easy thing to do, however, because our thought patterns form slowly, over many years. We become accustomed to thinking in patterns that are hard to change, but it can be done. Remember you always have a choice. Mental rehearsal is a good way to practice. Sometimes it's a good idea to talk about your feelings with a trusted friend, family member or spiritual advisor.

This exercise should be done as a large group, using the handout "Cognitive Reappraisal" and the following example, or one from the instructor's own experience: A firefighter is always having to do the work that others only half-finish. How would this make you feel? He felt used, unappreciated, lowered. How might he reinterpret his situation? He might instead feel that he is actually very versatile and competent in that he can finish others'

undone work. He might also consider that there is nothing inferior about routine work, and that he is a kind of lubricant that keeps things going. What other suggestions can the group come up with? How would they interpret his stressor in a more positive, less stressful way? Have the class select another cognitive stressor and work through this exercise. If the members of the class are very comfortable together, and wish to try this out in small groups, this may be done. Emphasize the fact that no one should feel pressured to discuss personal feelings. Selfstudy students should do this exercise before progressing further in this text.

III. Dealing with the Body

We mentioned earlier that physical activity is a recommended stress control technique. Physical activity, according to much research, is the body's natural mechanism for reducing physical arousal.

Physical exercise helps us manage stress in three ways:

1. It helps detoxify the body by burning off the stress-related hormones that perpetuate physical arousal.

2. It decreases stress reactivity both physically and mentally.

3. It strengthens internal organ systems, making them more resistant to disease.

Distribute the handout "Presidential Sports Award. " The purpose of this handout is to show the remarkable number of physical activities and sports that are recognized for their capacity to "help relieve stress " and promote good physical and psychological health. Read the list out loud to the class. Discuss.

IV. Techniques That Work on the Environment, Mind and Body

Relaxation

Relaxation is considered one of the most useful stress control tools because it acts on the environment, mind, and the body. It involves activities that stabilize and maintain mental and physical arousal at a reduced level.

What do you do to relax? Many of us associate relaxation with leisure; however, leisure activities are usually stressors: movies, books, spectator sports all stimulate or arouse us, as do weekend trips and vacations.

Some sleep to relax, others among us say we sleep; yet, sleep is also a stressor. Think of your dreams. Have you ever awakened from a full night's sleep feeling more tired than when you went to bed?

Sleep, according to the researchers, is a dynamic, continuously cycling activity full of mental and physical states of arousal, whereas true relaxation is a stable state.

There are two other misconceptions about relaxation. One is that relaxation produces a state similar to that induced by alcohol or other tranquilizing drugs. This is **not so.** Drugs numb awareness. Relaxation, by contrast, actually increases awareness while relaxing the body. In addition, relaxation does not involve mental passivity. Systematic

relaxation requires concentration and deliberate mental activity, not turning off your mind. These are important points about relaxation that you should remember.

There are two basic forms of relaxation training-Cen**tralized** relaxation, which helps **you** calm your **mind,** and **Peripheral** relaxation which helps you relax your **body.** Although one starts with the mind and the other starts with the body, both aim to lower arousal in the mind and body together.

Centralized Relaxation Techniques

Examples of centralized relaxation techniques include meditation, selective awareness activities, such as hypnosis and guided imagery, and brainwave biofeedback training.

These centralized techniques reduce arousal throughout the body and, as such, work best for people who react to stress with some type of activity in most of their body systems. Centralized techniques also work well for those who react to stress in different organ systems on different occasions. For example, sometimes heart rate goes up, sometimes excessive sweating occurs.

Meditation

Nearly every book on stress management discusses meditation in some detail, In summary, meditation training for the management of stress has five basic components: quiet environment, correct posture, meditation object, passive attitude and regular practice. A number of audiotapes are available that guide listeners through mediation exercises.

Check your bookstore or library for these tapes. Autumn Wind, for example, distributes an excellent series of relaxation tapes, including meditation, selective awareness and progressive neuromuscular relaxation. Contract Dr. Roger Allen, Department of Human and Community Resources, University of Maryland, College Park, MD, 20742.

People who relate to meditation training are those who have a relatively well-developed awareness of internal states. Such people are generally sensitive to changes in their minds and bodies.

Even though it is very effective, some people do not like meditation at all. Type A firefighters often become impatient with meditation because it involves sitting still. These people are often better suited for progressive muscle relaxation, a technique to be discussed later. Other people who have problems with meditation are those who have used some sort of maladaptive habit to cope with stress for most of their lives, such as smoking, snacking or drugs.

Selective Awareness

Selective awareness, another type of centralized relaxation technique, involves learning how to gain control of the focus of our attention, and subsequently using this control to direct the internal activity of the body. Hypnosis is a form of selective awareness, as are guided imagery and autogenic training.

There are two principal goals of selective awareness training as it applies to stress management. The first is to train us to concentrate so that we realize that we are able to control the direction of our thoughts, which is an essential component of cognitive reappraisal. The second is to provide positive, tangible mental stimuli that can compete

with negative stimuli and sensations during stress. As with meditation, tapes or passages from books that can be read out loud by others are available to guide us through a wide variety of selective awareness exercises.

Autogenic training is one type of selective awareness training. According to its founder Schultz, autogenic training requires a high degree of motivation and cooperation, a reasonable degree of self-control, maintenance of specific body postures and minimization of external distracters, just to name a few. The goal is to create deep relaxation through the use of mental images such as sensations of heaviness and warmth,

One of the more difficult techniques in this category of selective awareness is guided imagery, which involves directed imaginings.

For those interested in learning more about these techniques, refer to the book Mind as Healer/Mind as Slavery, by Kenneth R. Pelletier, Dell Publishing, 1977. This is an excellent resource book and class text. Once again, tapes are also available.

Peripheral Relaxation Techniques

Unlike centralized techniques, peripheral techniques begin by reducing arousal at the site of a body organ. They are particularly good for those people who always respond to stress in a particular organ system, regardless of the situation. Such a person, for example, always gets an upset stomach or a migraine headache during stress. Some of the peripheral techniques include progressive muscle relaxation, yoga, breath control and many kinds of biofeedback.

Yoga

There are many forms of yoga, and the best place to begin yoga training is with qualified instruction at a community college or through some other community-based program.

The practice of yoga begins with mastering **diaphragmatic breathing,** a technique that is useful in and of itself for calming. Instead of breathing from our chests, diaphragmatic breathing involves pushing the stomach out as you inhale and then pulling it in to exhale. You can try this kind of breathing right now. It is not known why this type of breathing tends to calm us physically, but it does, particularly when we are suddenly faced with unexpected stressors. Once you are able to breathe diaphragmatically with ease and naturally, even a few breaths will calm you almost immediately.

Allow the class to practice breathing in this manner for several minutes. Some practitioners suggest that the suggestion "I feel warm " be repeated silently to oneself when inhaling and that "I feel calm" be repeated silently on the exhale. When practicing this technique, it is important that the stomach area actually move in and out slightly. Have students break into pairs, with one person watching while the other person tries this out. If the shoulders or upper chest move, as is often done when breathing normally, the technique is not being performed properly. Some of the students in the pilot sites asked that the lights be dimmed during this exercise.

Biofeedback

Biofeedback is a treatment technique in which people are trained to improve their health by using signals from their own bodies. Physical therapists use it to help stroke victims regain movement in paralyzed muscles, while other specialists use biofeedback to help their patients cope with pain. In stress management, biofeedback plays three basic roles:

1. It is used to treat stress-related disorders such as muscle tension and hypertension.

2. It is used to prevent stress-related disorders.

3. It is valuable in augmenting the effectiveness of other relaxation techniques.

Biofeedback training should be provided by a physician or another certified health care professional. For more information about biofeedback, refer to the pamphlet on biofeedback, published by the National Institute of Mental Health, which is included in the appendix.

Progressive Muscle Relaxation

As mentioned before, progressive muscle relaxation is a technique that is particularly useful for those who find passive activities, such as meditation, to be frustrating.

Progressive relaxation is used to reduce muscle tension and is also used to treat stress-related muscular disorders.

The technique is simple to learn and can be practiced just about anywhere at any time. Whenever you feel tension building somewhere in your body, you can relieve it by simply performing one or two of the tension-release intervals at that part of your body.

This technique is practiced as a series of progressive tension-release intervals. Each interval contains five parts. Follow along with the following demonstration, using the muscles in your hands. Please do **not** perform

any muscular tension-release interval in any area of your body that is injured, hurt or otherwise in less than optimum physical condition without consulting your physical. These directions are provided by Dr. Roger Allen:

1. *Awareness* - Notice how the muscles in your hands feel right now. Are your hands tight or cramped?

2. *Tension* - Isometrically contract both hands as much as you can. That is, simply make a tight fist. If you feel cramping, ease off a bit. Hold that contraction for about 10 seconds. Think about the feeling of tension.

3. *Relaxation* - Release all the tension from the muscles after about 10 seconds. Don't exert effort, just let the tension float away.

4. *Listening to the body* - Now notice how different the muscles feel in their relaxed state as compared to the tensed condition. Try to learn and to recognize the sensation of deep relaxation.

5. *Focus* - For about 45 seconds, direct all your awareness to this feeling of relaxation. Immerse yourself in the feeling of being very relaxed.

When first getting started, some professionals recommend that you try this out throughout your entire body. To do this, it's best to lie down and, starting with your feet, progressively contract and relax all the major muscle groups.

For example, point your feet and toes, or pull back on your feet. Fan your toes out as wide as you can. Hold the tenseness for about 10 seconds, and then relax, following the steps above. Work up to your legs and buttocks. To tense your abdomen, tighten your stomach muscles as though you were preparing to get hit with a ball. To tense your chest and shoulders, place the palms of your hands together, with arms outstretched. Press your palms together as hard as you can, and then release. For your back and shoulders, try pulling back on your shoulders, as if you could touch them together behind you. You can even

contract your facial muscles by squeezing your eyes, forehead, mouth and nostrils tightly closed, as if someone were going to throw hot coffee at you.

Most textbooks on stress have a section on muscle relaxation, including the above reference book by Pelletier. In particular, refer to Jacobson's book You Must *Relax.* Some people like to listen to audiotaped directions, which are available commercially, or you can make your own.

Overview of Relaxation

We have briefly discussed a number of relaxation training techniques. They are extremely effective when practiced correctly and regularly-a few minutes everyday or every other day. In addition to lowering arousal, there is growing evidence that relaxation training also enhances attention span, clarity of thought and sensory acuity, attributes that are real bonuses for fire personnel who are called on to make rapid decisions in crisis situations. Please keep in mind that research has shown that relaxation training actually **lowers** arterial blood pressure and blood sugar levels. If you have chronically **low** blood pressure or **low** blood sugar, relaxation training may worsen the condition. **Always consult your physician before you begin training.**

Other Miscellaneous Techniques

Other stress control techniques involve altered states of consciousness, which help liberate us from maladaptive, judgmental kinds of thinking, and sensory awareness, which involves developing and refining lost or diminished awareness of our senses, such as hearing, tasting and smelling. By reawakening our awareness to sensations, we can enhance the effectiveness of relaxation exercises.

As a supplement to the techniques that have been discussed, there are also some common-sense things we can do to keep fit. Set some time aside for yourself, every day if possible, and develop another interest, something you enjoy doing such as a leisure activity or a hobby. Some fire personnel enjoy music, carpentry, cooking, sports and involvement with church and civic groups. If you're looking for something new, try looking into adult education programs or activities sponsored by your community's recreation department.

It goes without saying that we should get enough sleep, eat right, and take a break from what we're doing every once in a while. Stand up at least once an hour-regular, vigorous physical exercise is probably the single most beneficial way of dealing with stress and tension.

Some foods and beverages tend to make us more stressful. It might be a good idea to gradually reduce our use of sugar and caffeinated drinks such as sodas, coffee, tea and cocoa. Alcohol can mask feelings of stress for a little while, but it can't erase emotional and physical tension. Nicotine speeds up the heart, increases blood pressure, robs oxygen from the body and interferes with our ability to reduce stress.

There is significant controversy about the role of food and stress. Contact the American Heart Association for information or consult with a nutritional counselor. Clearly, this is a topic that might be expanded as a satellite module. In order to assess the level of interest in pursuing this area of stress management, have the class fill out the "Nutritional Knowledge Inventory" from Investigations in Stress Control, Allen and Hyde, 1980. Discuss the results in class.

Try to set realistic goals for yourself every day, breaking large jobs into small steps. Learning how to say no will help reduce the kinds of stress caused by feelings of overcommitment. Saying no sometimes helps you find time for yourself.

Often we think in terms of "should"-I should do this, I should do that. Try substituting the word "could." Think in terms of what you **can** do and what **you want** to **do.** Usually, the only difference between pleasant tasks and unpleasant ones is the way in which we approach them.

Finally, we need to learn to accept those things we cannot change. When we find that a situation is beyond our control, we need to detach from it and move on to new and more productive activities.

It might be helpful to discuss the substitution of "could n or "can n for "should' or "must." Also, encourage discussion of what kinds of events or conditions cannot be changed. What does it mean to "turn loose of it and move on to new and productive activities"? There is no definite answer here. Encourage each student to think about this in detail, and apply these thoughts to personal life.

No one answer or strategy for controlling stress will work for everyone. Each person must discover his or her own individual stress management approach. Now that you are familiar with some of the basics, it's a good idea to expand your knowledge by reviewing additional fire service stress management programming, resources and references, as listed in the following bibliography,

Stress Bibliography

J. Hildebrand

Adams, R. Burned out or burned up? *Firehouse,* Sep 1981, pp. 75-76, 80, 144.

Adams, R. Burnout: Hope for the hassled. *Firehouse,* Jun 1983, pp. 38, 120.

Alexander, C.A. & Ross, A.L. Psychological evaluation of firefighter candidates. *Fire Chief Magazine,* Sep 1981, pp. 61-62.

Arkin, J. Helping firefighters with emotional problems. *Fire Chief Magazine,* Oct 1977, pp. 55-56.

Armstrong, K.T. EMS, *Hazard,* Jan 1983.

Barnard, R.J. & Duncan, H.W. Heart rate and ECG responses of firefighters. *Journal of Occupational Medicine,* April 1975, Vol 17(4), pp. 247-250.

Bergmann, L.H. & Queen, T.R. Critical incident *stress* and the fire service. *Rekindle,* Feb 1986, Vol 15(2), p.5.

Brownstone, J.E., et al. Reducing stress factors in EMS: report of a national survey. *Emergency Health Services Review,* Vol2(1), 1983, pp. 35-53.

Clisby, C. Experiencing fires. In D. Canter *(Ed.), Fires and human behavior,* NY: John Wiley & Sons, 1989, pp. 323-32.

Cohen, A.R. Paramedic pains: stress. *Paramedic* (no year).

Cohen, B.D. Air crash rescue workers also victims, psychiatrist says. *The Washington Post,* July 9, 1979, C5.

Crash Trauma, *Time,* Jan 8, 1979, p. 61.

Dickinson, C., et al, Firefighter! Where is your family when diaster strikes? *American Fire Journal,* Sep 1985, pp. 26-29.

Dutton, L.M. et al. Stress levels of ambulance paramedics and firefighters. *Journal of Occupational Medicine,* Feb 1978, Vol 20(2), pp. 111-15.

Ellsworth, D.W. & Baer, R.J. Psychological services for firefighters. *Fire Chief Magazine,* Jan 1981, pp. 52-53.

FBI Law Enforcement Bulletin, June 1984, Performing well under stress can be learned. *Fire Command, Nov* 1984, p. 10.

Ferguson, J.K. & Gerspach, J.E. *Emotional stabilization program: from red lights to recovery.* Huntington Beach, CA: Creative Interchange, 1981.

Ferguson, J.K. & Gerspach, J.E. Stop and smell the roses before stress puts you six feet under. *American Fire Journal,* Jul 1984, pp. 40-44.

Ferguson, J.K. & Gerspach, J.E. Stress factors in the fire service, or: are we having fun yet? *American Fire Journal,* Feb 1985, pp. 9-10.

Fiedler, F.E. et al. Use of experience under *stress. Fire Chief Magazine,* Sep 1981, pp. 49-51.

Fire Fighters Resource Manual, Firemen's Relief Association, Ft. Worth Fire Department, 1985.

Fjelstad, M.A. Can a firefighter have a successful marriage? *Fire Chief Magazine,* Aug 1978, pp. 76-77.

Fjelstad, M.A. Putting it back together. *Minnesota Fire Chief,* Nov/Dec 1978, p. 18.

Fletcher, G.M. Firefighters are human. Letter to editor, *Fire Command,* Apr 1980, p. 2.

Floren, T.M. Impact of death and dying on emergency care personnel. *Emergency Medical Services,* Vol 13(2), Mar/Apr 1984, pp. 43-47.

Forstenzer, A. Stress: the psychological scarring of air crash rescue personnel. *Firehouse,* Jul 1980, pp. 51-52, 62.

Gerspach, J.E. Stress: it's a fact of life. The *International Fire Chief,* Sep 1981, pp. 23-25.

Graham, N.K. Done in, fed up, burned out: too much attrition in EMS. *Journal of Emergency Medical Services (JEMS),* Jan 1981, pp. 25-3 1.

Granito, J. The joke's on who? *Firehouse,* Feb 1981, pp. 49-51.

Green, B.L. & Penwell, L.W. *Worker stress in emergency organizations.* Traumatic Stress Study Center, University of Cincinnati, Sep 1985.

Haas, G. Stress in disaster. *Journal of Civil Defense,* Oct 1983.

Hall, D.K. Death and the EMT - a second consideration. *Fire Command,* Sep 1978,

pp. 32-33.

Hall, D.K. The suicidal situation. *Fire Command,* Nov 1978, Vol 45(l), pp. 40-41.

Hamlett, K. People problems: human resources management in the fire service. *International Fire Chief,* Dec 1985, Vol 51(12), p. 25.

Hartsough, D.M. & Myers, D.G. Disaster work and mental health: prevention and control of stress among workers. Rockville, MD: National Institute of Mental Health, Pub. No. (ADM) 85-1422, 1985.

Herbison, R.J., et al. National EMS burnout survey, *Journal of Emergency Medical Services (JEMS),* Jan 1984, pp. 48-50.

Hildebrand, J.F. Assessing the psychological needs of firefighters, The *International Fire Chief,* Mar 1980, pp. 18-21.

Hildebrand, J.F. ASSIST: a different solution for a different health problem. *The International Fire Chief,* Apr 1983, pp. 20-21.

Hildebrand, J.F. ASSIST program goes to Canada, and other highlights. *The International Fire Chief,* Oct 1984, p. 31.

Hildebrand, J.F. ASSIST workshops: mutual aid for spouses. *Firehouse,* Sep 1985, pp. 161-63.

Hildebrand, J.F. *The behavior of emergency response personnel: observations and applications.* Paper presented to the National Fire Protection Association 87th Annual Meeting, Kansas City, MO: May 16-20, 1983.

Hildebrand, J.F. *Disaster action checklists.* Paper presented to the Norfolk CFR School, Virginia Beach, VA: May 1981; revised and presented to the 1983 National Disaster Conference of the American College of Emergency Physicians.

Hildebrand, J.F. Firefighters' wives help one another cope. *American Fire Journal,* Sep 1983.

Hildebrand, J.F. Mutual help for spouses whose partners are employed in stressful occupations. *Journal for Specialists in Group Work,* May 1986, pp. 80-84.

Hildebrand, J.F. Spouses join in conference activities. *The International Fire Chief, Nov* 1983, p. 29.

Hildebrand, J.F. Spouse support network. *Firehouse,* Jan 1986, p. 47.

Hildebrand, J.F. Stress and the fire chief. The *International Fire Chief,* Sep 1981, pp. 12-15.

Hildebrand, J.F. Stress research: a perspective of need, a study of feasibility. *Fire Command,* May 1984, Vol. 51(5), pp. 20-21.

Hildebrand, J.F. Stress research: Part 2. *Fire Command,* Jun 1984, Vol. 51(6), pp. 55-58.

Hildebrand, J.F. Stress research: Solutions to the problem. *Fire Command,* Jul 1984, Vol. 51(7), pp. 23-25.

Hildebrand, J.F. Stress research: Survey results. *Fire Command,* Aug 1984, Vol. 51(8), pp. 34-37.

Hildebrand, J.F. Stress research: Availability of services. *Fire Command, Nov* 1984, Vol. 51(11), pp. 32-35.

Hildebrand, J.F. Wives help each other cope. *Maryland Fire and Rescue Bulletin,* Sep 1983, p. 8.

Holt, F.X. The dispatcher and stress. *Firehouse,* Nov 1980, pp. 18, 21.

Holt, F.X. Post-traumatic stress disorder and the firefighter. *Fire Engineering,* Nov 1985, pp. 24-27.

Innes, J.M. & Clark, A. Firefighters' health - the effects of stress. *Fire International* (date unknown).

Innes, J.M. & Clark, A. The responses of professional firefighters to disaster. *Disasters,* Sep 1985, pp. 149-153.

Isman, W.E. & Mulhall, R. Communications personnel: unexpected targets of stress. *International Fire Chief,* Jun 1979, pp. 20-21.

Jones, D.R. Secondary disaster victims: the emotional effects of recovering and identifying human remains. *American Journal of Psychiatry,* Mar 1985, pp. 303-307.

Kalimo, R. & Lehtonen, A. Stress in firemen's work (Swed). *Nordisk Psykoligi,* 1980, Vol. 32, pp. 74-79. [Abstract in English: Psychological Abstracts 67:10933]

Laughlin, J.W. The mid-life crisis of fire chiefs. *Fire Chief Magazine,* June 1979, pp. 46-49.

Laughlin, J.W. Psychological stress in firefighters - part 1. *Fire Command,* Jan 1980, Vol. 47(l), pp. 25-26.

Laughlin, J.W. Psychological stress in firefighters - part 2. *Fire Command,* Feb 1980, Vol. 47(2), pp. 12-13.

Laughlin, J.W., et al. Firefighter occupational safety: health considerations, in *Firefighter Occupational Safety,* 1st edition, Stillwater OK: Fire Protection Publications, Oklahoma State University, 1979, pp. 203-206, 215, 217.

Law Enforcement Communication, After the fall: group encounter sessions alleviated anxiety after the DC-10 crash, Oct 1979, p. 43.

Lee, J. From the president. *International Fire Chief,* Jun 1981, Vol. 47(6), p. 2.

Martin, S. Stress and the fire service. *The Minnesota Fire Chief,* Jan/Feb 1989, pp. 10-11; 48-58.

Matarazzo, J.D., et al. Characteristics of successful policemen and firemen applicants, *Journal of Applied Psychology,* 1964, Vol. 48(2), pp. 123-133.

McCarty, D.T. Stress and the firefighter. *Fire Command,* Apr 1975, pp. 38-39; 55-56.

McGlown, K.J. Attrition in the fire service: a challenge for EMS. *Fire Chief Magazine, Nov* 1982, pp. 31-34.

Miale, J. Firefighters and the fear syndrome. *Fire Service Today,* Nov 1983, pp. 10-11.

Minnesota Rescue and Fire Aid Association, Surgeon says rescue workers are victims too. Aug 1979, p. 1.

Mitchell, Glenn W., et al. Burnout questionnaire. *Journal of Emergency Medical Services (JEMS),* Jan 1983, pp. 55-57.

Mitchell, J.T. High tension: keeping stress under control. *Firehouse,* Sep 1984, pp. 86-90.

Mitchell, J.T. Recovery from Rescue. *Response!,* Fall 1982, pp. 7-10.

Mitchell, J.T. When disaster strikes: the critical incident stress debriefing process. *Journal of Emergency Medical Services (JEMS),* Jan 1983, pp. 36-39.

Mitchell, J.T. & Donohoe, M.A. *Critical incident stress* (videotape). From Instructional Media Resources, Univ of Maryland Baltimore County, Catonsville, MD, 21228.

Murdock, J.I. Stress: what a chief *can* do. *Fire Chief Magazine,* Sep 1981, pp. 43-48.

Murrin, E.C. & Williams G.R. A study of the response of firefighters to fire fatalities. *Journal of Fire and Flammability,* Jan 1980, Vol. 11, pp. 45-62.

Navarre, R.J. Stress and firefighters. *Dissertation Abstracts International,* Jun 1984, 44(12-B).

Neely , K. Staying in control. *Journal of Emergency Medical Services (JEMS),* Dec 1984, pp. 30-34.

Nydam, R. Rescue trauma threshold. *Emergency,* Feb 1983, pp. 35, 45.

O'Camp, L. Coping with stress. *Fire Chief Magazine,* Jul 1984, pp. 40-41.

Paramedic burnout. *Fire Chief Magazine,* Vol. 24(11), Nov 1980, pp. 28-33.

Pazniokas, M. Rescue workers struggle with stress after disaster. *The Hartford Courant,* Dee 23, 1985.

Piringer, B.R. Battling the big click. *Fire Service Today,* 1982, Vol. 49, pp. 21-23.

Psychological tests upheld in Jersey City. Reprinted from the Firemen's Monthly, July 1978, in *Fire Command,* Oct 1978, Vol. 45(10), p. 12.

The psychology of the firefighter (anonymous). *Fire Command,* Apr 1974, pp. 36-37.

Rawlings, G. Helping others cope with death. *Fire Command,* Apr 1980, pp. 34-37.

Reid, J. Stress and the MGM Grand. *Western Fire Journal,* 1982, Vol. 34, p. 19.

Sanner, P.H. & Wolcott, B.W. Stress reactions among participants in mass casualty simulations. *Annals of Emergency Medicine,* Jul 1983, pp. 29-31.

Schmidt, W.W. Lex de incendis: mental instability. *Fire Chief Magazine,* Jun 1982, p. 11.

Schrodi, J. Death and the EMT. *Fire Command,* May 1978, pp. 47-48.

Shields, D.C. Firefighter's self-image, projected image and public image. *Fire Command,* Nov 1974, Vol. 41(11), pp. 26-27.

Smelson, H. Psychiatric screening of firefighter candidates. *Fire Command,* Apr 1979, pp. 22-23.

Smith, J.F. Air Canada: a year later emergency crew carries memories. *The Cincinnati Enquirer,* Jun 3, 1984.

Smith, J.F. Dealing with death often troubling to firefighters, stress specialists say. *The Cincinnati Enquirer,* Mar 2 1, 1984.

Stewart, R. Stress: one of the firefighter's most common enemies. *Firehouse,* Apr 1984, pp. 69-71.

Streng, P. Stress and the volunteer fire department. *International Fire Chief,* Dee 1985, Vol. 51(12), p. 24.

Szymanski, T.J. Psychological fire aid officer eases emotional stress of death and fire. *Fire Engineering,* Jun 1980, Vol. 133(6), pp. 60-61.

What steps can EMT's, paramedics and other health professionals take to prevent burnout? *Emergency Medical Services,* Vol. 13(3), May/Jun 1984, pp. 10-13.

Williams, D.C. Treating marital stress. *Journal of Emergency Medical Services (JEMS),* Dee 1984, pp. 48-50.

Wilson, J. Firemen-scholar works to *ease* stress of job. *laze New York Times,* Jun 26, 1983.

Ziolkowski, H.M. Deadly game of stress denial. *American Fire Journal,* Jul 1984, p. 5.

Appendix

This Appendix contains the following materials:

Environmental Stressors:

Extreme Temperatures

High Levels of Noise

Deadly Gases

Carcinogenic Agents

Explosions

Building Collapse

Exposure to Radiation

Hostile People

Psychological Stressors:

Death, Pediatric Death

Mass Casualties, Hi-Rise Fires

Personal Injury, Death

Disfigurement, Pain

Anxiety in Family

Lack of Feedback

Anticipation

Crucial Mistakes

Peer Pressure

False Alarms

Arson

Psychological Stressors:

Survivors and Relatives

Suicide

Public, Government, Business Officials

Boredom, Inactivity

Uncertainty

Poor Leadership

Psychological Stressors:

Specialized Duty -

Alarm Center - Rapid Decisions

EMS - Fire Department Policies, Procedures Management Practices

- Lack of Feedback, Recognition

- Lack of Encouragement

- Lack of Advancement Opportunity, Personal Development

- Lack of Management's Respect

Changes in the Body that Prepare Us for Immediate and Sustained Action:

Elevated Heart Rate and Blood Pressure

Increased Blood Coagulation

Increased- Oxygen Consumption

Increased Skeletal Muscle Tension

Elevations in Blood Glucose Levels

Bronchial Dilation

Dilation of Coronary Arteries

Dilation of Deep Muscle Arteries

Vasal Constriction of Abdominal Arteries and Peripheral Skin Arterials

Physical Effects:

Pounding Heart

Cold, Sweaty Hands

Rapid, Erratic or Shallow Breathing

Shortness of Breath

Upset Stomach

Nausea, Vomiting

Sharp Abdominal Pains

Muscle Tremors, Shaking Hands

Muscle Pain

Headaches

Allergy Flareups, Skin Rashes

Insomnia

Cardiac Failure

Psychosomatic Disease:

Migraine Headache

Hypertension

Muscle Tension

Peptic Ulcers

Infectious Diseases

Arthritis

Atherosclerosis

Diabetes

Cancer

Stress Outcomes:

Heart Disease

Hyperventilation

Collapse

Hypertension

Fatigue and Exhaustion

Cognitive and Behavioral Changes - Coping

Joking, Humor, Gallows Humor

Discussion

Denial or Repression

Ignorance or Avoidance

Attention to the Corpses to Avoid Dealing with the Emotional Pain of the Survivors

**Push Beyond the Limit -
Becoming Overcome by Heat or Smoke
Abandoning Time-Consuming Safety Procedures**

Taking Problems Home

Seeking Outside Employment

Cumulative and Long-Term Effects:

Hindrance of Performance

Lessening of Ability to Attend to Environment

Decreased Ability to Make Decisions

Memory

Mental Stability

Interpersonal Conflicts

Morale Problems

Prone to Accidents

Early Retirement

Cumulative and Long-Term Effects:

High Medical Costs

Chronic Absenteeism

Alcoholism

Depression

Mental Health Problems that Undermine Judgment and Adversely Affect Performance

Attrition

Suicide

Fire Service Solutions for Stress Management:

Decompression

Biofeedback

Systematic Relaxation

Progressive Muscle Relaxation

Self-Pacing

Classes on Stress

Goal Setting

Diversionary and Pressure-Releasing Techniques: Vacations, Hobbies, Travel, Conventions, Social Relationships Outside the Fire Service

Regular Aerobic Exercise

Less Adrenalin Release

Increased Ability to Handle the Effects of Stress Hormones

Injury Reduction

Heart Attack Risk Reduction

Increased Sense of Control and Mastery

Support Systems

Discussion

Counseling:
Peer Marriage and Family
Disaster
Normal Life Transitions
Decisions

Continuing Education:

Nutrition, Diet

Smoking

Death and Dying

Crisis

Suicide

Orientation Programs

Changes in Administration Procedures and Policies:

Rotation on Duty Assignments

Rotation of Personnel during Disaster

Decreased Workload

Cross-training

No-Smoking Regulations

Shift Structures that Reduce Ambiguity

Officers Meetings

Regular Positive Feedback

Planning of Social Activities

Post-Incident Critiques

Incident Debriefings

Basic Changes in Philosophy and Values:

Risk-taking

Omnipotence

Frontier Mentality

Chaplain

Medical Officer

Psychological First Aid Officer

Community Resource Helpers

Officer Trained to Recognize Stress

Selection Process:
Screen for Mental Illness and Substance Abuse

Implemented Programs

Psychiatric Testing of Applicants

Psychological Testing

Screening for Medical Problems and Risk Factors

Health Maintenance:

Medical Exams
Physical Fitness
Education about Diet
Education on Substance Abuse
Education on Stress Reduction

Mandatory Physical Fitness and Nutrition

Employee Support Program

Special Training and Education Seminars

Spouse/Family Workshops

Videotape Programs

Staff Psychologist:

Personnel Selection
Training
Counseling
Disciplinary Counseling
Testing
Performance Evaluation
Public Relations
Alcohol Treatment

Mental Health Counselors

Community Mental Health Organizations

Measuring Self-perceived Knowledge

How would you rate your present knowledge about stress management?

1	2	3	4	5	6	7	8	9	10
Low				Medium					High

Slides Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Stress Model Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Social Engineering Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Overload Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Cognitive Reappraisal Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Breathing Demonstration Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Progressive Muscle Relaxation Demonstration Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Nutritional Knowledge Inventory Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Student Notetaking Guide Evaluation

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

What was the best part of this activity?

What could we do to improve this section?

What could you personally have done to gain more insight from the activity?

List any questions that you would like to have clarified or discussed further.

Other comments?

Test

True or False?

___ Stress causes, mediates or exacerbates illnesses of all kinds and magnitude, including heart disease.

___ Stress is directly responsible for billions of dollars in annual losses to the American economy.

___ Although stress is usually thought of as fostering disease and discomfort, stress is also essential for vitality and optimal functioning.

___ There is no such thing as "good" stress.

___ The effects of stress are cumulative and have long-term consequences.

___ Stress management is a type of psychotherapy and should be administered only by a certified specialist.

___ Most problems with alcoholism and drug abuse can be cured by stress management.

___ Nearly any time conflict or disharmony exists between the individual and the work environment, severe stress can result.

___ Relaxation produces a state similar to that induced by alcohol or other tranquilizing drugs.

___ Sleep and relaxation are essentially the same thing.

Select the best answer:

___ Stress is defined as:

a. A general feeling of apprehension.
b. An event that disrupts our mental and physical well-being.
c. A physical response of the body that occurs whenever we must adapt to changing conditions.
d. A disease.

___ A stressor is defined as:

a. Any stimulus that triggers the stress response
b. Physical changes in the body caused by stress
c. Any acute reaction to stress
d. An anxiety-producing event or condition

___ A good example of a rapid-onset stressor is:

a. A dull headache
b. A loud, sudden scream
c. A boring movie
d. An argument with the boss

___ Crowding, social stressors and life changes are all examples of:

a. Rapid onset stressors
b. Cognitive stressors
c. Emotional arousal
d. Psychosomatic disease

___ The psychological distances between our real personality and our ideal self-image are called:

a. Life changes
b. Personal stressors
c. Mind/body connections
d. Social stressors

___ Which of the following stressors is considered one of the most serious in the fire service?

a. Decision-making
b. Malfunctioning emergency equipment
c. Death
d. Scheduling and policy

___ Which of the following stressors is associated with routine fire duty?

a. Contact with the public
b. Inconsistent or weak leadership
c. Boredom and inactive periods of time
d. All of the above

___ When do you begin to notice the effects of thyroxine?

a. Immediately after the stressor
b. Usually the first evening after the stressor
c. About 10 days after the stressor
d. About 2 months after the stressor

___ Psychosomatic disease is:

a. Physical disease resulting from stress that often includes actual tissue damage
b. Physical reactions to stress that do not include actual tissue damage
c. A general term used to describe imaginary ailments
d. A severe mental disorder characterized by personality disintegration

___ According to researchers, how do many firefighters cope with stress?

a. Joking
b. Denial
c. Discussion
d. All of the above

___ To be useful and effective, a stress-control technique must:

a. Reduce physical arousal
b. Change life goals
c. Change personality
d. All of the above

___ Planning, setting priorities and implementing are the basic steps of:

a. Meditation
b. Time management
c. Cognitive reappraisal
d. Progressive relaxation

___ Physical exercise helps us manage stress in which of the following ways?

a. It helps detoxify the body
b. It decreases stress reactivity both physically and mentally
c. It strengthens internal organ systems
d. All of the above

Indicate which of the following occurs during a stress response:

___ Eyes dilate
___ Perspiration increases
___ Blood pressure decreases
___ Hands feel warm
___ Respiration increases

Match items in the left-hand column with those in the right-hand column:

___	Thyroxine	a. Stressor
___	Type A behavior	b. Peripheral relaxation technique
___	Caffeine	c. Centralized relaxation technique
___	Progressive muscle relaxation	d. Stimulant
___	Explosion	e. Stress hormone
___	Meditation	f. Coronary prone behavior

Fill in the blank:

Give an example of a typical psychosomatic disease: _____

Name a food or beverage that should be avoided during stress: _____

Student Notetaking Guide for Stress Management

This guide is designed to help you take notes, so you'll learn more from the lecture, overhead transparencies, slides, discussions, and exercises. Please try to fill in every item. These notes are yours to keep and study. They will not be collected.

Define the following terms, as presented in class:

STRESS—

STRESSOR—

List several fire service *STRESSORS*, as shown on the overhead transparencies:

Define *RAPID ONSET STRESSOR* —

What is a good example of a *RAPID ONSET STRESSOR* in the fire service?

Although many *STRESSORS* are inherently stress-producing because they are physically harmful to us, most stressors are cognitive in nature. When they occur, it is the way we think and feel about them that causes STRESS. This is called:

One example of a *COGNITIVE STRESSOR* is "crowding." From the lecture, list three more:

Regardless of the *EMOTIONAL AROUSAL,* brought on by the stressor, the body responds in the same way - True or False?

From the lecture and the overhead transparencies, list some *COGNITIVE STRESSORS* found in the fire service:

What are some stressors associated with routine fire duty?

What are some stressors associated with alarm center duty?

What are some stressors associated with emergency medical services?

Which of the slides illustrates a stressful situation that you have been in before?

How do you feel physically **right at this moment:** Sleepy? Hungry? Relaxed? Alert? Achy? Other:

How do you feel mentally **right at this moment?** Bored? Curious? Anxious? Calm? Stimulated? Other:

Define *STRESS* once again -

PHYSICAL AROUSAL is characterized by the following changes inside the body:

These changes are brought about by a complex interaction of the nervous system and the endocrine system. This is why stress is often called a _____ response.

During this interaction, the electrical activity of the brain (our thoughts) are transduced into mechanical and chemical energy for our muscles and glands. Some researchers refer to this interaction as the:

List some of the *PHYSICAL EFFECTS* of stress:

THYROXINE is released from the _____ gland. One release of thyroxine, triggered by a single stressor, requires days to produce an observable effect in our bodies.

We usually feel the effects of thyroxine most noticeably when they peak, at about _____ following the original stressor.

The main effect of thyroxine is an (increase/decrease) in overall metabolic rate. Some of the symptoms of thyroxine include:

List three examples of psychosomatic diseases:

Identify one serious STRESS *OUTCOME* in the fire service:

Referring to the overhead transparencies, list several ways in which firefighters often cope with stress:

List some *CUMULATIVE* and *LONG-TERM EFFECTS* of stress:

How does regular *AEROBIC EXERCISE* help manage stress?

Continuing education and training within fire departments are suggested by many professionals as tools to alleviate stress. Using the overhead transparency, list three continuing education topics:

Some changes in administrative procedures and policies have been recommended by some professionals. These include:

List three basic philosophical outlooks or values that should be modified:

Using the transparency as a guide, who can help firefighters with stress?

As you can see, there are many recommendations for controlling stress in the fire service. Yet, few have been implemented and virtually none have been evaluated. Using the transparencies, what kinds of programs or services have been used to some extent?

What is the term used to describe the various methods found in the workplace for the control of alcohol and other drug abuse, stress and personal problems that adversely affect job performance?

In Ft. Worth, the Critical Incident Debriefing Team is made up of members of both the _____ and _____ who have undergone extensive cross-training in each other's respective fields.

CHAPLAINCY PROGRAMS can also be beneficial in helping fire department members deal with stress. True or False?

Certain styles of behavior have been found to be highly associated with stress-related disease, such as self-sacrificing behavior and _____ (also called *CORONARY-PRONE BEHAVIOR).*

According to the lecture, Type A persons who successfully manage stress in spite of their lifestyle seem to be those who:

a. **Choose** to behave in this style.

b . Feel that they **must** behave this way in order to get things done.

Sketch the *STRESS ADAPTATION MODEL* here:

There are many stress control techniques. To be useful and effective, however, a given technique must be able to do all of the following:

1.

2.

3.

There are three basic types of stress control techniques that come from the *STRESS ADAPTATION MODEL*. These are:

1.

2.

3.

There are two philosophies in stress control:

1.

2.

DEALING WITH THE ENVIRONMENT - take your own notes here:

There are many suggested procedures for managing time, but the best boil down to three fundamental steps:

1.

2.

3.

DEALING WITH THE MIND - take your own notes here:

DEALING WITH THE BODY - take your own notes here:

What do you usually do to relax?

An example of a *CENTRALIZED RELAXATION TECHNIQUE* is:

An example of a *PERIPHERAL, RELAXATION TECHNIQUE* is:

OTHER COMMON-SENSE APPROACHES - take your own notes here:

Some foods and beverages tend to make us more stressful. List two examples of such foods and beverages:

Type A? Type B?

What Am I Like?

Below is a list of personality traits and behavior patterns. After each trait, check the box that best describes you. Sometimes, you will feel that you belong some somewhere between the two columns. This is to be expected.

	Column A	Column B
I become impatient when events move slowly.	☐ often	☐ rarely
I bring work home from the job.	☐ often	☐ rarely
I set deadlines and schedules for myself.	☐ at least once a week	☐ rarely
I feel guilty when I relax and "do nothing."	☐ yes	☐ no
I speak, eat and move at a quick pace.	☐ usually	☐ rarely
I am achievement-oriented.	☐ very	☐ only slightly
I have a strong need for success.	☐ yes	☐ no
I hurry the ends of sentences-or do not speak them at all.	☐ often	☐ rarely
I try to do two or more things at once.	☐ often	☐ rarely
I an number-oriented (like to count my accomplishments and possessions).	☐ yes	☐ no
I have aggressive or hostile feelings, especially toward competitive people.	☐ often	☐ rarely
I am generally interested in and observant of my surroundings.	☐ no	☐ yes

Did you check more boxes under Column A or Column B? If you fall in between the two columns, are you leaning either way? Ask a friend or relative to score you on this test. Does the person agree with your assessment of yourself? If not, he or she may very well be correct.

Are Some People More Susceptible to Stress Than Others?

Yes. The test you just took follows the theory that people can be divided into two personality types: Type A personality and Type B personality. Intelligence and ambition are not the property of one type or the other. Nor is position in society-corporation presidents, truck drivers, and salespeople are found in both groups.

Type A people are competitive, impatient and time-oriented. Being successful and having things are very important to them. They tend to look to success and possessions to give them a feeling of well-being and acceptance.

Type B people are more easygoing. They seldom become impatient or worry about the time. They make their own decisions and are not unduly influenced by the opinions of others.

Studies show that Type A people are more likely to develop a stress-related illness than Type B people. Type A behavior is probably a major cause of heart disease. Type A people tend to suffer from hypertension and diabetes. They tend to have a high cholesterol level.

Social Engineering

Social engineering is a means of reorganizing daily behavior in a way which allows us to reduce the frequency of encounters with stressors without sacrificing our individual goals. It calls for devising alternative actions in order to get the job done.

1. Identify a particular stressor. Remember, this stressor is something that you regularly encounter.

2. Define the stressor. What is it about this stressor that upsets you? Be as specific as possible. Think about your emotions.

3. Can the stressor be totally avoided? If so, and without compromise, then simply avoid the stressor. If not, proceed to the next step.

4. Why can't this stressor be avoided? At this stage, ask yourself, "What outcomes are associated with this stressor?" What will be lost if you totally avoid it?

5. Generate alternatives. Brainstorm as many alternative ways as you can that enable you to accomplish your task or achieve your end goal. Let your imagination run. Don't try to evaluate your alternatives yet.

6. Evaluate your alternatives. After you have other plans of action defined ask, “How well does each alternative meet my goals?” Are compromises required? Eliminate those alternatives that merely trade off one set of stressors for another set, particularly those that will cause even more stress.

7. Select the best alternative, the one that will best meet your specified goals while decreasing the number or severity of stressors you must encounter in order to attain them.

8. Try it out. Next time you run into this problem, try out the alternative action instead of the old way of doing things.

9. Re-evaluate, revise and fine tune. Eventually, you should be able to work in a more stress-efficient manner.

10. Practice. With practice, social engineering will occur quite simply and automatically in your mind throughout the day.

Analysis of Stress Predispositions: Overload

The following inventory was designed to provide you with an indication as to the extent to which you are encountering Overload as a source of Stress.

Directions

In the space provided next to each item, respond with an appropriate number (1 to 7) that best describes your relationship to overload. 1 indicates low level of agreement with the statement and 7 indicates the highest level of agreement.

____ 1. I must regularly take work (or school work) home evenings and on weekends to stay caught up.

____ 2. I usually have more work than I can complete in a given amount of time.

____ 3. I am often faced with important deadlines which I have difficulty meeting.

____ **4.** I often feel less competent than I think I should.

____ **5.** It seems as if I never have enough time to do the quality job I would like to do.

____ **6.** I am often expected to accomplish more than my skills and/or training provide.

____ **7.** Even though I am usually busy at work (school), I often fall behind in my work (school) schedule.

____ 8. I often feel the tasks or assignments I'm expected to do are too difficult and/or complex.

____ 9. I am responsible for an inappropriate number of projects or assignments that are to be accomplished at the same time.

____ 10. There are many times I simply feel "overwhelmed" by my job (school work).

____ **Total Overload Score**

Interpretation

Indicate your total overload score here: -

If your total overload score was:

Below 30 = *Low Stress from Overload*

You do not seem to be experiencing stress as a result of overload. You probably manage your time effectively, know how to say “no” so as not to over extend yourself, and you feel comfortable and competent with your work.

30 - 44 = *Moderate Stress from Overload*

Scores within this tolerable or normal range would suggest that there are times during which you feel the effects of overload but for the most part you have overload under control.

45 - 54 = *High Stress form Overload*

Scores in this range suggest that you are experiencing a great deal of overload which is making a significant contribution to your overall stress.

55 - 70 = *Severe Stress from Overload*

The stress resulting from overload is perhaps too much and you should take the necessary steps to reduce it.

Cognitive Reappraisal

Cognitive reappraisal is a stress control strategy that helps us rethink potential stressors such that they are interpreted in an adaptive, health-promoting fashion as opposed to maladaptive and stress-fostering patterns of thought.

1. Confront the stressor: Events usually have an actor and an action. Who and what are they? What are the surrounding circumstances? What is the immediate effect on you? Focus on your emotions and feelings. Try to describe them.

2. Analyze your reaction: After identifying the stressor, carefully and thoughtfully analyze your original appraisal. What thoughts run through your mind during and immediately following the event? What is it about the event that causes you distress? Does it remind you of a past experience? What value, belief or expectation might be contributing to the stress?

3. Rethink your situation: Generate some alternative ways of viewing the event, ways that focus less of the stressful aspects and more on neutral or positive ones. Try to come up with appraisals that interpret the event as a challenge instead of despair.

4. Select one of your alternatives: Review your list and discard those that sound phony or sugar-coated. Choose one that is genuine and positive, one that will reduce your arousal and help you to deal more effectively with the event.

5. Trying it out: Deliberately divert your thoughts from your former stressful interpretation and replace it with your new, positive interpretation. Remember, this technique does not involve denial. It is a highly rational effort in which we choose to focus our attention on the elements of a situation that help us stay calm and help us resolve the problem. However, it is not an easy thing to do. Our thought patterns form slowly, over many years. We become accustomed to thinking in patterns that are hard to change. But it can be done. You always have a choice. Mental rehearsal is a good way to practice. Sometimes it's a good idea to talk about your feelings with a trusted friend, family member or spiritual advisor.

A strong vital America depends on physically fit Americans. Can we depend on you?

The President's Council on Physical Fitness and Sports invites you to earn its Presidential Sports Award.

The Challenge

Starting TODAY you can do something for the country's exercise and fitness problem- Earn the PRESIDENTIAL SPORTS AWARD.

If you are at least 15 years of age, there is nothing to hold you back from qualifying for this prestigious Award. There are 43 OUALI-FYING SPORTS that you can participate m. Select one (or more), keep your own PERSON-AL FITNESS LOG, meet the OUALIFYING STANDARDS for the sport you have selected. and you are eligible. All the necessary infor. mation and forms you need are printed for you right on this sheet. Earning the Award is an ideal family activity.

The PRESIDENTIAL SPORTS AWARD stands for a commitment to fitness through active and regular participation in sports. Earning this Award means that you have put in time and effort to meet the challenge of personal fitness. The Award recognizes this achievement and the fact that you are part of a nationwide effort towards a healthier, more vital America.

Before undertaking any physical activity program, you should have a thorough medical examination. This is especially important for persons over 40. or for anyone who has not been physically I active on a regular basis.

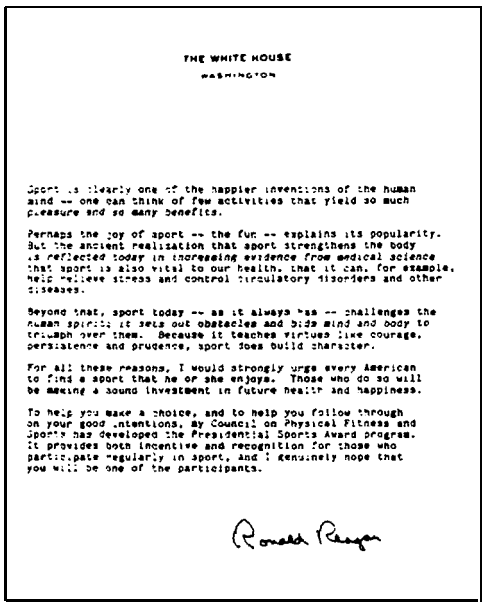
The Award

Certificate

Upon qualifying for the Presidential Sports Award, you will receive a personalized Presidential Certificate of Achievement with your name and qualifying sport. suitable for framing. In addition, you will receive the Presidential Sports Award Fitness Lapel Pin and Membership Card, signifying your ac complishment and dedication to personal fitness. You can earn as many Awards in as many sports as you like. Additional Fitness Logs are available free upon request. Just send a stamped, self.addressed envelope to:

Presential Sports Award
P.O. Box 5214
FOR POST OFFICE
New York, New York 10150-5214

A Message from the President.



THE WHITE HOUSE
WASHINGTON

Sport is clearly one of the happier inventions of the human mind -- one can think of few activities that yield so much pleasure and so many benefits.

Perhaps the joy of sport -- the fun -- explains its popularity. But the ancient realization that sport strengthens the body is reflected today in increasing evidence from medical science that sport is also vital to our health. That it can, for example, help relieve stress and control circulatory disorders and other diseases.

Beyond that, sport today -- as it always has -- challenges the human spirit: it seeks out obstacles and bids mind and body to triumph over them. Because it teaches virtues like courage, persistence and prudence, sport does build character.

For all these reasons, I would strongly urge every American to find a sport that he or she enjoys. Those who do so will be making a sound investment in future health and happiness.

To help you make a choice, and to help you follow through on your good intentions, My Council on Physical Fitness and Sports has developed the Presidential Sports Award program. It provides both incentive and recognition for those who participate regularly in sport, and I genuinely hope that you will be one of the participants.

Ronald Reagan

Qualifying Sports and Standards.

To obtain the maximum results out of participating in the presedential Sports award you must fulfill the requirements for each sport within a period of months.

ARCHERY
1. Shoot a minimum of 3.000 arrows.
2. No more than 60 arrows in any one day may be credited to total.
3. Minimum target distance is 15 yards. In field of moving archery, there should be 14 different targets. each at 15 or more yards

BACK PACKING
1. Back Pack for a minimum 0f 50 hours
2. No more than three (3) hours in any one day may be credited to total
3. Weight of pack must be al feast 10 percent of body weight.

BADMINTON
1. Play badminton a minimum of 50 hours
2. No more than one and one.half (1 1/2) hours in any one day may be credited to total
3. Play must include al least 25 matches (best two of three games of singles and or doubles.

BASEBALL
1 Play baseball and or practice baseball skills a minimum of 50 hours
2. At least 15 of the 50 hours must be in an organ. ized league or part of an organized baseball competetion.
3. No more than one (1) hour in any one day may be credited to total

BASKETBALL
1 Play basketball and/or practice basketball skills a minimum of 50 hours.
2. Al least 15 of the M hours must be I" organ. ized league or tournament games
3 No more than one (1) hour in any one day may be credited to total

BICYCLING
Bicycle a minimum of 600 miles (more than live gears); or bicycle a minimum of 400 miles (five or fewer gears1
2. No more than 12 miles in any one day may be credited to total (more than five gears). no more than 8 miles in any one day may be credited to total (five or fewer gears).

BOWLING
1. Bowl a minimum of 150 games
2. No more than five (5) games in any one day may be credited to total
3. The total of 150 games must be bowled on not less than 34 different days.

CANOE.KAYAK
1. Paddle a minimum of 200 miles
2. No more than seven (7) males in any one dav may bd credited to total

CLIMBING
1. Climb under Alpine.type conditions a mint. "turn of 50 hours.
2. No more than three (31 hours I" any one day may be credited 10 total

EQUITATION
1. Ride horseback a minimum of 50 hours.
2. No more than one (1) hour in any one day may be credited to total.

FENCING
1. Practice lencing skills a minimum of 50 hours
2. No more than one (I) hour in any one day may be credited to total.
3. At least 30 of the 50 hours must be under the supervisor of a" instructor.

FIGURE SKATING
1. Skate a minimum of 50 hours
2. No more than one and one.half (1%) hours in any one day may be credited to total
3. Skating should include these elements (al figure.eight work (patch). (b) free skating; (C) Ice dancing.

FITNESS WALKING
1. Walk a minimum of 125 miles
2. Each walk must be continuous without paus es for rest. and the pace must be al least four (4) mph 115 minutes per miles.
3. No more than two and onehalf (2%) miles in any one day may be credited lo total

FOOTBALL
1. Play any form of football. including flag or or touch football and/or practice football skills a minium of 50 hours
2. Al least 15 of the 50 hours must Be an organ-ized league or part of a" organized foolball competetion.
3. No more than one (1) hour in any one day may be credited to total.

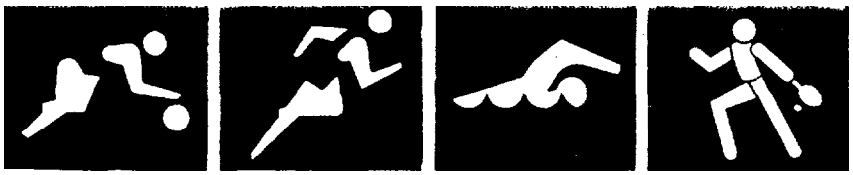
GOLF
1. Play a minimum of 30 rounds of golf (18 holes).
2. No more than one 18-hole round a day may be credited lo total.
3 .No motorized carts may be used

GYMNASTICS
1. Practice gymnastics skills and for compete in gymnastics a minimum of 50 hours
2. No more than two(2) hours in any one day may be credited lo the total
3. Practice must include work in at least one-half of the recognized events (two of tour for women and girls. three of six for me" and boys).
4. Participate I" at least four (4) organized com. petitors.

HANDBALL
1. Play a minimum of 150 games.
2. No more than tour (4) games in any one day may be credited to total.

ICE SKATING
1. Skate a minimum of 200 miles.
2. No more than six (6) rules in any one dav may be credited to total

JOGGING
1. Jog a minimum of 125 miles
2. No more than two and one half (2½) miles I" any one day may be credited lo total



JUDO

1. Practice judo skills a minimum of 50 hours.
2 Al least 40 of the 50 hours must be under the supervision of a qualified teacher
3 . No more than one (1) hour in any one day may be credited to the total.

KARATE

1 Practice karate skills a minimum of 50 hours.
2 Al least 30 of the 50 hours must be under the supervision of a qualified instructor.
3 No more than one (11 hour in any one day may be credited to the total

ORIENTEERING

1 Run a minimum of 100 miles. with no more than two and one-half (2½) miles in any One day being credited to the total.
2 Participate in at least four (4) orienteering events and locate at least 25 checkpoints within the time allotted.

RACQUETBALL

1 Play a minimum of 150 games.
2 No more than four (4) games in any one day may be credited to the total.

RIFLE

1. Fire a minimum of 2,500 rounds.
2. No more than 50 rounds in any one day may be credited to total.
3. Minimum target distances are 33 feet for air rifle. 50 feet for .22 rimfire rifle and 100 yards for Centerflre rifle. All shooting practice must be under sale, regulation conditi tions.

ROLLER SKATING

1. Skate a minimum of 50 hours.
2. No more than one and one-half (1½) hours in any one day may be credited to total.

ROWING

1. Row a rowboat a minimum of 50 miles; or. row a wherry a minimum of 100 miles: or. row a shell a minimum of 120 miles.
2. No more than one and onehalf (1%) miles in any one day may Be credited lo total (rowboat); no more than three (3) miles in any on* day may be credited lo total (wherry): no more than three and one-half (3½) miles in any one day may be credited to total (shell).

RUG8Y

1 Play rugby or practice rugby skills a minimum of 50 hours.
2. At least 30 of the 50 hours must be under the supervision of a Coach
3. No more than one (1) hour in any one day may be credited to total.

RUNNING

1. Run a minimum of 200 miles.
2. Run continuously for at least three (3) miles during each outing. No more than five(5) miles in any one day may be credited to total (longer runs are not discouraged. but miles counted toward 200-mile total must be spread over al least 40 outings).
3. Average time must be nine (9) minutes or less per mile (27 minutes for 3 miles. 45 minues for 5 miles. etc.)

SAILING

1. Sail a minimum of 50 hours (practice and/or competetion).
2. No more than two and one-halt (2½) hours in any one day may be credited to total.

SCUBA-SKIN

1. Skin or Scu dive. or train for diving. a mini mum of 50 hours.
2. NO more than one (1) hour in any one day may be credited to total
3. Total time must include at least 15 log ged dives on 15 separate days under the Safe Diving Standards of one of these groups National Association of Ski Diving Schools. National Association of Underwater Instructors. Professional Association of Diving Instruc. tors the National YMCA. or the Underwater Society of America.

SKEET-TRAP

1. Fire at minimum of 1,250 standard trap or skeet targets.
2. No more than 25 targets in any one day may be credited lo total.
3. All shooting must be on regulation range under sale. regulation conditions.

SPORTS/FITNESS

1. Participate a minimum of 50 hours in exercise activities. or in a combination of exercise and sports activities.
2. Exercise activity may consist of calisthenics: exercise or conditioning classes: fitness danc. ing; rope iumping: workouts on apparatus. in. eluding stationary bicycles. rowing machines and treadmills; or a combination of any or all of these activities.
3. Sports activity may include participation in one or more of the 43 sports in which the Presidential Sports Award is offered.
4. At least 25 of the 50 hours of participant must be devoted to exercise activity. No more than 30 minutes of exercise in arty one day may be credited to the total.

SKIING (NORDIC)

1 Ski a minimum of 150 miles.
2 No more than 10 miles in any one day may be credited to the total.

SKIING (ALPINE)

1. Ski a minimum of 50 hours
2. No more than three (3) hours in any one day may be credited to the total.

SOCCER

1. Play soccer or practice soccer skills a mini. mum of 5O hours.
2. At least 30 of the 50 hours must be under the supervision of a coach or official.
3. No more than one (1) hour in any one day may be credited to total

SOFTBALL

1 Play softball or practice softball skills a minimum of 50 hours.
2. Al least 20 of the 50 hours must be in organ. ized league or tournament games.
3. No more than one (I) hour in any one day may be credited lo the total.

SQUASH

1. Play squash a minimum of 50 hours.
2. No more than one and onehalf (1½) hours in any one day may be credited to total.
3. Total must include at least 25 matches (3 of 5 games, of singles and/or doubles.

SWIMMING

1. Swim a minimum of 25 miles (44.000 yards1
2. No more than three-fourths(¾) of a mile (1.320 yards) many one day may be credited to total.

TABLE TENNIS

1. Play table tennis a minimum of 50 hours.
2. At least 20 of the 50 hours must be in organrzed league or tournament play.
3. No more than one (11 hour in any one day may be credited to the total.

TENNIS

1. Play tennis a minimum of 50 hours.
2. No more than one and one-half (1½) hours in any one day may be credited to the total -
3. Total must include at least 25 sets of singles and/or doubles (tie-break rules may apply).

VOLLEYBALL

1. Play volleyball or practice volleyball skills a minimum of 50 hours.
2. At least 10 of the 5O hours must be in organized league or tournament games.
3. No more than one (1) hour in any one day may be credited to the total.

WATER SKIING

1. Waler Ski a minimum of 50 hours.
2. No more than two(2) hours in any one day may be credited to the total.

WEIGHT TRAINING

1. Tram with weights a minimum 0f 50 hours
2. No more then one (1) hour in any one day may be credited to total.
3. A workout must include at least eight weight exercises, each performed a minimum of 10 times.

Presidential Sports Award/Personal Fitness Log.

Date	Performance Entry (Time Distance Games Etc)	Date	Performance Entry (Time Distance Games Etc)	Date	Performance Entry (Time, Distance Games Etc)	Date	Performance Entry (Time Distance Games Etc)	Date	Performance Entry (Time Distance Games

I hereby affirm that I have fulfilled all of the requirements for the Presidential Sports Award in_____

NAME OF SPORT

SIGNATURE

AGE (Check one)
0____15-17
1____18-25
2____26-34
3____35-44
4____45-54
5____55-64
6____65-over

SEX (Check one)
1____MALE
2____FEMALE

FILL IN BELOW: (PLEASE PRINT CLEARLY)

NAME

STREET

CITY/STATE

ZIP

PRESIDENTIAL SPORTS AWARD

To receive your Presidential Sports Award Presidential Certificate of Achievement Lapel Pin and other Award materials, send a check or money order for $ with a signed and completed Personal Fitness Log to:

Presidential Sports Award
P.O. Box 9600
Englewood, New Jersey 07631

(Make your check or money order payable to Presidential Sports Award. Allow 6-8 weeks for delivery.)

Nutritional Knowledge Inventory

Answer *True* and *False,* in the space provided, to each of the following statements. Turn the page for correct answers and scoring information.

___ 1. Orange juice functions as a predisposer to stress in the same manner that refined sugar does.

___ 2. When in doubt, eat protein over carbohydrates.

___ 3. Protein supplements should be taken during stress and exercise.

___ 4. Honey and molasses are simply another form of sugar and affect you in the same stress-prone fashion.

___ 5. Hypoglycemia is a stress related disease associated with faulty metabolism.

___ 6. Using soy sauce is an excellent way to avoid the use of salt.

___ 7. The average soda contains 10 to 15 teaspoons of sugar.

___ 8. The use of vitamins during stressful periods of fasting is senseless.

___ 9. It is far better to eat six small meals a day than 1 to 3 larger ones, even if you are dieting,

___ 10. Liquid protein is an excellent food supplement, particularly when dieting.

___ 11. Starches should be avoided as much as possible, particularly when dieting.

___ 12. Although good for the body, fiber is not a source of energy for humans.

___ 13. Fasting to remove impurities is health promoting.

___ 14. Excessive amounts of vitamin C can cause kidney stones and diarrhea.

___ 15. Eating has been shown to be effective in coping with stress.

Scoring Key

Give yourself one point for each correct response, based on the following key and explanation to each item.

1. *True* If you wish to consume fruit-flavored sugar, it is far better to eat the naturally occurring form, rather than extracted juice.

2. *False* Both supply 4 Callgm and carbohydrates are an excellent source of vitamins and minerals, foods high in protein are generally high in fat content.

3. *False* While it is true that chronic stress causes a certain amount of protein degradation, excess proteins cannot be stored by the body.

4. *True* Sugar is sugar, no matter what color or consistency you find it in.

5. *False* Hypoglycemia is not a disease, but a syndrome associated with the normal, physiological response to an abnormal amount of sugar intake.

6. *False* One tablespoon of soy sauce contains 3,300 mg. of salt. The average daily requirement is 200 mg. One or two strokes of the salt shaker meets that requirement.

7. *True* Read it and weep.

8. *True* Vitamins don't provide energy in themselves but act on the nutrients present to regulate chemical activities within the body; but the nutrients need to be there.

9. *True* With the exception of carnivores, most animals in the wild nibble all day or night. It seems that nature knows best.

10. *False* Evidence is accumulating that shows liquid protein to be a significant stressor. Even milk in excess has its drawbacks. Moreover, most Americans get far more protein than they need, even when dieting.

11. *False* Starches belong in the carbohydrate group and thus, yield 4 Cal/gm just like fruits, vegetables and proteins. Since they are complex in nature, they take a while to be digested and absorbed, thereby avoiding the metabolic stress associated with the simple sugars.

12. *True* Fiber is a complex carbohydrate for which we do not have the enzymes to digest as an energy source.

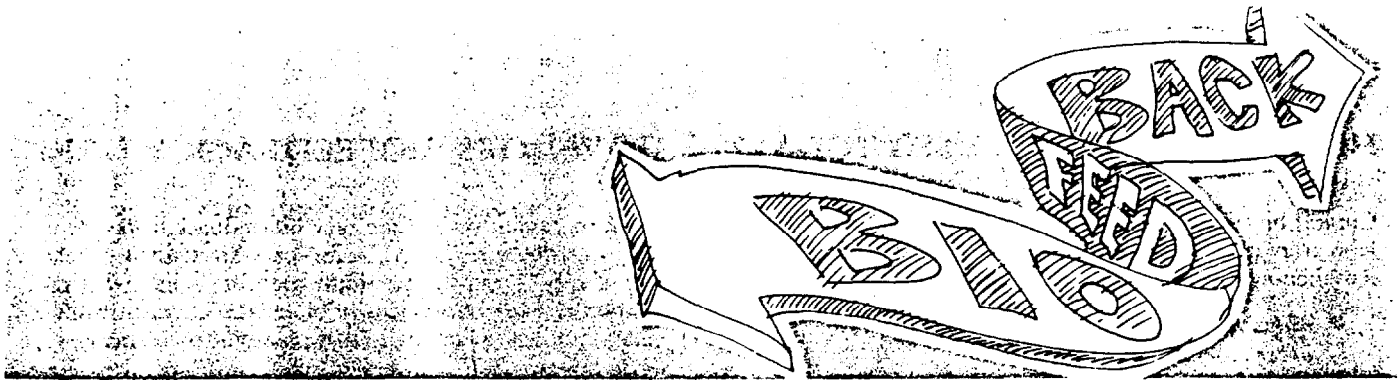
13. *False* Fasting is an artificial stressor which dramatically alters metabolism and taxes organs and systems within the body. The body is very efficient at removing toxins if left alone, those which it is unable to handle will not be removed by one or two days of fasting.

14. *True* And it doesn't prevent or cure colds either.

15. *True* We did not say good, just effective. The behavior pattern has obvious complications, the least of which is not the obvious fact that the guilt associated with overeating and weight gain begin to serve as stressors in themselves. From here, the situation snowballs downhill rapidly.

Total Score: _____

Interpretation:	**13 -** 15	Excellent
	9 - 12	Good
	6 - 8	Poor
	0 - 5	Very Poor



NATIONAL INSTIITUTE OF MENTAL HEALTH - Division of Scientific and Public Information - Plain Talk Series - Ruth Kay, Editor

WHAT IS BIOFEEDBACK?

Biofeedback is a treatment technique in which people arc trained to improve their health by using signals from their own bodies. Physical therapists use biofeedback to help stroke victims regain movement in paralyzed muscles. Psychologists USC it to help tense and anxious clients learn to relax. Specialists in many different fields use biofeedback to help their patients cope with pain.

Chances arc you have used biofeedback yourself. You've used it if you have ever taken your temperature or stepped on a scale. The ihcrmomctcr tells you whether you're running a fever. the scale whether you've gained weight. Both devices "feed back" information about your body's condition. Armed with this information, you can take steps you've learned to improve the condition. When you're running a fever, you go to bed and drink plenty of fluids. When you've gained weight. you resolve to cat less and sometimes you do.

Clinicians rely on complicated biofeedback machines in somewhat the same way that you rely on your scale or thcrmometer. Their machines can detect a person's internal bodily functions with far greater sensitivity and precision than a person can alone. This information may be valuable. Both patients and therapists use it to gage and direct the progress of treatment.

For patients. the biofeedback machine acts as a kind of sixth sense which allows them to "see" or "hear" activity inside their bodies. One commonly used type of machine, for example, picks up electrical signals in the muscles. It translates these signals into a form that patients can detect: It triggers a flashing light bulb, perhaps, or activates a beeper every time muscles grow more tense. If patients want to relax tense muscles, they try to slow down the flashing or beeping.

Like a pitcher learning to throw a ball across homeplate. he biofeedback trainee, in an attempt to improve a skill. monitors performance. When a pitch is off the mark, the ballplayer adjusts the delivery so that he performs better the next time he tries. When the light flashes or the beeper beeps too often, the biofeedback trainee makes internal adjustments which alter the signals. The biofeedback therapist acts as a coach, standing at the sidelines setting goals and limits on what to expect and giving hints on how to improve performance.

THE BEGINNINGS OF BIOFEEDBACK

The biofeedback techniques used to treat patients were developed only recently. The word "biofeedback" is itself so new that it can't be found in most dictionaries. It was coined in the late 1960s to describe laboratory procedures then being used to train experimental research subjects to alter brain activity, blood pressure, heart rate, and other bodily functions that normally arc not controlled voluntarily.

At the time, many scientists looked forward to the day when biofeedback would give us a major degree of control over our bodies. They thought, for instance, that we might be able to "will" ourselves to be more creative by changing the patterns of our brainwaves. Some believed that biofeedback would one day make it possible to do away with drug treatments that often cause uncomfortable side effects in patients with high blood pressure and other serious conditions.

Today, most scientists agree that such high hopes were not realistic. Research has demonstrated that biofeedback can help in the treatment of many diseases and painful conditions. It has shown that we have more control over so-called involuntary bodily functions than we once thought possible. But it has also shown that nature limits the extent of such control. Scientists are now trying to determine just how much voluntary control we can exert.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service - Alcohol, Drug Abuse, and Mental Health Administration - 5600 Fishers Lane Rockville, Maryland 20857

HOW IS BIOFEEDBACK USED TODAY?

nical biofeedback techniques that grew out of the early laboratory procedures are now widely used to treat an ever-lengthening list of conditions. These include:

- *Migraine headaches. tension headaches, and many other types of pain*
- *Disorders of the digestive system*
- *High blood pressure and its opposite, low blood pressure*
- *Cardiac arrhythmias (abnormalities, sometimes dangerous. in the rhythm of the heartbeat)*
- *Raynaud's disease (a circulatory disorder that causes uncomfortably cold bands)*
- *Epilepsy*
- *Paralysis and other movement disorders*

Specialists who provide biofeedback training range from psychiatrists and psychologists to dentists, internists, nurses, and physical therapists. Most rely on many other techniques in addition to biofeedback. Patients usually are taught some form of relaxation exercise. Some learn to identify the circumstances that trigger their symptoms. They may also be taught how to avoid or cope with these stressful events. Most are encouraged to change their habits, and some are trained in special techniques for gaining such self-control. Biofeedback is not magic. It cannot cure disease or, by itself make a person healthy. It is a tool. one of many

Lable to health care professionals. It reminds physicians behavior, thoughts, and feelings profoundly influence physical health. And it helps both patients and doctors understand that they must work together as a team.

PATIENTS' RESPONSIBILITIES

Biofeedback places unusual demands on patients. They must examine their day-to-day lives to learn if they may be contributing to their own distress. They must recognize that they can, by their own efforts, remedy some physical ailments. They must commit themselves to practicing biofeedback or relaxation exercises every day. They must change bad habits, even ease up on some good ones. Most important, they must accept much of the responsibility for maintaining their own health.

HOW DOES BIOFEEDBACK WORK?

Scientists cannot yet explain how biofeedback works. Most patients who benefit from biofeedback are trained to relax and modify their behavior. Most scientists believe that relaxation is a key component in biofeedback treatment of many disorders, particularly those brought on or made worse by stress.

Their reasoning is based on what is known about the effects of stress on the body. In brief, the argument goes like this: Stressful events produce strong emotions, which arouse certain physical responses. Many of these responses are controlled by the sympathetic nervous system, the network of nerve tissue that helps prepare the body to meet emergencies by "flight or fight."

The typical pattern of response to emergencies probably emerged during the time when all humans faced mostly physical threats. Although the "threats" we now live with are seldom physical, the body reacts as if they were: The pupils dilate to let in more light. Sweat pours out, reducing the chance of skin cuts. Blood vessels near the skin contract to reduce bleeding, while those in the brain and muscles dilate to increase the oxygen supply. The gastrointestinal tract, including the stomach and intestines, slows down to reduce the energy expended in digestion. The heart beats faster, and blood pressure rises.

Normally, people calm down when a stressful event is over-especially if they have done something to cope with it. For instance, imagine your own reactions if you're walk-' ing down a dark street and hear someone running toward you. You get scared. Your body prepares you to ward off an attacker or run fast enough to get away. When you do escape, you gradually relax.

If you get angry at your boss, it's a different matter. Your body may prepare to fight. But since you want to keep your job, you try to ignore the angry feelings. Similarly, if on the way home you get stalled in traffic, there's nothing you can do to get away. These situations can literally make you sick. Your body has prepared for action, but you cannot act.

Individuals differ in the way they respond to stress. In some, one function, such as blood pressure, becomes more active while others remain normal. Many experts believe that these individual physical responses to stress can be-

come habitual. When the body is repeatedly aroused, one or more functions may become permanently overactive. Actual damage to bodily tissues may eventually result.

Biofeedback is often aimed at changing habitual reactions to stress that can cause pain or disease. Many clinicians believe that some of their patients and clients have forgotten how to relax. Feedback of physical responses such as skin temperature and muscle tension provides information to help patients recognize a relaxed state. The feedback signal may also act as a kind of reward for reducing tension. It's like a piano teacher whose frown turns to a smile when a young musician finally plays the tune properly.

The value of a feedback signal as information and reward may be even greater in the treatment of patients with paralyzed or spastic muscles. With these patients, biofeedback seems to be primarily a form of skill training-like learning to pitch a ball. Instead of watching the ball, the patient watches the machine. which monitors activity in the affected muscle. Stroke victims with paralyzed arms and legs. for example, see that some part of their affected limbs remains active. The signal from the biofeedback machine proves it. This signal can guide the exercises that help patients regain use of their limbs. Perhaps just as important, the feedback convinces patients that the limbs are still alive. This reassurance often encourages them to continue their efforts.

SHOULD YOU TRY BIOFEEDBACK?

If you think you might benefit from biofeedback training. you should discuss it with your physician or other health care professional, who 'may wish to conduct tests to make certain that your condition does not require conventional medical treatment first. Responsible biofeedback therapists will not treat you for headaches, hypertension, or most disorders until you have had a thorough physical examination. Some require neurological tests as well.

How do you find a biofeedback therapist? First, ask your doctor or dentist. or contact the nearest community mental health center, medical society, or State biofeedback society for a referral. The psychology or psychiatry departments at nearby universities may also be able to help you. Most experts recommend that you consult only a health care professional-a physician, psychologist, psychiatrist, nurse, social worker, dentist. physical therapist, for example - who has been trained to use biofeedback.

PROFESSIONAL ASSOCIATIONS

The Biofeedback Society of America, 4301 Owens Street, Wheat Ridge, CO 80033, (303) 422-8436. The Biofeedback Society has established application guidelines for biofeedback practitioners. It also maintains a network of State societies.

The Biofeedback Certification Institute of America, 4301 Owens Street, Wheat Ridge, CO 80033 (303) 420-2902. The BCIA was established as an independent agency to provide national certification for biofeedback providers. The BCIA holds membership in the National Commission for Health Certifying Agencies.

American Association of Biofeedback Clinicians, 2424 Dempster Avenue, Des Plains, IL 60016.

This material was written by Bette Runck. staff writer, Division of Communications and Education. National Institute of Mental Health.

DHYS Publication No. (ADM) 83-1273 **GPO 010-2rJ0**
Printed 1983

Assist

Interests and Issues Checklist

This checklist helps identify some of your interest and issues. The topics listed below pertain to us, directly or indirectly, at some point in our adult lives. Read through the list and place a checkmark by each topic that you might like to learn more about. Check as many as you wish:

Health-Related

general diet
diet for reducing risk of heart disease
exercise for self, for spouse
relaxation skills
surgery
illness and/or injury
stress management
CPR, first aid
women's health

Self and Family

problem solving
parenting
family planning
sex education
marriage, remarriage
divorce
leisure, travel
self-development
communication in the family
decision-making
aging
self-confidence
self-defense
death in the family
dealing with benefits, insurance, credit, social security
rape
mid-life crises
dealing with loneliness

increasing self-awareness
alcohol abuse, drug abuse
spouse abuse
child abuse
dealing with strong emotion
time management
how to identify, locate and use community resources, such as public agencies, clinics, legal aid, clergy

Career and Employment

promotions, or lack of
promotion exams and study schedules
second and third jobs (moonlighting)
shiftwork, change in regular work schedule
on-the-job injury
your retirement
your mate's retirement
occupational illness
death on the job
changing your career
mate's career change
bringing the work home
job hunting
extra hazardous duty assignments
mate's free-time activities
volunteerism

Other:

Needs Assessment Survey

by

JoAnne Fish Hildebrand

The purpose of this survey is to collect information about the psychological aspects of firefighting from the perspective of fire service personnel. This information will contribute to a research study that may ultimately influence fire service health programs and planning. Your participation is important, appreciated and voluntary; anonymity is assured. If you have any questions concerning this survey, please contact: JoAnne Fish Hildebrand, Counseling and Human Resource Development, Scientists Cliffs, Port Republic, MD, 20676. (301) 586-1712. Thank you.

1. Do you routinely respond to emergencies? (yes/no)

2. List 5 situations that occur on the job that upset you:

   a) _____

   b) _____

   c) _____

   d) _____

   e) _____

3. Which of the above situations is most distressing to you? _____

4. Which of the above situations do you encounter most frequently? _____

5. How do you usually deal with an upsetting situation? (Check one or more):

   ____ a) Talk it over with spouse or family member

   ____ b) Talk it over with a friend outside the fire service

   ____ c) Discuss it with co-workers

   ____ d) Do something physical, such as run, work out

____ e) Take a day off

____ f) Have a few drinks

____ g) Ignore it

____ h) Sleep on it

____ i) Sew something to keep occupied and busy

____ j) Other (indicate): _____

Answer items 6 through 9 by using this scale:

1 = all the time 3 = sometimes 5 = never

2 = often 4 = seldom

6. To what extent does job-related stress influence your work performance? ____

7. To what extent does job-related stress cause problems with your family?___

8. To what extent does job-related stress cause problems with your overall health?____

9. To what extent does job-related stress influence your career decisions?____

10. Up to this point, how well has the fire service prepared you for the stress of the job?____

(1 = not at all; 2 = to a small extent; 3 = to a moderate extent; 4 = to a large extent; 5 = completely)

11. Do you have trouble with:

____ a) ulcers (yes/no)

____ b) headaches (yes/no)

____ c) high blood pressure (yes/no)

____ d) sleeping (yes/no)

____ e) weight control (yes/no)

____ f) allergies (yes/no)

____ g) upset stomach (yes/no)

____ h) shortness of breath (yes/no)

____ i) frequent illnesses (yes/no)

____ j) tension (yes/no)

____ k) other (indicate): _____

12. What events or situations seem to bother others that don't bother you?

_____

13. For the personnel in your department,

____ a) alcohol is: 1 = no problem
2 = a small problem
3 = a serious problem

____ b) drugs are: 1 = no problem
2 = a small problem
3 = a serious problem

____ c) interpersonal conflicts are: 1 = no problem
2 = a small problem
3 = a serious problem

____ d) family conflicts are: 1 = no problem
2 = a small problem
3 = a serious problem

14. In your department, which of the following persons are available to personnel who want help with a job-related personal problem? (check as many as applicable):

___ a) chaplain	___ d) counselor/psychologist	___ g) consultant
___ b) chief officer	___ e) physician/nurse	___ h) other
___ c) training officer	___ f) peer support group	___ i) don't know

15. Which of the following services are provided by your department? (Check as many as applicable):

___ a) marriage/family counseling

___ b) stress management

___ c) career development

___ d) pre-retirement counseling

___ e) alcohol abuse program

___ f) counseling for general emotional problems

___ g) disaster stress counseling

___ h) recruit orientation

___ i) psychological testing/assessment

___ j) health education (nutrition, relaxation training, etc)

___ k) physical fitness

16. Place a "*" next to each service listed above in item #15 that you believe would be beneficial for your department to have (or continue to have).

17. Should these services be available, in general, to family members? _____

18. Are you satisfied with the quality of services, such as those listed above, that are available to you through your department? _____

1 = yes, very satisfied
2 = yes, somewhat satisfied
3 = mixed feelings
4 = no, not very satisfied
5 = no, not satisfied at all

19. In your opinion, who is primarily responsible for providing access to mental health services for job-related stress?_____

1 = the individual himself or herself

2 = the fire department

3 = the larger community

4 = undecided

5 = other (indicate your own answer): _____

20. How many hours a week do you work at the fire department?_____

21. How many hours a week do you work at another job?_____

22. Your age____

23. Your sex____

24. Total years experience in the fire service_____

25. Your rank _____

26. How many personnel are in your department? (both paid and volunteer):_____

Needs Assessment

The fire department may wish to design its own needs assessment.

The fire service community is connected with the damaging effects of stress on its membership, but has been constrained in its solutions to the stress problem. The lack of a good data base and systematic study of the relationship between mental health needs and the helping services has been a major stumbling block for the fire service.

This section describes a feasible and effective needs assessment procedure that addresses the serious health problems confronting the fire service. Most fire departments lack this type of assessment information, that is, information which is necessary for the organized development and evaluation of much-needed solutions.

Needs assessment is widely recognized as a desirable, and in some cases, essential first step in systematically developing and implementing responsive mental health programs. It goes beyond identifying community problems by ascertaining discrepancies between needs in the community and service delivery. This assessment process assigns priorities to needs, and provides a useful database for program evaluation and revision. In the needs assessment format presented in this article, two principal methods of data collection are used: **Community Survey** and **Social Indicators.**

The **Community Survey** method of data collection is effective because it allows fire department members to voice their individual needs. According to Warheit, et al., when assessing individual needs and determining patterns of using existing help services, the survey provides the most accurate and useful information possible. Furthermore, this method provides a sample of the fire service community with the opportunity to directly influence future delivery of helping services. Hutchinson describes many disadvantages of this method, such as cost, time constraints, high refusal rates and the possibility that the survey technique may inappropriately raise the expectations of respondents concerning health programming. This can, however, be overcome by careful survey design.

The survey in the present needs assessment is designed to meet the following objectives:

1. To collect information about the psychologically distressing aspects of firefighting in order to expand the present database of fire service stressors.

2. To measure the perceived severity of identified stressors so program or research priorities might be assigned.

3. To document the prevalence of coping strategies regularly employed by firefighters,

4. To explore the extent to which stress impacts the firefighter's work performance, family life, overall health and career decisions for the purpose of comparing perceived impact with what is documented in the fire service literature.

5. To measure the extent to which the fire service has prepared the firefighter for job-related stress and to determine which needs are not being met.

6. To identify the self-reported incidence of certain psychosomatic symptoms in order to determine the degree to which firefighters report psychosomatic symptoms, to provide a simple indicator of the possible somatic effects of stress on the firefighter, to compare the self-report of somatic problems with the extent to which job stress causes problems with overall health and to indicate unmet needs for health intervention.

7. To explore the extent to which alcohol and drug use, interpersonal conflicts and family conflicts are problems in the firefighter's department for the purpose of targeting areas of future research and programming.

8. To identify the availability of service providers for the purpose of developing accessible, cost-effective services.

9. To assess the degree to which various recommended intervention programs are provided by the fire service and to assess the degree to which respondents consider such programming beneficial. This will allow program evaluation of availability and desirability for the respondent's point of view.

10. To explore the possibility of program expansion to include fire service family members.

11. To measure the degree to which the respondent is satisfied with the quality of services made available through the fire department in order to determine the need for program modification.

12. To ask the firefighter who he or she believes is primarily responsible for providing access to mental health services for job-related stress.

13. To gather demographic information about the responder, such as age, sex, the number of hours spent working at the fire department and at another job, rank, total years experience in the fire service, and number of personnel employed by respondent's fire department.

The survey consists of 26 self-report items written in simple, straightforward language and arranged in an order that will facilitate completion. The items are arranged according to response mode, depending on the type of information sought, consideration of survey completion time, response encoding and analysis, and for the purpose of alleviating response monotony. Some items are open-ended, while others ask for a fixed-alternative response.

At the top of the first page of the survey, respondents are informed of the purpose of the survey and the use of the survey results; anonymity is assured, voluntary participation is emphasized, and the researcher's name and address is affixed to an invitation for respondents to seek additional information.

The items are constructed to collect data that will meet the survey objectives. Because the survey is designed to assess the needs of fire service personnel who, by nature of their duties, regularly encounter stressors associated with emergency work, answering "no" to item 1, which asks, "Do you routinely respond to emergencies?" disqualifies those respondent who might act in an administrative capacity only or who might volunteer a small portion of time to the fire service.

No other attempts are made to categorize respondents. Many fire service writers note that volunteers share the same danger, tension, fatigue and risk to life as do paid firefighters, and should be availed the same training and services. Porcelli, for example, agrees and reiterates the importance of delivering the same consideration and programming to all members of the fire service regardless of rank. Furthermore, differences between firefighters and emergency medical personnel as for as the amount of perceived stress are negligible.

Other studies that have attempted to identify fire service stressors have fallen short of their objective because the instrument used to collect data artificially limited the response choices. (One design, for example, failed to account for nearly 50% of the stressors reported by the sample.) In order to overcome this problem, respondents are asked to list five situations that occur on the job that upset them. To identify other stressors that exist in the fire service but not necessarily upsetting to the respondents themselves, another item asks: "What events or situations seem to bother others that don't bother you?"

Two items specifically measure the severity and frequency of the stressors listed by respondents. One asks: "Which of the above situations is most distressing to you?; and the other: "Which of the above situations do you encounter most frequently?" Respondents are not limited to only one response per item.

Another item provides ten possible answers to the question: "How do you usually deal with an upsetting situation?" The possible answers were selected from prominent coping strategies that are documented in the fire service literature. For example, Akin proposes that chronic absenteeism is a response to stress; Murdock discusses the role of alcohol and high levels of physical activity in coping with stress. Some suggest that firefighters cope with stress by talking about problems, while others note that firefighters rarely talk about problems. Gerspach and Lee go on to say that firefighters often ignore feelings associated with stressors.

In addition to the listed possible answers, this item is open-ended in order to collect other possible coping strategies, such as problem-solving or prayer.

Many writers of fire service literature have attempted to assess the value of these coping strategies. In the absence of data that clearly shows relationships between stressors, coping

strategies and stress effects, such assessment is largely speculation. Therefore, this survey does not attempt to evaluate the real value of the coping strategies.

Certain areas have been identified in fire service literature as particularly susceptible to the effects of stress. Using a 5-point scale, several items explore the extent to which stress affects four major areas, including the respondent's work performance, family life, overall health and career decisions.

In light of the fact that the fire service in general has done little to prepare its members for job-related stress, an additional item is included to determine the extent to which the fire service has prepared the respondent for job-related stress along a 5-point scale.

Another item identifies the incidence of certain psychosomatic symptoms by asking respondents to answer "yes" or "no" to each of the questions, "Do you have trouble with: ulcers? headaches? high blood pressure? sleeping? weight control? allergies? upset stomach? shortness of breath? frequent illnesses? tension?" These psychosomatic symptoms are chosen as a representative sampling of those commonly cited in stress literature and in fire service literature. This item not only gives a level of incidence for each symptom but also provides a total stress figure by adding the number of symptoms listed by each respondent.

Problems with alcohol, drugs, interpersonal conflicts and family conflicts in the fire service are considered the results as well as the perpetrators of stress in the fire service. Using a 3-point scale, item 13 explores the extent to which respondents believe these things (alcohol, drugs, interpersonal conflicts and family conflicts) are department-wide problems.

The fire service offers a number of counseling services to its members. Some of these are traditional, such as chaplains and physicians; others, such as chief officers and training officers, have assumed a helping role in addition to their assigned duties. There are also service providing systems, such as informal peer support groups. The effectiveness and utilization of these providers and provider systems have been questioned, however. Many staff psychologists, for example, provide only personnel selection services. Murdock claims that few chief officers either understand the causes of fire service stress or know how to manage and reduce stress. Arkin agrees that most chiefs lack the proper training to intervene. McGlown feels that fire service managers have done little to ease job stress or to initiate preventive policies and procedures and questions the existence of informal peer support groups. In addition, the fire service as a whole has been criticized for being slow to utilize people from other disciplines to help.

Item 14 assesses the frequency at which eight documented service providers and provider systems are available to personnel who want help with a job-related personal problem. In addition to the response categories of chaplain, chief officer, training officer, counselor/psychologist, physician/nurse, peer support group and consultant, an open-ended category is included to document the existence of other service providers, such as psychological first aid officers.

Arkin and Laughlin, et al. emphasize the importance of knowing who the department resource and service providers are. Item 14 includes the response category "don't know" to assess the frequency with which respondents are unaware of the help available to them.

In addition to service providers, several intervention programs exist in some fire departments. The fifteenth item attempts to assess the degree to which various intervention programs are provided by the fire service. These programs include marriage/family counseling, stress management, career development, pre-retirement counseling, alcohol abuse programs, counseling for general emotion problems, disaster stress counseling, recruit orientation, psychological testing/assessment and health education. The next item asks respondents to indicate those services listed in item 15 that they believe would be beneficial for their department to have.

The inclusion of fire service family members in counseling and other services has been strongly encouraged and recommended. Item 17 explores the respondents' receptiveness to extending programming to the firefighter's family.

Item 18 ask respondents to rate their satisfaction with the quality of services made available to them through their fire department along a 5-point scale.

There is some discussion in the fire service literature as to whom the responsibility belongs for providing access to mental health services for job-related stress. Burns, et al. argue that the local fire department and its city government are responsible. On the other hand, Gerspach feels that the responsibility belongs to each individual firefighter and not his or her employer. Item 19 directly asks who, in the respondent's opinion, is primarily responsible. Four response categories are offered: the individual, the fire department, the larger community undecided. In addition, an open-ended response is provided.

The remaining items seek demographic information on the number of hours per week worked at the fire department and at another job, age, sex, rank, years of experience and number of personnel in the respondent's department. The estimated time needed to complete the survey averages between five and ten minutes.

Stress Management Pilot Program

Report to the Director
Broward County Emergency Service Division, Florida
February 1987

On January 28-29, 1987, the Broward County Emergency Services Division participated in a pilot study on stress management programming conducted by JoAnne Fish Hildebrand and the IAFC Foundation under contract with the Federal Emergency Management Agency/U.S . Fire Administration.

The pilot study, which involved actual classroom attendance and workshop-type activity, was designed to impart stress management knowledge and skills acquisition. The primary purpose of the pilot, however, was to gather evaluation data from the participants on program content and presentation, as well as to collect other pertinent programming information, such as time and materials considerations.

Twenty division personnel participated in the pilot. They include firefighters, paramedics, line officers, upper-level supervisory personnel, and training specialists, in addition to members of the County Personnel Department and Employee Assistance Program:

Although much of the data collection is specific to the development and refinement of the stress management program design, certain data might be of interest to the division. These are presented in this report.

Stress Management Pilot Program

Report to the Fire Chief
Sedgwick County Fire Department, Kansas
March 1987

On March 13-15, 1987, the Sedgwick County Fire Department participated in a pilot study on stress management programming conducted by JoAnne Fish Hildebrand and the IAFC Foundation under contract with the Federal Emergency Management Agency/U.S. Fire Administration.

The pilot study, which involved actual classroom attendance and workshop-type activity, was designed to impart stress management knowledge and skills. The primary purpose of the pilot, however, was to gather evaluation data from the participants on program content and presentation as well as to collect other pertinent programming information, such as time and materials considerations.

Twenty department personnel participated in the pilot. They include firefighters, line officers and upper-level supervisory personnel. In addition, Dr. Bruce Nystrom, Chief Psychologist with the Sedgwick County Department of Mental Health, was present to assist in the pilot and to provide evaluation.

Although much of the data collection is specific to the development and refinement of the stress management program design, certain data might be of interest to the department. These are presented in this report.

Stress Management Pilot Program

Report to the Fire Chief
Fire District No. 1 Washington County, Oregon
March 1987

On March 19-20, 1987, the Washington County Fire District No. 1 participated in a pilot study on stress management programming conducted by JoAnne Fish Hildebrand and the IAFC Foundation under contract with the Federal Emergency Management/U.S. Fire Administration.

The pilot study, which involved actual classroom attendance and workshop-type activity, was designed to impart stress management knowledge and skills. The primary purpose of the pilot, however, was to gather evaluation data from the participants on program content and presentation as well as collect other pertinent programming information, such as time and materials considerations.

Thirty-five department personnel participated in the pilot. They include, among others, fire-fighters, line officers and upper-level supervisory personnel. Captain Bill Anderson was also present to assist in the pilot and to provide evaluation.

Although much of the data collection is specific to the development and refinement of the stress management program design, certain data might be of interest to the department. These are presented in this report.

Evaluation Results

In order to assess general, self-perceived gain in knowledge about stress management, a 5-point rating scale (1 =LO/5 =HI) was issued before the two-day class and at the conclusion on the program.

o The **"Present Knowledge"** rating shows a substantial gain, as expected:

	Beginning Average	**End Of Class** Average
Oregon	4	9
Kansas	4	8
Florida	4	8

(See Chart)

Certain training aids were used during the program, including slides, a student notetaking guide (provided in Oregon & Kansas only) and a model of stress adaptation. In order to evaluate the usefulness of these aids in helping students learn stress management, the students were asked to indicate degree of effectiveness of each aid on 5-point scale:

Rate how effective you feel this activity is in helping you learn more about stress management:

1	2	3	4	5
I found this to be of little help		Neutral		This was very helpful

Results:

Slides Evaluation

	1	2	3	4	5
Oregon:	(6%)	(3%)	(18%)	(43%)	(30%)
Kansas:	(0%)	(0%)	(30%)	(45%)	(25%)
Florida:	(6%)	(13%)	(31%)	(50%)	(0%)

Student Notetaking Guide Evaluation

	1	2	3	4	5
Oregon:	(0%)	(6%)	(12%)	(41%)	(41%)
Kansas:	V W	(0%)	(5%)	(17%)	(78 %)
Florida:	not evaluated				

Stress Model Evaluation

	1	2	3	4	5
Oregon:	(3%)	(0%)	(12%)	(50%)	(35%)
Kansas:	(0%)	(0%)	(20 %)	(45 %)	(35%)
Florida:	(0%)	(6%)	(24%)	(29 %)	(41%)

Similar evaluation ratings were collected for two relaxation techniques:

Progressive Muscle Relaxation

	1	2	3	4	5
Oregon:	(0%)	(0%)	(3%)	(42%)	(55%)
Kansas:	(0%)	(0%)	(5%)	(39 %)	(56%)
Florida:	(0%)	(0%)	(6%)	(25 %)	(69 %)

Breathing Exercise

	1	2	3	4	5
Oregon:	(0%)	(0%)	(13%)	(75%)	(13%)
Kansas:	(0%)	(0%)	(28%)	(50%)	(22%)
Florida:	(0%)	(13%)	(25 %)	(25%)	(37%)

Four other stress management techniques were also evaluated:

Cognitive Reappraisal

	1	2	3	4	5
Oregon:	(7%)	(0%)	(38%)	(34 %)	(21%)
Kansas:	(0%)	(0%)	(21%)	(42 %)	(37%)
Florida:	(0%)	(0%)	(29%)	(65 %)	(6%)

Social Engineering

	1	2	3	4	5
Oregon:	(0%)	(10%)	(23%)	(48%)	(19%)
Kansas:	(0%)	(0%)	(5%)	(53%)	(42%)
Florida:	(0%)	(0%)	(7%)	(64%)	(29%)

Overload

	1	2	3	4	5
Oregon:	not evaluated				
Kansas:	(5%)	(5%)	(47%)	(16%)	(26%)
Florida:	(6%)	(6%)	(29%)	(53%)	(6%)

Nutritional Knowledge Inventory

	1	2	3	4	5
Oregon:	(0%)	(0%)	(26%)	(45%)	(29%)
Kansas:	(0%)	(0%)	(0%)	(44%)	(56%)
Florida:	(0%)	(12%)	(6%)	(38%)	(44%)

At the conclusion of the program, a knowledge acquisition test was administered. It contained 36 questions, which included true-false, multiple choice, matching and short-answer.

The average number of questions incorrectly answered:

Oregon	-	3.7
Kansas	-	4.6
Florida	-	3.5

Training Aids Evaluation: Total Average of All Pilot Groups:

Rate how effective you feel this activity is helping you learn more about stress management:

I found this to be of little help		Neutral		This was very helpful
Slides Evaluation				
4%	4%	25%	45%	22%
Student Notetaking Guide Evaluation				
0%	4%	10%	32%	54%
Stress Model Evaluation				
1%	1%	17%	44%	37%
Progressive Muscle Relaxation				
0%	**0%**	5%	37%	58%
Breathing Exercise				
0%	3%	20%	56%	21%

Cognitive Reappraisal

3%	**0%**	31%	45%	21%

Social Engineering

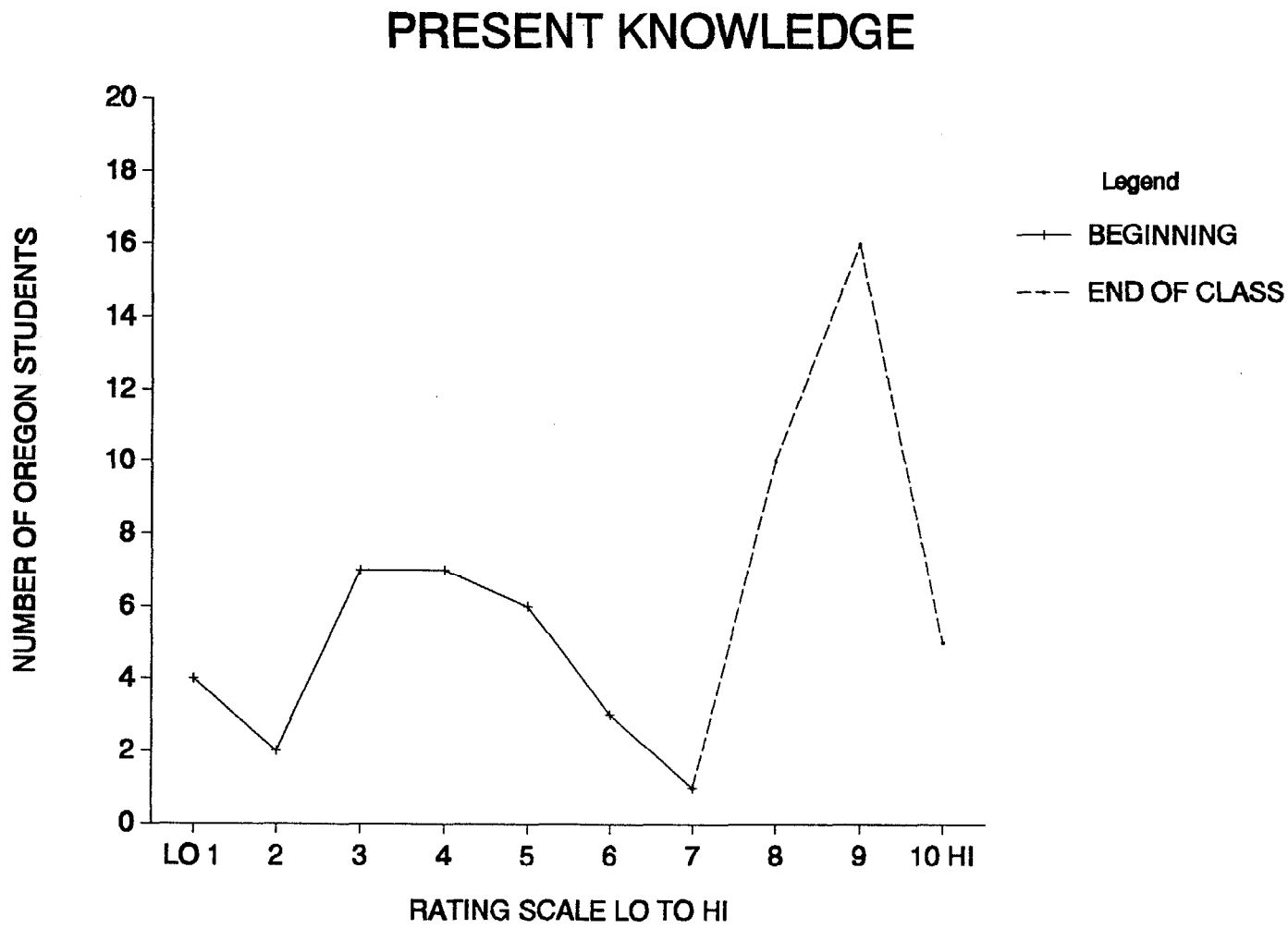
0 %	5%	14%	53%	28%

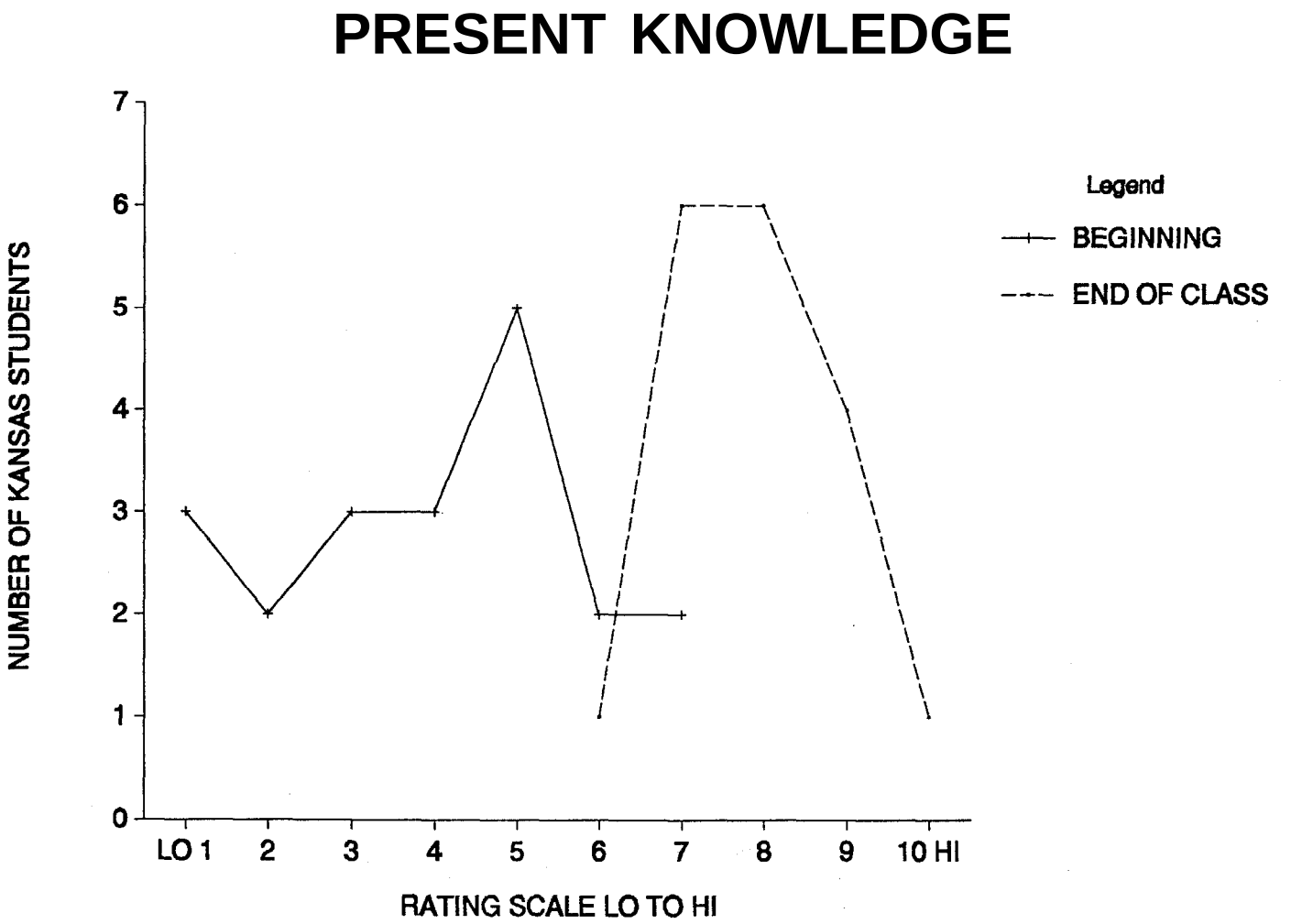
Overload

6 %	6%	39%	33%	17%

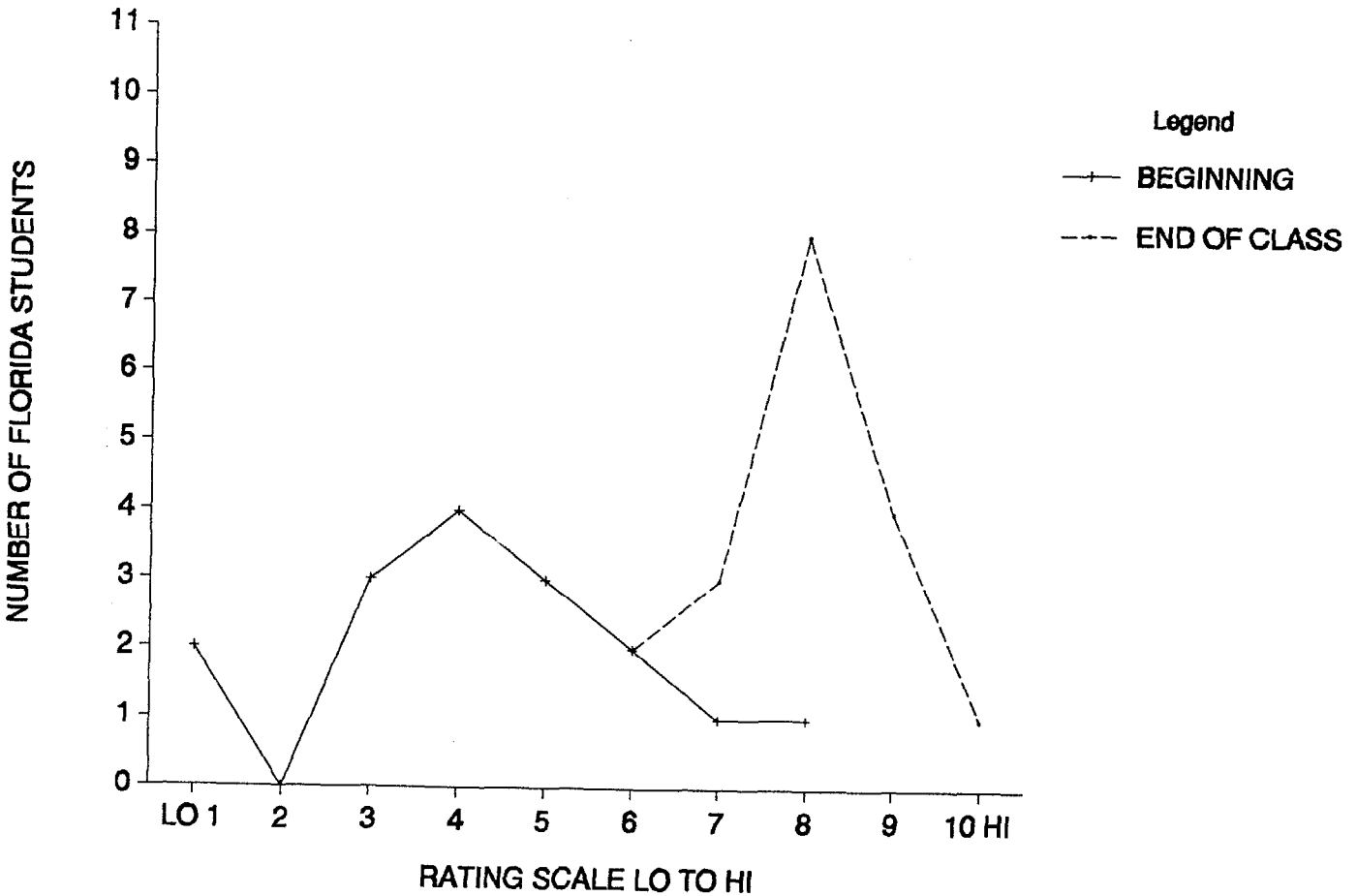
Nutritional Knowledge Inventory

0%	3 %	14%	43%	40%

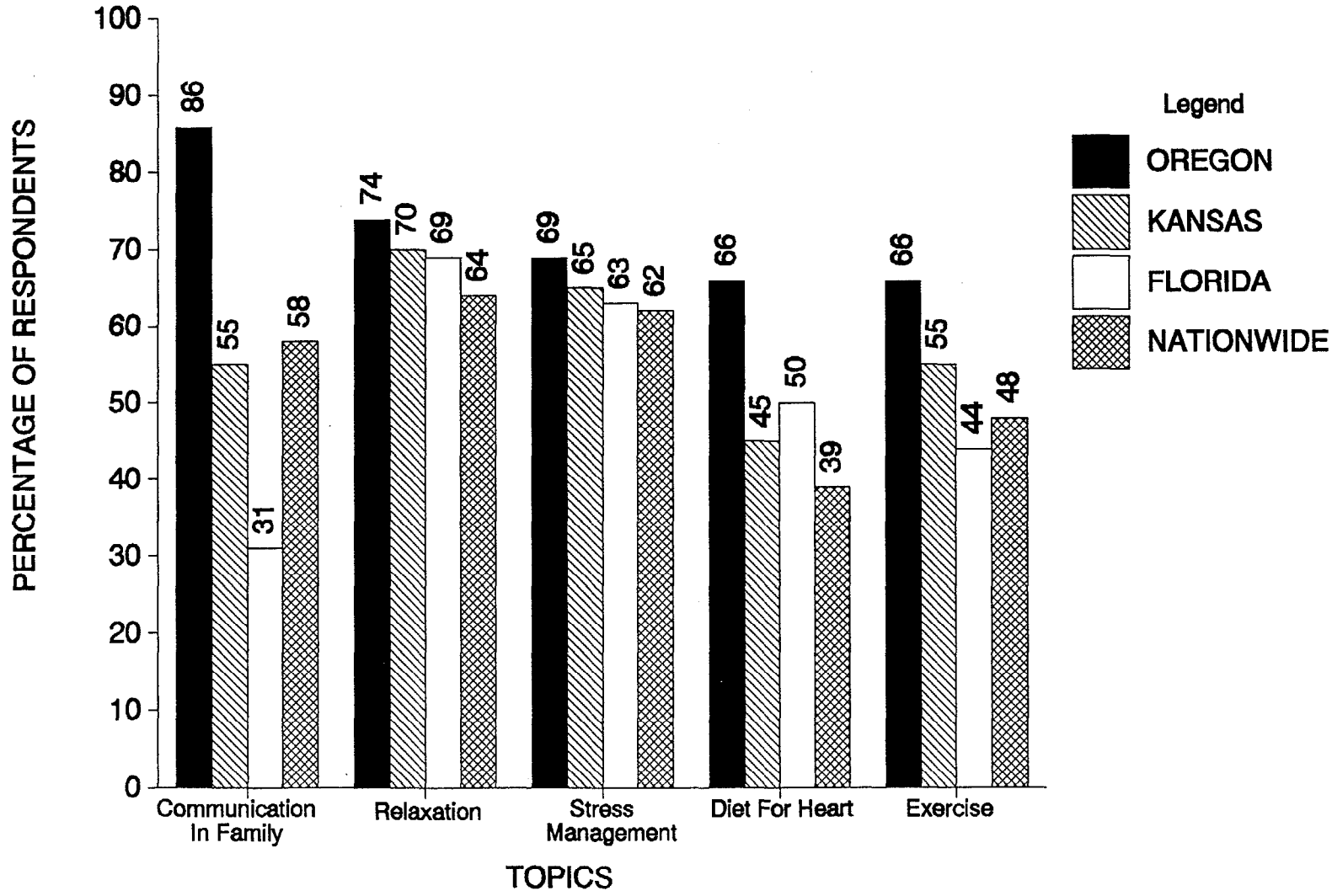

PRESENT KNOWLEDGE
NUMBER OF OREGON STUDENTS
20
18
16
14
12
10
8
6
4
2
0
LO 1
2
3
4
5
6
7
8
9
10 HI
RATING SCALE LO TO HI
Legend
BEGINNING
END OF CLASS


PRESENT KNOWLEDGE
NUMBER OF KANSAS STUDENTS
0
1
2
3
4
5
6
7
LO 1
2
3
4
5
6
7
8
9
10 HI
RATING SCALE LO TO HI
Legend
BEGINNING
END OF CLASS

PRESENT KNOWLEDGE



INTERESTS AND ISSUES



Interest and Issues: A Data Collecting Tool for Health Promotion Activities

All participants completed the ASSIST "Interest and Issues Checklist", a checklist of 50 topics concerning health, family and the emergency services. The participants checked those issues and interests about which they would like to learn more. The findings, based on the 35 checklists that were collected, are presented in Figure 1 and in graphs on the following pages.

Notes to the Graphs:

The "interests and issues" are presented in descending order of total response. For example, the issue **Communication** In The **Family** is presented first because the largest percentage of the participants indicated that they would like to learn more about communication in the family. Where two items have the same response, they are presented in alphabetical order.

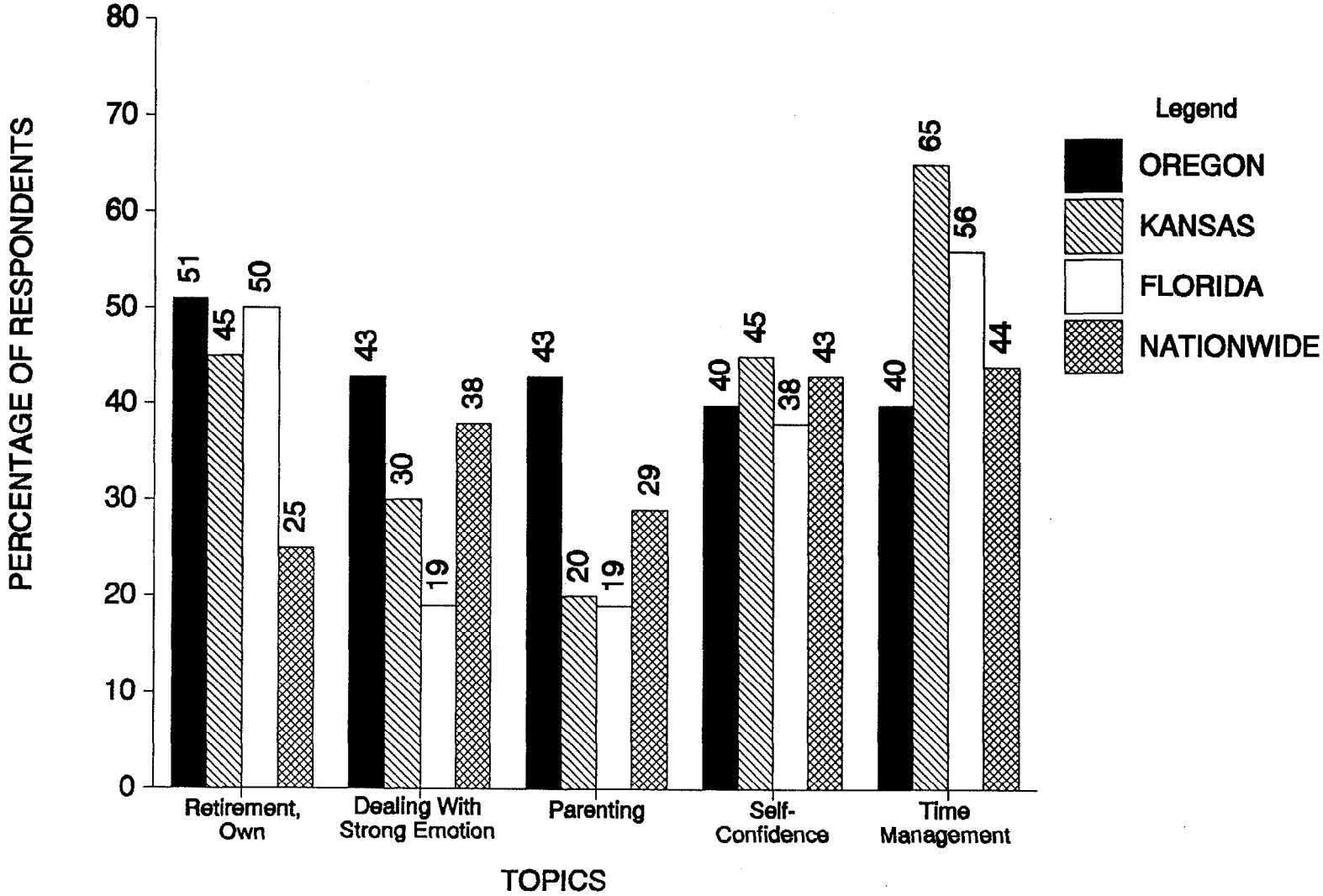
In these graphs, the Washington County Fire District No. 1 (Oregon) responses are compared to the responses of those personnel who participated in the Sedgwick County Fire Department (Kansas) pilot and the Broward County (Florida) pilot. Responses are also compared to those of fire and EMS spouses-nationwide (men and women who are married or engaged to be married to fire and emergency medical services personnel [N = 4001).

When examining the color graphs, please note that the highest value on the Y axis changes from graph to graph for reading ease. For example, the highest value on the Y axis of the first graph is 100%) while the highest value of the second graph is 80%.

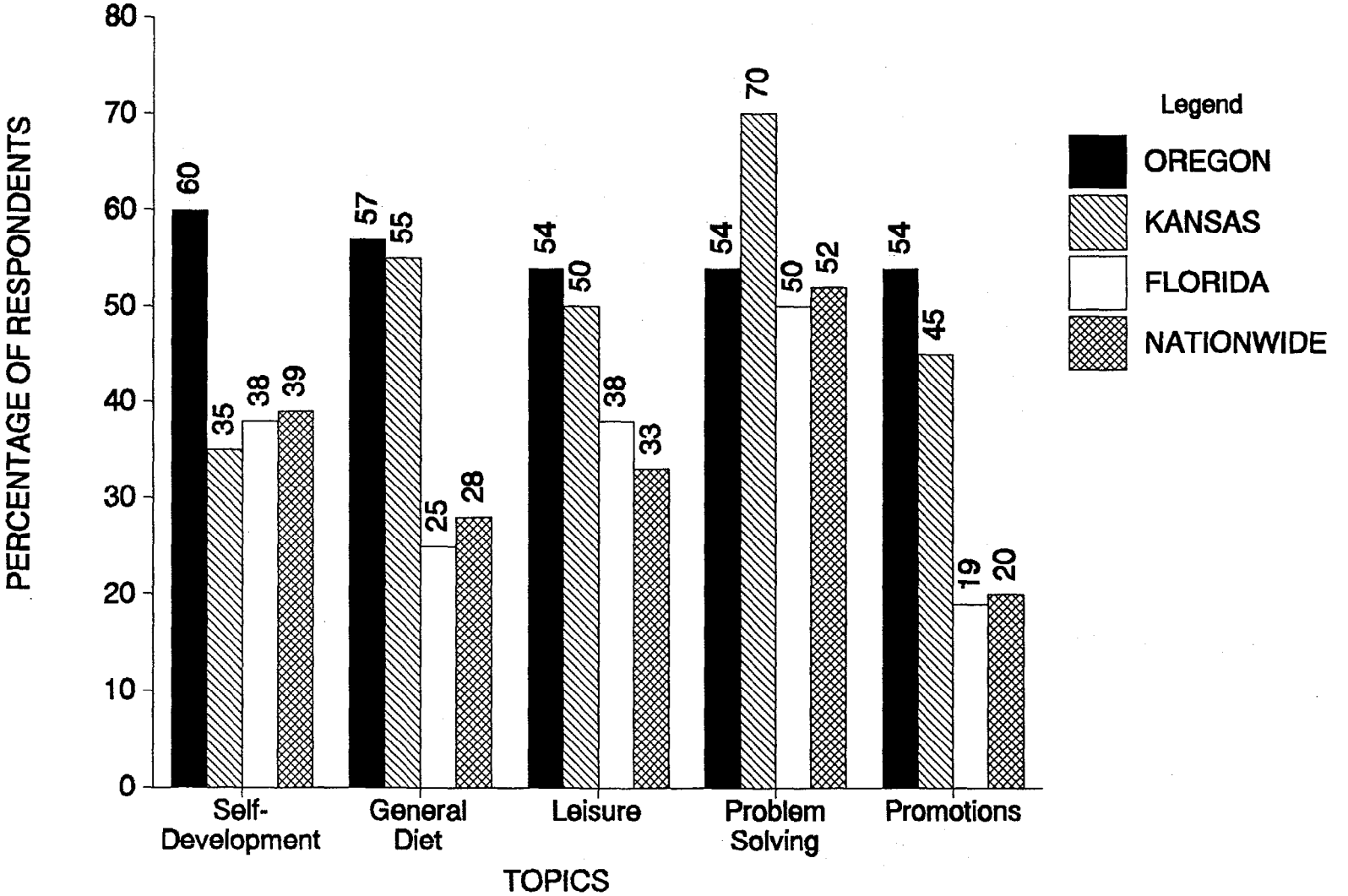
Figure 1. Interest & Issues

86%	Communication in the family
74%	Relaxation skills
69%	Stress management
66%	Diet for reducing the risk of heart disease
66%	Exercise for self, for spouse
60%	Self-development
57%	General diet
54%	Leisure, travel
54%	Problem solving
54%	Promotions, or lack of
51%	Retirement, own
43%	Dealing with strong emotion
43%	Parenting
40%	Self-confidence
40%	Time management
37%	Decision making
34%	Changing career, own
29%	Increasing self-awareness
29%	Promotion exams and study schedules
29%	Shiftwork
26%	Mid-life crisis
23%	Bringing the work home
23%	Dealing with benefits
23%	Extra hazardous duty assignments
23%	Occupational illness
20%	Aging
20%	Marriage, remarriage
17%	On-the-job injury
17%	Spouse's free time activity
17%	Volunteerism
14%	Death in the family
14%	How to identify, locate & use community resources
14%	Second and third jobs
11%	Career change, spouse's
11%	Dealing with loneliness
11%	Divorce
11%	Illness or injury in the family
11%	Self-defense
11%	Women's health
9%	Family planning
9%	Retirement, spouse's
6%	Death on the job
6%	Job hunting
3%	Alcohol abuse
3%	Rape
3%	Sex education
3%	Surgery
0	Child abuse
0	CPR, first aid
0	Spouse abuse

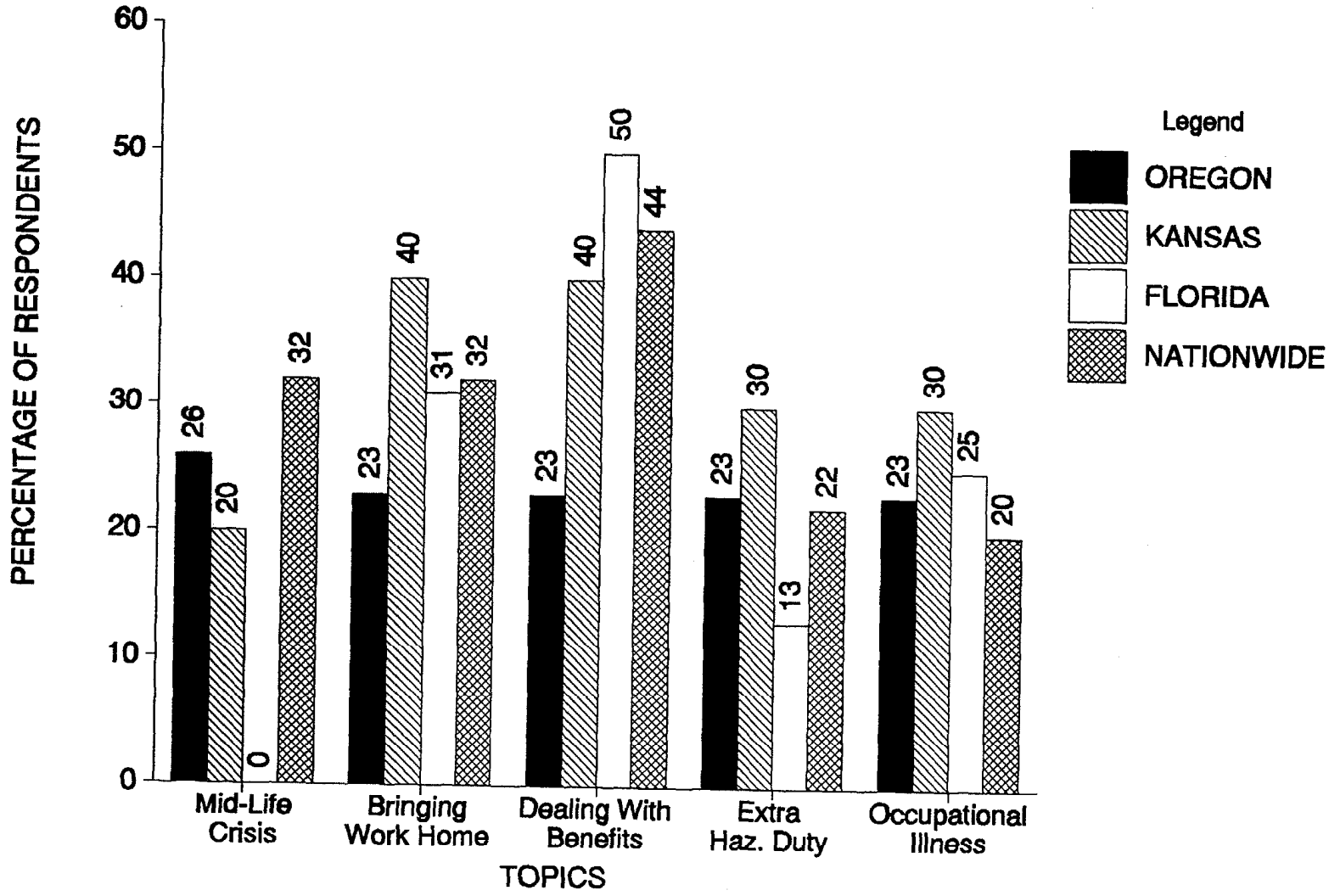
INTERESTS AND ISSUES



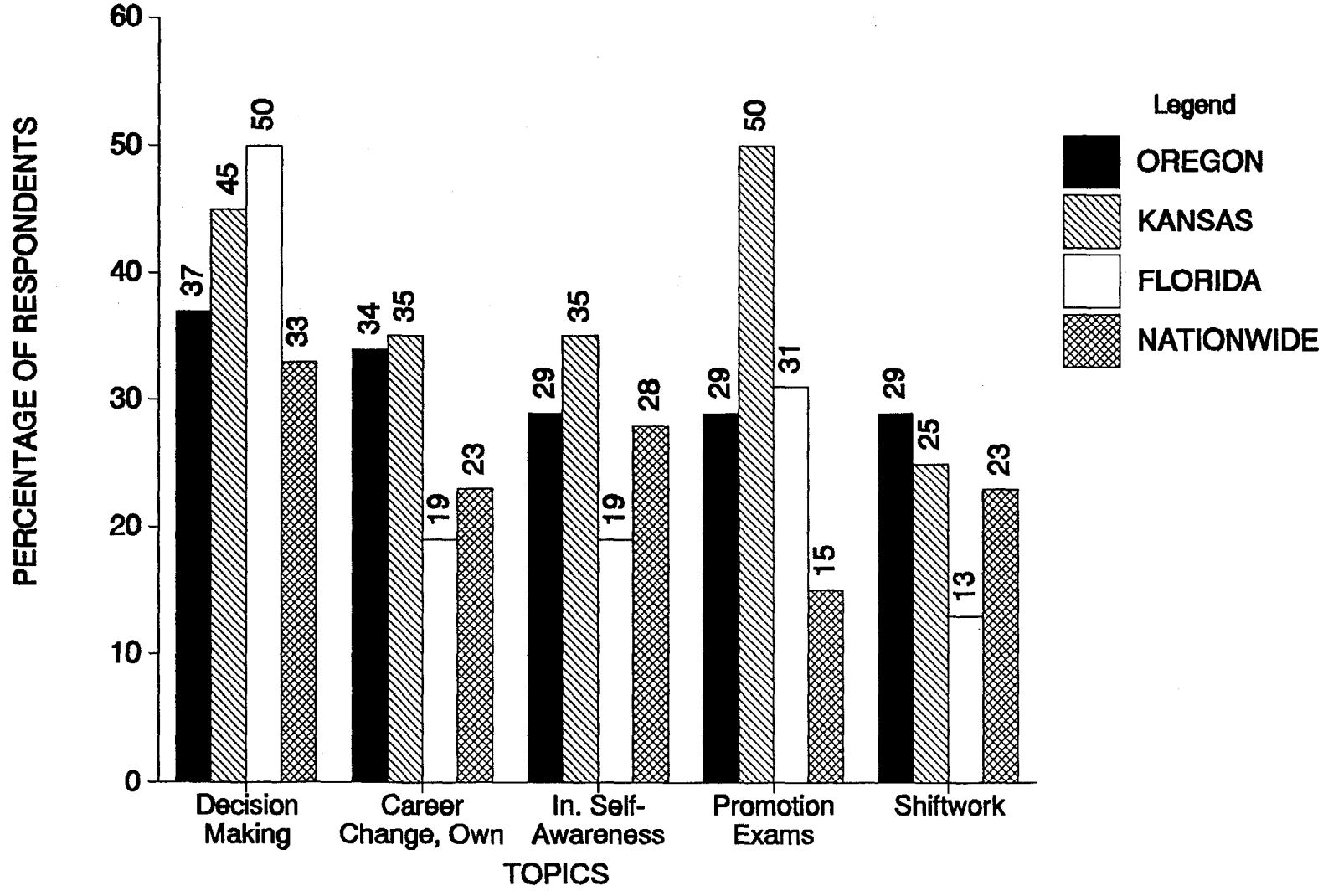
INTERESTS AND ISSUES



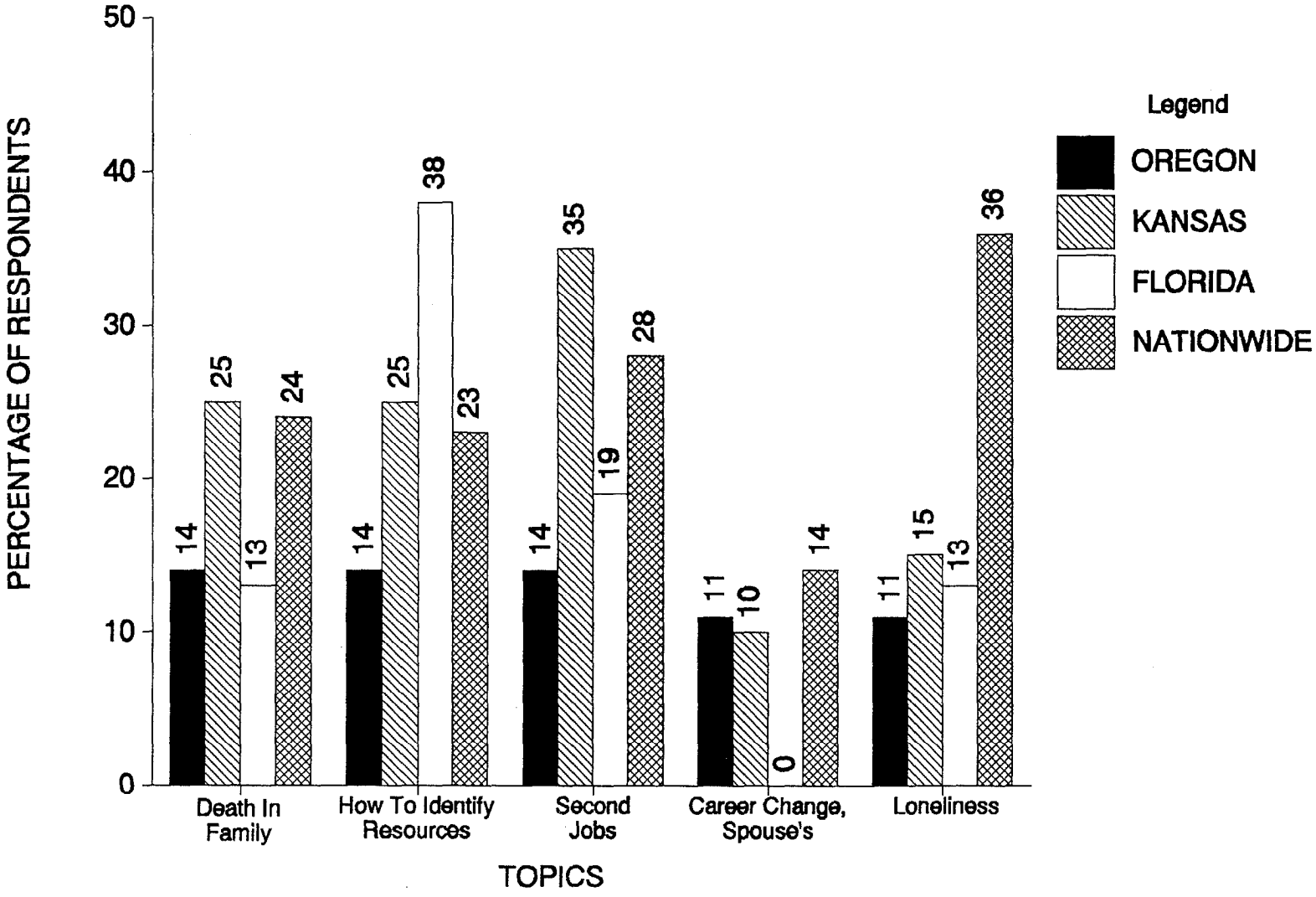
INTERESTS AND ISSUES



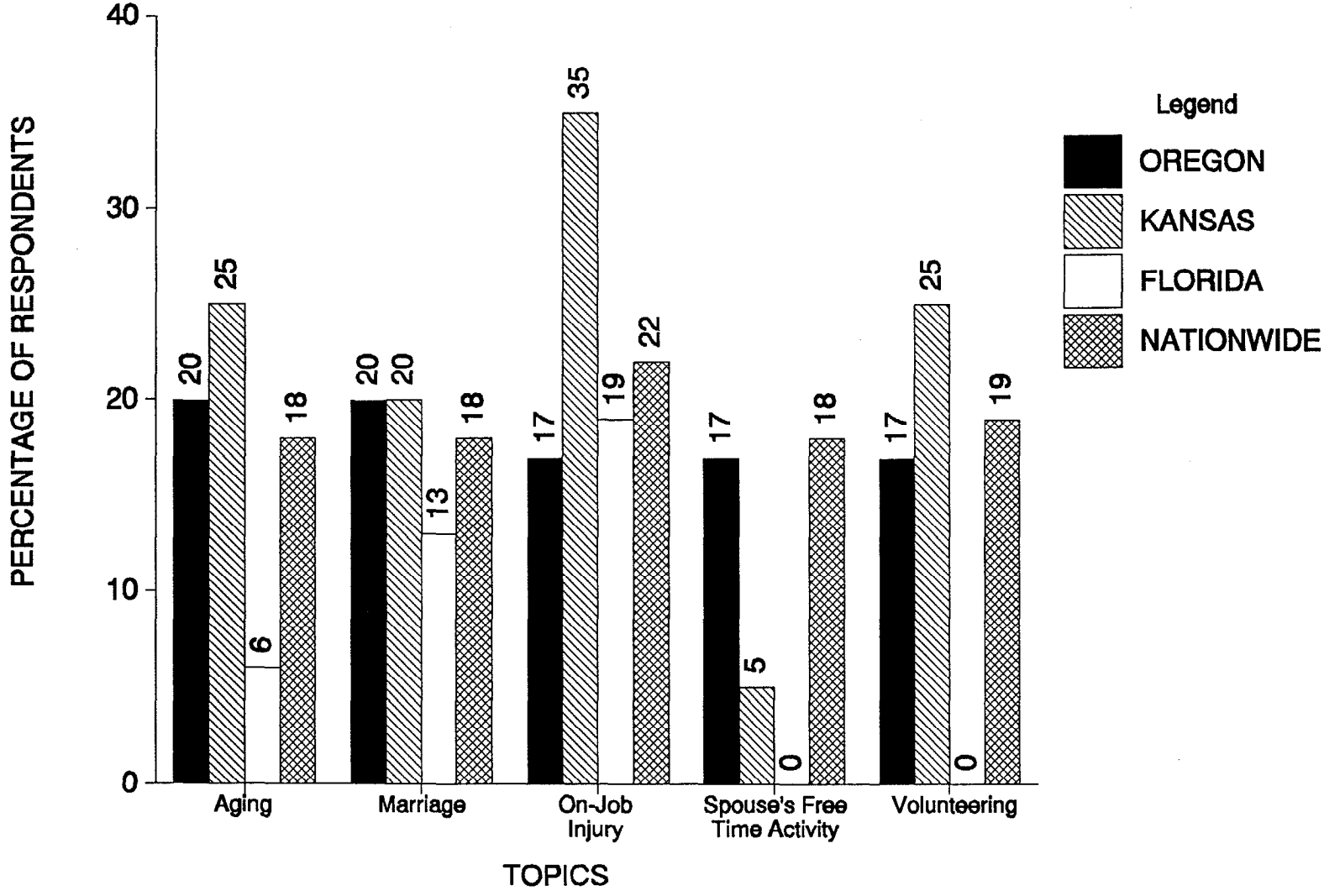
INTERESTS AND ISSUES



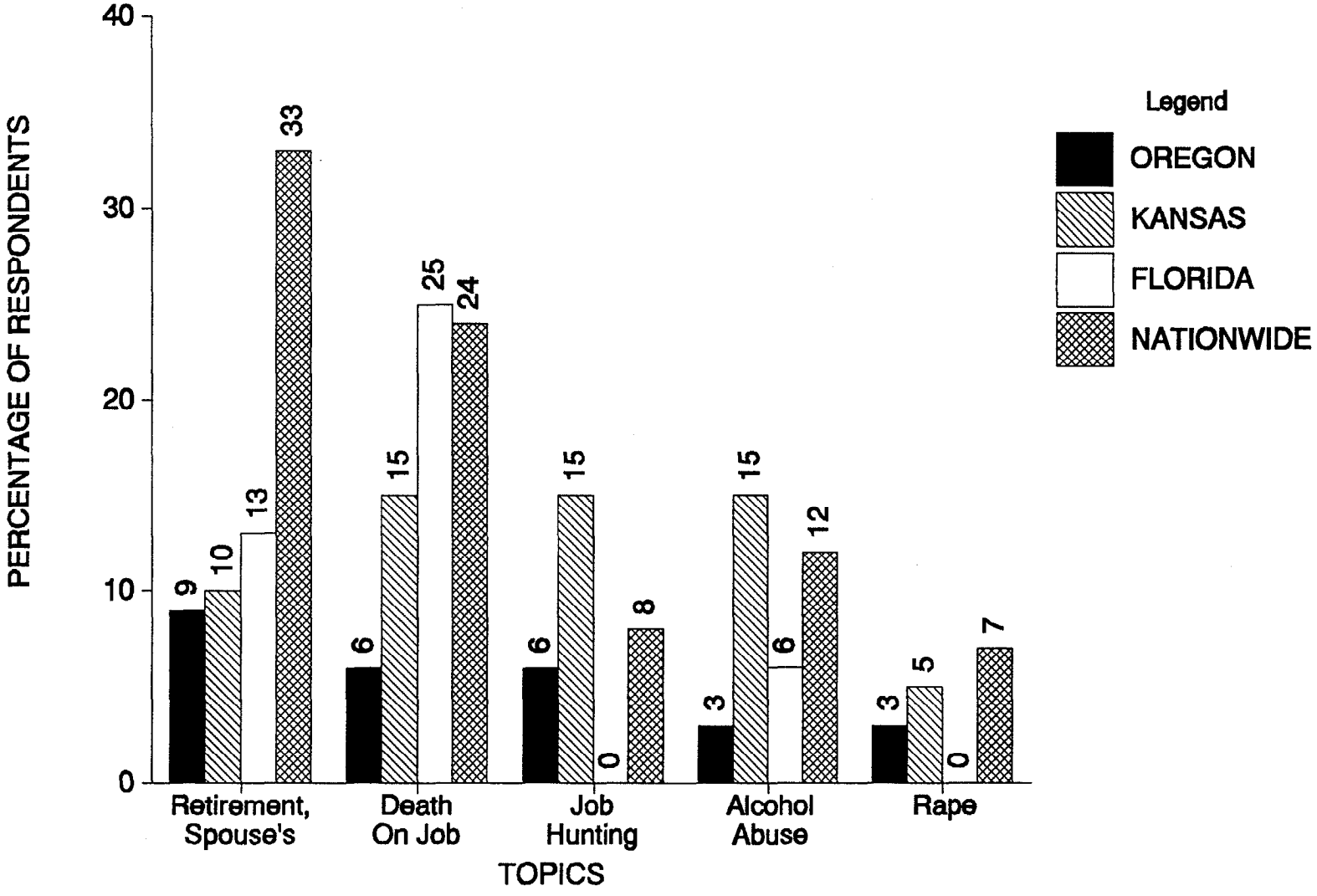
INTERESTS AND ISSUES



INTERESTS AND ISSUES

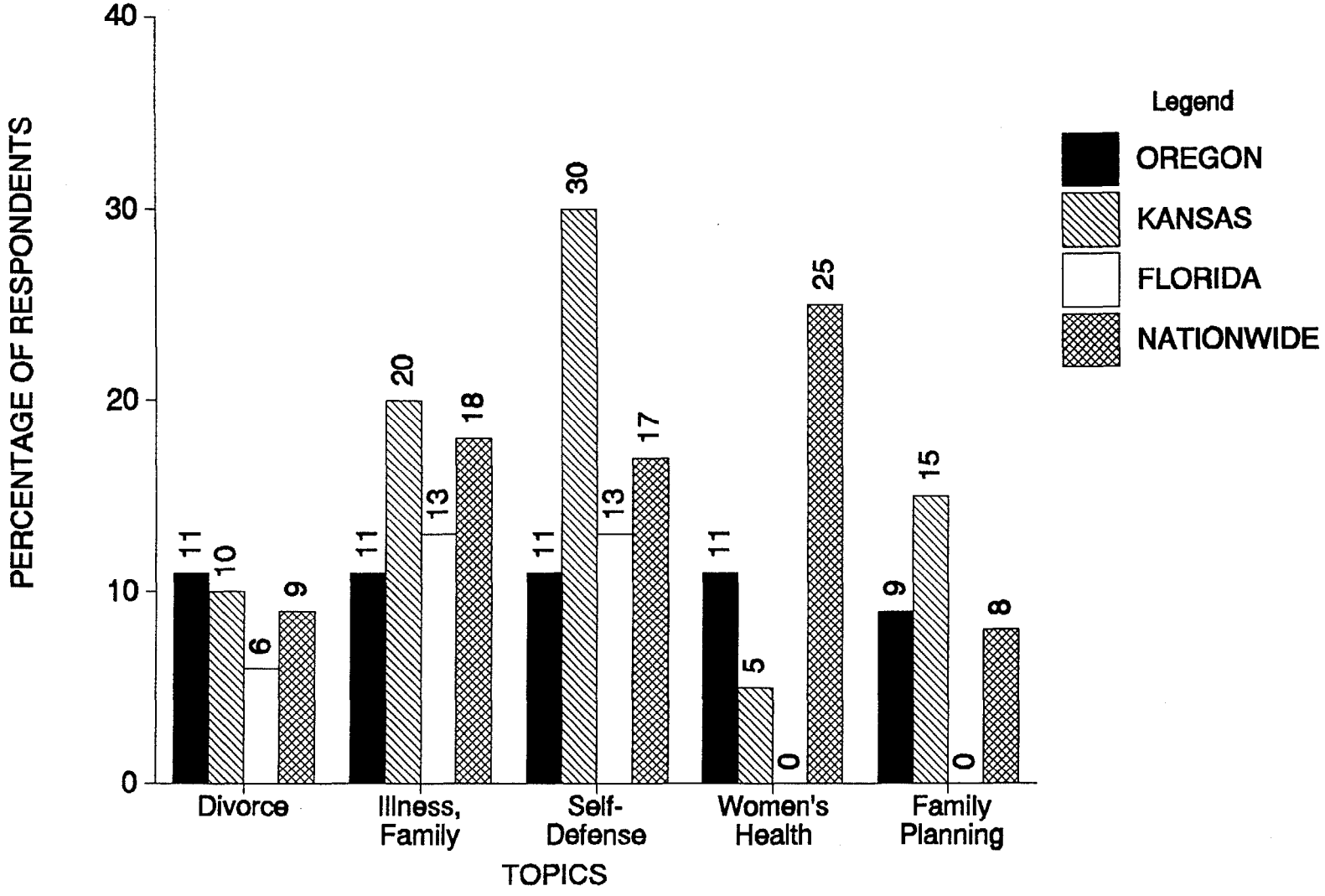


INTERESTS AND ISSUES

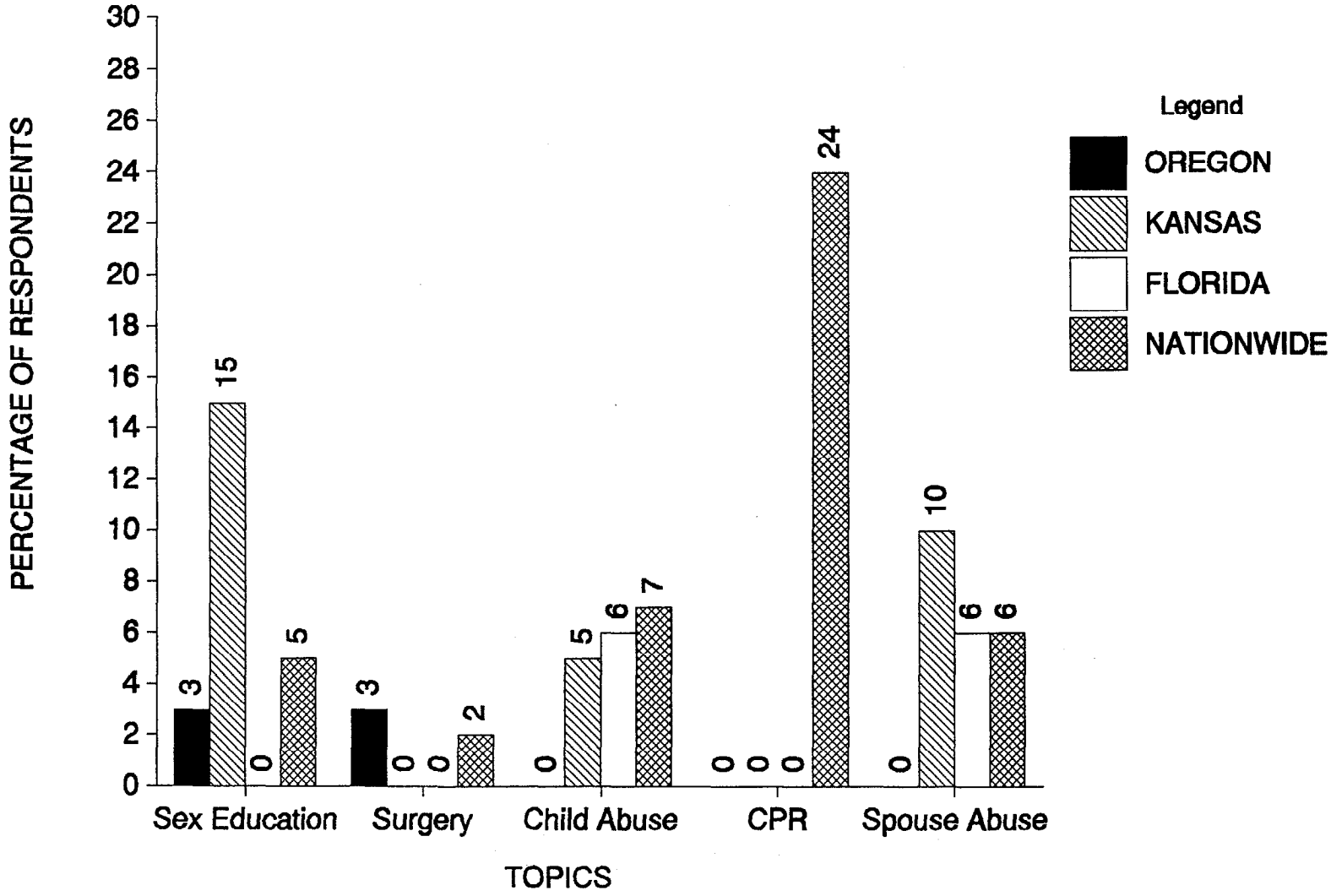


Standing Art: Interests and Issues

INTERESTS AND ISSUES



INTERESTS AND ISSUES



★ U.S. GOVERNMENT PRINTING OFFICE: 1998 -- 720 - 909 / 83066