

STRESS MANAGEMENT EDUCATION FOR THE ELDERLY:  
A SOCIAL MARKETING APPROACH  
TO PROGRAM DEVELOPMENT AND EVALUATION

by

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(ABSTRACT)

The present study examined a social marketing approach to a health promotion program in stress management education that combined various aspects of large scale mass market campaigns and individually tailored interventions. The study was conducted in two major phases using two groups from the main population of retired university faculty members. The intervention was a series of stress management seminars which was presented in each phase. Program evaluation took place at several intervals throughout the study.

The first phase of the study served to assess the retirees' needs and to develop the program content and delivery style by using the target population's administrative committee. This committee became the focus group. The presentation of the stress management seminars to the focus group was specifically tailored to the group through frequent interactions and participation by the group members. On evaluation, the program was shown to be effective on a number of dimensions, but it was also labor intensive.

A second phase was conducted on a larger sample from the target population of retirees. The sample was found to be equivalent to the

focus group on demographic variables, stress levels, and stress management practices. This phase utilized the same program content that was developed in the first phase, but further examined program delivery. Two styles of program delivery were compared. The first was a didactic, lecture style frequently used in large scale educational campaigns; the second was an interactive, discussion style, used more frequently in individual interventions.

Overall, the program participants from both phases improved in their abilities to identify their stress symptoms, stress management strategies that they felt they would use, and increased their levels of perceived control over their stress. Factor analysis was one method used to evaluate program effectiveness and to replicate the factor structure of coping strategies from another study. The utility of factor analysis as an assessment procedure was developed and supported.

No major significant differences between delivery styles were found. Thus, indirect tailoring of the program for the target population through the representative focus group was as effective as directly tailoring the program with the target population. Both the interactive and didactic approaches can be integrated into a single educational program to obtain an optimal combination of cost-effectiveness and informativeness. Once the program content was developed through the intensive process of tailoring in the first phase, the more efficient didactic delivery style could be used equally successfully with a matched population. Clinically, the study served as a cost-effective prototype of a stress management education program for the mass market.

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## INTRODUCTION

### A Growing Need for Gerontological Services

For the first time, the number of people in this country who are over age 65 is greater than the number of teenagers. This fact is an interesting and surprising piece of information that points to the trend towards an older population. According to the U. S. Census Bureau, in July 1984, the median age of the population was 31.2 years. This is consistent with the trend during the past 13 years when the median age has been increasing. Between 1980 and 1984, the number of people who were 85 years or older grew by 19.4%, but the increase in the overall population was just 4.2%. Clearly, this country is getting older.

The reasons for this new phenomenon are varied. For example, the "baby boom" generation is now reaching middle age. Medical technological advances have controlled many of the leading causes of premature death, such as disease and trauma (Kenney, 1982), and have been able to extend life in some cases. People are living longer. The average life expectancy in 1900 was 45 years. Now American males can expect to live to be 71 and females to 78 years.

Attitudes towards the elderly are slowly changing as more research is being carried out. Growing older is no longer considered the exception, but rather the rule. The stereotype of

the rigid, deteriorating, elderly individual is being dropped in favor of one as a more active, adaptable person. Research has revealed that the older population is actually more variable than are the young, both in psychosocial and physiological factors (Neugarten, 1964). For example, the elderly have a greater tendency to hold to their own opinions, rather than conforming to social conventions. There are also differences in the degree of change in physical and mental capacities as a function of age. Elderly people are more individualistic than previously believed.

Some of the stereotypes of the elderly as sick, dependent, infirm, and demented may have been based on a fact that aging and illness are highly correlated. As we age, the probability of experiencing illness or other traumatic disability increases. However, the aging process per se does not mean diseased. One of the major problems in the study of aging is that time and illness are interactive (Eisdorfer & Wilkie, 1977) and therefore difficult to determine their independent effects. Busse (1969) proposed that we differentiate between two types of aging processes. He made a distinction between biological aging as that related to time only, and secondary aging as that due to trauma or illness. For instance, declining sensory ability is associated with so-called "normal aging". However, while increased age and intellectual impairment are positively correlated, the onset of dementia is now known to be a condition that is not the norm (Cummings & Benson,

1983). Thus, although there may be a high degree of association between biological and secondary aging, they should be considered as two distinct processes.

### Aging

The concept of aging is not only chronological and biological, but to a large part, social and cultural (Karp & Yoels, 1982). Age is a strong and salient feature of identity. In a 1960 survey, Kuhn asked, "Who are you?" to children at different ages. Of the 9 year olds, 25% identified themselves by their age. This increased to 75% among 13 year olds.

The terminology we use to describe certain age stages is relatively recent. "Adolescence" was coined to describe the stage of transition between childhood and adulthood. The period when someone's concerns became the physical state of the body, the status of one's career, and the changing structure of family became known as "mid-life". The meaning of "old" has been traditionally defined at age 65, with the onset of retirement. However, this definition is not necessarily the ability to support oneself, which can be anywhere from the 40 to the 80's. The age for retirement has been based on economics, and can begin as early as 55. Another socially defined milestone for becoming "old", the start of grandparenthood, has decreased as well, as greater numbers of people have become grandparents earlier in life. Thus,

our reliance on events has determined our perception of age.

There have been some changes noted which occur with increasing age. Karp and Yoels (1982) stated there is a reorientation to time as one ages. In other words, time is perceived more in terms of the amount left to live for older people rather than as the amount of time that has passed since birth, for younger people. Neugarten (1964) also noted a shift toward interiority with age. Instead of being more conforming, older people become less concerned with the opinions of others and pay more attention to their own needs.

This makes the the elderly as a group more heterogeneous, in contrast to the view that they are all alike. Indeed, Botwinick (1984) proposed distinct age differences among the elderly, based on their health status. He called the group who was 65 to 74 years "young-old"; they differed from the "old-old" (ages 75-84) and the "very aged" (85 years and more) because they were generally healthy, and had different concerns. Most of the research in gerontology has been with the "young-old" (Belsky, 1984), but as the population of the latter two groups increases, they are expected to be growing areas for research.

The meaning of "middle aged" or "old" constantly changes as one makes his or her own transitions into these phases. Thus, perceptions of a certain "stage" differ between those who are in that stage and those who have not yet reached it. For example,

"old age", that is, 65 years and older, was traditionally viewed as dull, inactive, rigid, inefficient, and boring by others. However, the perceptions of the elderly of themselves were in sharp contrast to these views (Treas & Berkman, 1985).

Although there are social expectations for different ages regarding age appropriate behavior and events, there are no discrete life styles strictly determined by age alone. Karp and Yoels (1982, p. 35) noted, "Persons are as old as others make them feel", in reference to the strong social pressures to "act your age". Social influences, in turn, may become internalized, so that one's self-perception parallels how others see you. Age, then, becomes an individual and a relative concept.

### Retirement Stress

As the population ages, so the number of retirees increases. At one time, retirement was a relatively short period of time and a small percentage of one's life. It was seen simply as the few years between the end of employment and death. Generally, retirement marked the end of many positive life events; it was the period of one's "declining years". Now, with an increasing life expectancy and better overall quality of health care, retirement is seen as a transition from one set of activities to another. A 1985 article in the Washington Post reports that the length of retirement has increased to 20 or more years, and now forms a

significant proportion of a person's lifespan. It now accounts for approximately 20% of the average male's lifespan, as compared to a mere 3% in 1900. This highlights the need for retired people to continue to engage in new activities, and not stop activity altogether. It also points out that retirement is a fruitful area for psychological intervention, as a period of transition and adjustment.

The relationship between retirement and life satisfaction has been the subject of debate (Ekerdt, Bosse, & Levkoff, 1985; Hooker & Ventis, 1984; Snow & Havinghurst, 1977). Some views have been that life satisfaction decreases automatically after retirement because of the sudden change in activity, as in Atchley's (1975) model. A popular perception is that retirement is a goal to be attained and enjoyed, to lead a life of leisure. However, Beck (1982) found that retirement itself had no significant net effect on life happiness. Cotherman, Sharp, and Wilcox (1983) reported that 38% of their subjects claimed that retirement actually had good effects on health.

The strongest predictor of life happiness and retirement satisfaction is not retirement per se, but some of the associated features of aging and unemployment. Health status, income, expectancy towards retirement, and recent widowhood were found to be the strongest predictors of retirement satisfaction (Beck, 1982; Cotherman et al., 1983).

Palmore, Fillenbaum, and George (1984) found few effects of retirement on social activity, health, or attitudes of life satisfaction and happiness. They found the greatest effect of retirement to be on income. One-half to three-quarters of the males in their study experienced a significant reduction in income after retirement. Income was directly related to retirement satisfaction. McConnell and Deljavan (1983) reported that retired families had budget problems due to medical expenses. Since health concerns are paramount for the elderly, this importance of income seems to be justified. This loss of income with retirement may be particularly stressful to males, because traditionally they are seen as independent, self-sufficient, and the leader of the household. Positive masculine self-image seems closely tied to maintaining earning power and providing for one's family.

Sinnott (1984) noted a difference in reported stress symptoms for older men and women. West and Simons (1983) found sex differences in stress and coping resources. They found that elderly women were more responsive to life changes than men. One possible explanation is that women have a longer life expectancy and are therefore more likely to experience major life changes. Women may become more adaptable and flexible because they learn to expect and anticipate changes. West and Simons (1983) also found that income served as a buffer for women. Greater income was found to ease the strain of these changes.

Klemmack and Roff (1984) also found that income was the best single predictor of subjective well-being in the aging. However, the next best predictor was the fear of aging. That is, the more fear one had of becoming older, the less likely he or she was to report satisfaction. This points to the role of perceptions and expectancies.

Neugarten (1964) looked at the effects of expectancy and timing on life satisfaction. She found that stressful life events were considered less stressful if they were congruent with the period of life that most people experienced them. For example, women who are widowed at an older age have been found to adjust better to their loss than women who are widowed at an early age (Pruchno & Smyer, 1980; Treas & Berkman, 1985). Presumably, this is because the impending loss is more of a reality for older women than for younger ones. Streib and Schneider's 1971 Cornell Study of Occupational Retirement found that reduced income and widowhood were stressful events associated with retirement, but that they were also expected at that time. The perceived stressfulness of these events, then, was mediated by their timing.

Another factor in retirement satisfaction is the perception that one's current activities are useful (Hooker & Ventis, 1984). Those who saw their daily activities as useful reported greater satisfaction than those who did not see much value in their present activity. Thus, the loss of a valued work role can be more

stressful if it is not replaced by other useful activities. Snow and Havinghurst (1977) studied university administrators and discerned two types of retirement patterns among them. The first, "maintainers", were those who continued their professional activities. "Transformers" were those who substituted travel and non-professional hobbies for work projects. Both types reported similarly high levels of satisfaction with retirement.

There are some data that indicate that the degree of satisfaction with retirement is not stable. Ekerdt et al. (1985) reported that recently retired men (i.e., 0 - 6 months) had higher overall life satisfaction than men who had been retired for 13 to 18 months. The authors suggested that there may be a "honeymoon" period of initial enthusiasm followed by some dissatisfaction in the next year.

The concept of retirement has its roots in political and economic reasons. When Congress passed the Social Security Act, they determined age 65 to be the cut-off point for mandatory retirement. This cut-off point was decided arbitrarily and based on the cost of retirement pensions, social security, and the size of the labor force at that time (Washington Post, March 6, 1985). Age 65 is almost considered synonymous with retirement now, but in fact some people retire as early as 55, and some not at all. Retirement has been psychologically equated with idleness. There is a problem with this false dichotomy: people cannot be

classified as either working or doing nothing. There is nothing magical about turning 65 if one led a productive life at 64. There is no physical or psychological reason why retirement should be an abrupt halt to a person's general activity level, nor should it necessarily be considered a negative event. Thus retirement stress may be increased in part by a preconception that retirement is a dramatic change, rather than a gradual transition. Retirement may be perceived as more traumatic because of social expectations.

### Stress

The concept of stress has received a good deal of attention largely because of its postulated long-term consequences on health. However, the usage of the term has not yet been standardized. For example, it has been used to describe a stimulus (stressor), a reaction to a stressor, or the interactive process between the stressor and stress reaction over time (Coyne & Holroyd, 1982; Folkman, 1984; Lazarus & Folkman, 1984; Meichenbaum, 1985). Prolonged stress has been linked to numerous health problems, including cardiac disease, aches and pains, skin disorders, pulmonary disease, and hypertension (Schwartz, 1983). It has also been implicated in mental disorders such as depression, anxiety disorders, and psychosis (Rosenthal & Rosenthal, 1985).

Selye (1946) first described the stress response as the

body's attempt to fight against dangers or threats. He used the term "generalized adaptation syndrome" (GAS) in relation to this response, and conceptualized it in three stages: the alarm reaction, the stage of resistance, and the stage of exhaustion. The body quickly becomes mobilized for action, as a result of sympathetic nervous system arousal, and is ready for defense. According to Selye, it is this reaction which is responsible for illness, not the stressor itself. An external physical stressor and a perceived psychosocial stressor can have the same effect on the body.

Holmes and Rahe (1967) noted the temporal relationship between major life events and illness. They devised a scale of life changes which they rated as stressful to varying degrees. They indicated that stress due to life changes (e.g., death of spouse, moving, retirement, marriage) would lead to illness. A major criticism of their work has been that it is too simplistic. It fails to account for individual differences in the interpretation of stress, and does not explain how personality variables influence the outcome. Dohrenwend and Dohrenwend (1982) stated that there was great difficulty establishing a direct causal link between life events and illness, because of the influence of mediational factors.

Lazarus' research from the Berkeley Stress and Coping Project has demonstrated that illness was actually more strongly related

to everyday frustrations, rather than the major life events (cf. Lazarus & DeLongis, 1983; Lazarus & Folkman, 1984). He proposed that "daily hassles" have a cumulative effect which has more of a detrimental effect on health (cf. Pearlin & Lieberman, 1979). Rosenthal & Rosenthal (1985) similarly conceptualize stress as the cumulative effect of multiple "minor" worries. They view the collective and chronic effects of these unpredictable, everyday events to wear down one's ability to withstand subsequent stressful events. Eventually, one's health becomes more vulnerable.

Eitinger (1971) noted that many of the symptoms of stress are also associated with normal aging. For example, decreased memory, irritability, fatigue, emotional instability, and dysphoria may be viewed either as reactions to situational stressors as as characterizations of aging. Likewise, the elderly may present with symptoms such as poor concentration, nervousness, restlessness, difficulty sleeping, headache, loss of initiative, vegetative lability, and feelings of insufficiency. It is undertain if we should attribute these symptoms to stress or to normal aging. A study of the elderly by Sinnott (1984) found that reporting mental health symptoms, such as changes in appetite, insomnia, increased worry or nervousness, shortness of breath or pounding heartbeat, was not related to stress for women or men. These symptoms are also associated with major depression. Perhaps, not

coincidentally, a large proportion of elderly are diagnosed as depressed (Gallagher & Thompson, 1981).

According to Lazarus (1966), an individual's cognitive appraisal moderates the stress response. His transactional model proposes a combination of the effects of external demands (stressors) and personal abilities. One of the factors which influences the impact of a particular event is the amount of control perceived over the event. Coping is construed as a response a person uses in order to deal with the stress (Lazarus & Folkman, 1984). Lazarus and DeLongis (1983) distinguished between two styles of coping: those responses aimed directly at the problem stressor, called problem solving, and those which are employed indirectly by way of one's appraisal of the event, called emotion regulation. The latter style has been an impetus in the development of present stress management techniques. It seems to be especially helpful when there is little or no control over the actual stressors.

### Stress Management

Techniques of stress management have evolved in a similar way as the conceptualization of stress itself. Jacobson's early work in 1938 took a somatic approach in prescribing progressive muscle relaxation. His approach seems to fit with Selye's generalized adaptation syndrome by placing emphasis on the state of the body.

Autogenic methods of stress management concentrated on reducing autonomic nervous system arousal through cognitive mediation, (i.e., imagining one's body feels heavy or warm). In these approaches, one may try to imagine various physical sensations, such as warmth, heaviness, or weightlessness, in order to influence bodily sensations. Benson's concept of the relaxation response (1975) represented a combination of somatic and cognitive components (i.e., "psychosomatic"). Meichenbaum's (1977) stress inoculation builds upon the relaxation response in a process not unlike systematic desensitization in order to induce relaxation in place of autonomic nervous system arousal.

A focus in cognitive-behavioral approaches to stress management has been on developing or enhancing coping strategies. In addition to the direct/indirect dimension of coping described by Lazarus and DeLongis (1983), Kafry and Pines (see Pines, Aronson, & Kafry, 1981) found a dimension of active/inactive coping. According to the authors, active strategies are characterized by attempts to change the source of the stress or oneself. In contrast, inactive strategies involve avoidance or withdrawal from the source of stress.

Pines, Aronson, & Kafry (1981) combined the direct/indirect and the active/inactive dimensions to form a two-by-two matrix. Direct-active strategies include changing or confronting the source of stress, or taking a positive attitude towards the

situation. Indirect-active coping would be to talk about the stress, become involved in other activities, or to adapt by changing oneself. Direct-inactive strategies are to ignore, avoid, or withdraw from the stressful situation. Depending on the individual and the situation, any of these three types of strategies can be effective, though with varying degrees of success. However, the last category, indirect-inactive, is likely to be unsuccessful, and may even be self-destructive in the long run. Examples of this coping style are self-medication, becoming ill, or collapsing completely. Not surprisingly, Pines et al. (1981) found that active coping strategies tended to be more successful than inactive ones.

Older adults may be concerned with stresses such as loneliness, interpersonal relationships, sexual problems, or rejection, chronic or acute illness, isolation, life crises, lifestyle transition, or the loss of a loved one (Eisdorfer & Wilkie, 1977; Timmreck, Braza, & Mitchell, 1984). Each of these stressors may require a different coping strategy. McCrae (1982) surveyed the types of coping methods used among different age groups from 21 to 91 years. The survey found that both older and younger people coped in similar ways; differences in coping styles between older and younger people could be accounted for by different stressors. The findings suggested that older people were less inclined to cope in a hostile way or to employ fantasy as an

escape than were younger people. The elderly were also less likely to blame others or themselves, or to withdraw. However, aging was accompanied by an increase in the use of humor and faith. These findings do not seem to support the stereotype of the elderly as rigid, unadapting, and blaming. Rather, the elderly may likely be much more flexible and resilient to stress than previously believed.

Much of the work in stress management has been on job stress, and has centered on particular occupations, such as managers, nurses, or blue-collar workers. Murphy (1984) reviewed the literature on occupational stress management programs. He found the most popular treatment to be relaxation training coupled with education about the causes and physiology of the stress reaction. Education was intended to give the clients a better understanding of their stress and to increase their sense of control over it. Biofeedback, meditation, and specific behavioral and cognitive skills training were also commonly used. Program length ranged from one to sixteen hours, and clients were instructed to practice the techniques at home in addition to direct program time. Treatment success was evaluated by physiological changes, such as heart rate, blood pressure, muscle tension, skin temperature, and self-reports of anxiety, depression, and stress.

Steinmetz, Kaplan, and Miller (1982) developed an assessment questionnaire for evaluating stress management techniques in

different employee groups. They assessed types of stressful situations, stress symptoms, and relaxation methods used by various occupations. Their analysis found that being unappreciated, low in assertiveness, and trying to avoid conflict were all stressful situations. When they examined various relaxation methods, they concluded there were three major categories: passive coping methods, such as talking, exercising, leaving the situation or using humor; those that deal directly with anxiety symptoms, such as relaxation or taking medication; and those associated with substances taken by mouth, such as smoking, drinking, or taking medication. Steinmetz et al. (1985) concluded that one of the major sources of stress for their subjects was the absence of positive feedback and a positive environment, as much as the presence of negative events.

However, despite the stresses of retirement and aging, the elderly have not typically been a target for stress management intervention. The conclusion by Steinmetz and his colleagues (1985) may be particularly true for this population group. As the elderly are often a neglected segment of the population, they have fewer opportunities for experiencing positive events. They are frequently isolated from other, younger people and left out of the "mainstream". Our society centers on work, employment, and youth; this leaves little room for those who are aged or retired. A major negative consequence of retirement is lowered income and the loss

of power associated with money. This in turn leads to lowered social status.

There is also a perception that the elderly have less "potential". That is, addressing the needs of the elderly is considered a waste of time because younger people think older people are either unlikely to change or that the life expectancy is not considered long enough to make efforts worthwhile. The elderly are perceived to be stress-free since they are not employed; retirement is seen as a totally relaxing state. For these reasons, stress management for older adults has not been widely implemented. However, the elderly do have needs that merit more attention, particularly since they are a growing segment of the population (Birren, 1983).

#### Matching the Program to the Audience

Health care professionals who deal with large-scale health promotion programs have generally made assumptions that their audience has been more or less homogeneous. The assumption was that if a technique or program worked for one person or group, then it would work similarly with others. This is because the program is pre-determined by the leader or therapist; the audience does not provide any information that might shape the intervention. A program is considered a success if a majority of its participants improve their health status by changing certain

behaviors. The essence of this type of promotion is the nomothetic approach; outcome is based on numbers or percentages. In the past, most stress management programs have been promoted in this "blanket" approach. Broad, general treatment "packages", which tend to be didactic in nature, are delivered to mass audiences with the aim of influencing some individuals to make changes. This can be described as an educational approach to health promotion.

In contrast to this is the more personalized, ideographic approach to health promotion. This individual approach attempts to match personal styles and program characteristics more carefully through a tailoring process. The client is called upon to provide specific information which is then used to shape the intervention. Information is exchanged between the client and therapist continuously. The assumption is that each individual is unique and therefore requires a more personalized tailoring of techniques to fit with his or her needs. Outcome is not judged solely on change, but also on how change occurs. In this approach the process that leads to change is equally important to the change itself.

Neither of these approaches alone is sufficient in health promotion. Rather, we need to be able to address large portions of the population while simultaneously using more successful, individualized programs. In order to accomplish this task, it would seem beneficial to first determine and then match the specific characteristics of the individuals to the programs that

would lead to the most successful outcome.

This was the same objective that Paul (1967) had when he wrote:

"What is the appropriate question to be asked of outcome research? In all its complexity, the question towards which all outcome research should ultimately be directed is the following: What treatment, by whom, is most effective for this individual with that specific problem, and under which set of circumstances?" (p.111)

This question that Paul (1967) raised is an important issue regarding not only the outcome of psychotherapy, but the outcome of psychological services in general. Psychologists need to remember that not all clients are alike. Likewise, if a certain program is offered, the psychologist should not expect each client to respond in the same way. This point is intuitively and deceptively simple. Most researchers implement experiments and attribute the between-groups differences in results solely to treatment effects, however, and downplay the effects of individual differences.

In contrast to this, Paul (1967) has pointed out that psychotherapy is not a homogeneous phenomenon, but something more varied and dependent upon the interaction between therapist and client. Other psychological programs must be viewed in the same

way. In order for programs to be more successful, the important client and program variables must be assessed and then matched in the most optimal way. There is no overall "best" method of psychotherapy or health promotion. The task for promoters of health and well-being is to determine how to go about this matching process.

This matching process is the essence of the marketing approach to product promotion. It is central to social marketing, the branch of marketing which is concerned with promoting ideas or services, rather than tangible products (Kotler, 1977). Social marketing is based on a system of exchanges instead of dealing strictly with a one-way communication. Thus, it concentrates on the interactive process between the producer (or therapist) and the consumer (or client), rather than focusing only on the producer.

The major steps of the social marketing process are: (1) defining the problem; (2) setting goals; (3) segmenting the target market; (4) analyzing the consumers; (5) analyzing distribution channels; (6) generating the marketing mix; and (7) implementing and evaluating the program (Kotler, 1984). This current study concentrated on the segmentation and analysis aspects used by social marketers, and applied these principles to stress management, a popular health promotion program.

### Market Segmentation

The segmentation strategy in a social marketing approach is used to determine who the audience should be. It addresses the questions, Where is there a need for this particular service? Who is most likely to want or use this service? The researcher may decide on one or several variables with which to categorize or "segment" the population. For example, one may hypothesize that occupation and income are discriminating variables for a particular educational program. Segmentation is defined by Winston (1984) as, "The subdividing of a human service market into distinct sections" (p. 19).

Typical segmentation approaches in the past have used demographic variables (e.g., age, gender, educational level), social variables (e.g., religion, nationality), economic variables (e.g., region, density, size of city) to differentiate the population (Winston, 1984). These variables help determine "who" and "what" the most promising segments are, but they do not address "why" they are promising.

The "why" question is answered by obtaining a lifestyle analysis or psychographic profile of a particular segment. According to Winston (1984), "Psychographics may be viewed as the practical application of the behavioral and social sciences to marketing research" (p. 21). What this is is a profile of that segment's attitudes and beliefs. It encompasses personality

characteristics, lifestyle, and behavioral factors, and perceptions towards the service. Lifestyle appears to be emphasized more than demographics in recent times among health researchers, as it seems to have a greater impact on program outcome. That is, health beliefs and behaviors tend to be better predictors of health program outcome than other variables, such as occupation or income (Bandura, 1977; Prochaska & DiClemente, 1983).

Lazarus and DeLongis (1983) also emphasized the importance of viewing stress within the context of a person's perceptions and circumstances at the time. They found that age was a major predictor of health expectations, thus highlighting the need to assess the demographic and psychological background of a population before inferring any meaning about stressors. They pointed out that there is a great deal of variability across individuals in the aging process regarding its rate and its effects. Lazarus and DeLongis (1983) suggested that stronger significance be attached to the subjective meaning associated with age-related changes, rather than on the changes themselves. This again underscores the advantage of a personalized, ideographic approach in the study of the elderly.

### Market Targeting

"The action of evaluating and concentrating on those segments

of the marketplace which appear to be most cost-beneficial is called 'targeting'" (Winston, 1984, p. 19). In other words, targeting involves ranking the population segments, and placing them in priority order. Priority may be measured by the potential utilization of the service, or simply by its cost-benefit ratio. Effective targeting should lead to increased market penetration.

Probably the most important variables for stress management or other health enhancement programs are psychological ones, such as the belief that the program will be beneficial, the degree of commitment a person makes to change, and the relevance of the program to the person (cf. the Health Belief Model). These have been examined in determining the success of psychotherapy as well, such as in some of the research examining the client-therapist relationship (Garfield, 1978; Luborsky, 1971). In both of these instances, the match between particular clients and the therapist has been focus of psychotherapy research.

Cognitions and attitudes have been found to be instrumental in consumers' decision-making processes regarding new services (Bandura, 1977, 1983; Sheth, 1968; Solomon, 1981, 1984; Thibaut & Kelley, 1959). Specifically, early work by Rogers and Shoemaker (1971) and by McGuire (1981) has given clinicians insight into what qualities of a service are important to the client. For example, Rogers and Shoemaker (1971) identified five characteristics of an innovation that form the basis for an

evaluation, i.e., how a client evaluates an idea or program. One criterion considered critical was a program's apparent benefits, especially its advantages relative to the client's present situation. In general, programs that seem more beneficial are more likely to be followed by clients.

A second factor is the simplicity (or complexity) a program appears to have. Programs that appear lengthy or complicated are less likely to be followed. A third characteristic of a program is its perceived degree of risk. That is, programs that appear to call for "permanent" changes in life-style are perceived as riskier. They would require a client's long-term investment and commitment. A program that is more likely to be accepted is one that is seen as not permanent or testable (i.e., "trialable") before making a final evaluation. In addition, Rogers and Shoemaker (1971) hypothesized that programs which were consistent with the client's life-style (either actual or desired) were more likely to be carried out than those which were not. Finally, if clients perceive they can readily detect or observe the effects of a program, they will tend to comply with it more frequently.

In order to apply a more effective marketing approach to clinical health promotion, one can assess a group's perceptions of a health program, and then concentrate on population segments which have similar perceptions. For example, a stress management program may be targeted to a particular belief towards health

status or retirement.

Currently, a typical stress management program does not assess these beliefs and perceptions before it is implemented. Frequently, participants are selected only on the basis of their interest and availability. Consequently, the participants are not likely to have common perceptions or objectives. A problem may arise when there is a mismatch between the program's objectives and the audiences' interests or needs.

Targeting is classified under one of three types of approaches (Winston, 1984). In one type of approach known as undifferentiated targeting, all of the segments are treated equally. The implication is that this type of segmentation does not lead to differential results; that this variable is not a factor in determining the success of this program. This may be described by a didactic, or educational approach. A second, more specific approach is known as concentrated targeting. In this approach, only a select segment(s) is studied. Individual therapy illustrates the most extreme example of concentrated targeting, because the segment consists only of one person. A third, middle ground approach, differentiated targeting, is where several segments that have a common factor are focused upon. The present study utilized a target population and a segment of the target population as a representation of this type of targeting.

The main issue of targeting is how one can maximize the

benefits of stress management training while minimizing the costs of conducting the training program. Traditionally, clinical psychology has employed the individual therapy paradigm, which has numerous advantages. For example, the outcome or benefits of therapy to reduce a client's stress level have been maximized. Because the therapist and the client interact directly, it allows the therapist to assess the client's presenting problem and history in detail. The therapist can then provide the client with an individualized treatment, based on general stress management principles. The individualized treatment is presumably tailored to the particular client's circumstances, symptoms, resources, and history. This tailoring or individualization increases the probability of a successful treatment outcome because it is matched to the specific client. In marketing terminology, individual therapy maximizes the tailoring of an intervention. By increasing tailoring, the probability of a successful outcome is increased.

The individual therapy model, while beneficial, is not without its problems. For example, the high financial cost per client is expensive. Second, the therapist's efficiency is low, because of the great amount of time involved per client. The third drawback is that the individual therapy approach may not be accessible to all of those who might benefit from it. This may be particularly true for certain population segments such as those who are economically disadvantaged,

elderly, or less educated, and who, it can be argued, experience the greatest amount of stress.

In addition, there are certain pre-requisites for any highly individualized intervention. For example, the therapist must be trained well enough to be able to adapt basic stress management principles to a particular client's needs. That is, the therapist must be able to tailor the treatment to the individual. In order to accomplish this, the therapist must be knowledgeable about the various potential treatments, and be adept at relating them appropriately to the client's circumstances. He or she must be flexible enough to allow for any adjustments in the treatment, depending on the client. The process through which all of this takes place calls for both the therapist and the client to possess adequate communication and social skills. The therapist and client must be able to interact successfully and in cooperation if tailoring a program is desired.

Finally, if there is a program which requires tailoring on the basis of certain demographic or psychographic variables, then the effort and the cost required to deliver the program effectively would increase. For example, if age was a relevant variable to program outcome, then different age segments would require separately tailored programs. This might entail using different or additional delivery modalities, or different program materials. Therefore, the necessary skills, resources, and costs would increase accordingly.

Therefore, while more tailoring, as in concentrated targeting, maximizes the potential benefits of a program and increases its chances for successful outcome, it also maximizes the costs of delivering that program.

On the other hand, the least costly program would require no tailoring at all. In this approach, every client would receive the same treatment program in the same way from the same source. This approach has the advantages of being less expensive, increasing therapist efficiency, and having the ability to broaden the potential audience. This approach has been used in bibliotherapy (Glasgow & Rosen, 1978) and in large-scale mass media campaigns (e.g., Stanford Heart Disease Prevention Program; Solomon, 1984), with some success at being cost effective. However, since this type of program must be able to relate to great numbers of people, it cannot be too specific for anyone in particular. Therefore, it is simplified and basic in principles in order to reach the greatest audience possible. While, this can benefit some clients, it may not generalize to others, especially those who have more severe problems. So this mass approach may be the least effective for some people. It also has the potential of exacerbating clients' problems, if the basic principles presented were inappropriate for the clients' needs, (e.g., too little knowledge can be hazardous). Even for the clients that it does match, the program's degree of benefit is likely to be minimal because it is "diluted". Thus, by minimizing the costs of a program, the benefits

are also minimized.

### Purpose of the Study

The application of social marketing ideas to health promotion appears to be a fruitful direction, but it has yet to be explored fully. When one considers the research that has been conducted on evaluating the effectiveness of specific behavior change and health promotion techniques, it seems a logical next step to decide how to best utilize these techniques. Fawcett, Mathews, and Fletcher (1980) contended that while we have the behavioral technology methods, we are still lacking in how to apply them. In particular, we have yet to respond to Paul's (1967) question about who, what, when, and where. An additional decision which has not frequently been considered is the cost of effecting behavior change. Kotler (1977, 1984) has stated that successful social marketing is based on a system of exchanges. However, the extent of exchanging that is necessary for successful outcome has not been specified.

The point made by Fawcett et al. (1980) is the basis for this dissertation. The present study proposed using a social marketing approach to develop and deliver a stress management educational program for a particular target audience by manipulating the extent of exchanges, or interactions, that are necessary for successful outcome. The study described here is based on the model

of formative research developed by Palmer (1979; 1983). Palmer's model consists of two major parts: (1) preproduction research, including literature review and field survey, and (2) pilot testing, to assess the comprehension, relevance, feasibility, and motivating power of the message.

The present study examines an approach to stress management that attempted to maximize the benefits but minimize the costs by combining various aspects of large scale educational campaigns with individual therapy to produce a tailored educational program. The study investigated how much of the costly tailoring was required to maximize benefits in two ways. Comparisons of program outcomes on different population segments were made, i.e., the degree to which the program needed to be tailored for different subpopulations (e.g., age, sex, retirement status) within the elderly population was assessed. The second, and more important component of the investigation was that the amount of tailoring that occurred during the program was manipulated by controlling the frequency of interactions between leader (therapist) and audience (client), and the amount of personally relevant situations that the audience generated during the presentation.

The program's seminar format represents a prototype that could be used in a variety of institutional environments. The seminar format is multiphasic and is illustrated in the flow chart shown in Figure 1. The first intervention stage of the program is to present a

summary of the stress management program to a management or advisory panel that represents a larger population of members. The goals of the therapist are to inform the advisory panel about stress management as well as to get feedback from the panel about the population they represent. In sum, the therapist gives and receives information at this first stage. The therapist gathers information about the characteristics of the target population that might be important for tailoring a program without having to consult the target population itself or go through the individual case histories of the target group. The advisory panel provides feedback as to which features of the target population are important considerations for tailoring and, consequently, maximizing benefits.

The critical assumption of this technique is that the advisory panel is representative of the target population. If the advisory panel is not representative, then the information it provides may not be valid for the target population. This could result in a mismatch between program and audience needs; the consequence could be either the non-effect or negative effect of the program. This study assesses the representativeness of the advisory panel and the target population.

The second intervention phase (Phase II) is the presentation of the stress management program to the target population. At this stage, two delivery styles, or seminar formats, were evaluated. As mentioned earlier, the frequency of interactions between the leader

(therapist) and audience (client) and the personal relevance of the information was manipulated.

The reasons for focusing on the effects of frequency and personal relevance of interactions between therapist and client are that the amount of interactions is a major determinant of program design and cost. Assessing if the client needs to have direct, personal interactions with the therapist is important in determining the design and cost constraints of the seminar format. If these interactions are important, the number of participants in the seminar would have to be limited, and the therapist would have to be particularly trained in areas such as communication skills, group processes, historical knowledge of the population, and stress management sufficiently in order to be able to adjust the program to personal situations. That is, the therapist would have to be highly trained.

In contrast, if the frequency and personal relevance of interactions was not a significant factor in producing benefits, then the number of participants could be increased and the therapist could be trained more narrowly on the specific seminar content. Both of the aspects would reduce the cost of the stress management program while maintaining the maximum potential benefits.

The greater amount of interactions and personal relevance of the interactions in the concentrated targeting approach allows the therapist to tailor the program more closely to the needs of the

target population than that identified by the advisory panel. That is, the therapist directly relies on the information reported by the target population to tailor the presentations, rather than solely relying on the advisory panel for determining the needs to be tailored.

The comparative effectiveness of the interactive and didactic approaches can be predicted by the representativeness of the advisory panel for the target population. If the advisory panel is not representative of the target population, or it simply provided incomplete information, then it would be predicted that the interactive seminar would result in greater benefits than the didactic seminar. The didactic seminar, which is characteristic of the undifferentiated targeting strategy of educational approaches, would not involve the necessary interactions. Thus a statistical interaction between the delivery style (seminar format) and assessment of stress management variables before and after the seminars is expected.

In contrast, if the advisory panel was representative and did provide important and valid feedback about the target's stress status, then an overall improvement in stress management variables should be produced by both seminars and there should be no main effect of the delivery style nor statistical interaction. Information that the therapist acquires during the interactive seminar would be redundant of the information provided by the advisory panel, and thus

would not contribute any additional benefits over the non-interactive, didactic seminar style. Finally, stress management training might have to be conducted in an individual therapy situation to be optimal. If this was the case, the seminar formats in the present study would not produce any benefits at all. The ineffectiveness of the seminar formats would be reflected by no changes in the stress management variables assessed before and after the intervention.

## METHOD

The methodology used to test the various hypotheses employed multiple phases. Figure 1 represents the phases of design and intervention in the form of a flow chart. The flow chart provides the outline along which the method is organized.

### Background and Pre-Production Research:

This project was conducted with two sub-populations from the "New Dimensions" group. The two sub-populations were the group's Pre-Retirement Advisory Board, and a sample of individuals from the general membership. The New Dimensions program was established in 1981 by the University Dean. Its members are retired faculty and spouses from Virginia Polytechnic Institute and State University, in Blacksburg, Virginia. Its purpose was to maintain ties between the university and its retired faculty.

According to the dean, most of the retired faculty continued to live in Blacksburg after their retirement. In 1985, the membership numbered 430 people, with 385 actively participating in membership activities. A group of 24 New Dimensions members was selected by the dean to serve on the Pre-Retirement Advisory Board to the full New Dimensions membership. The Advisory Board members were chosen on the basis of their involvement in university and community activities.

The purpose of the board was to counsel the dean on the concerns of the membership, and to assist and coordinate the membership activities.

A goal of the the dean and the Advisory Board was to develop a pre-retirement program for faculty who were presently employed at the university. The program would be aimed at active faculty who would be expected to retire within the next ten years. The board members and the dean decided to begin by concentrating on the needs of the people who had already retired, (i.e., themselves and the rest of New Dimensions), so that they could then prepare others. The board members assessed the needs of the New Dimensions membership, and then recommended some ways to address these needs to the dean.

#### Needs Assessment

The Advisory Board's first task was to assess the particular needs of the retirees. They accomplished this by interviewing New Dimensions members and by generating ideas among themselves. Board members generated a list of needs which they had identified as stressors in retired life (labelled "stress concerns") that they felt were concerns of other retired faculty. This list was later distributed as a survey to the full New Dimensions membership (N=430) for validation. Two hundred fifty members (58%) responded to the survey. They indicated that their principal concerns were over physical health, finances, being left alone, losing mobility, and

losing identity. The complete list of stress concerns and the rank orderings for both the Advisory Board and New Dimensions is presented in Table 1.

The Advisory Board and dean determined that these stress concerns should be addressed through a series of seminars to be presented to New Dimensions. This researcher became involved at this point in the project, and met with the dean to provide consultation about some of the stress concerns. Five meetings to discuss background information and program objectives took place over a six month period.

#### Determination of Objectives and Intervention Constraints

Project objectives, potential topics, and type of format were discussed during the consultation sessions. The objectives for the New Dimensions project were to have retirees become more aware of the concept of stress and to be able to better understand it in preparation for retirement. The use of an educational approach would help people to recognize potential problems and to decide if and when to make a referral for professional services. It was determined that the stress seminars would first be presented to the Advisory Board as a test market, and later to New Dimensions.

The presentation of these preliminary stress seminars to the Advisory Board served two purposes. First, the board members served as consultants about information concerning the needs and stressors

of retired, older adults in New Dimensions. Second, the seminars provided the board members with information about "stress" for themselves and in order to identify others who might need professional assistance. Board members have a high degree of personal contact with retirees and pre-retirees, and are in a good position to identify and refer individuals for stress management or other professional treatment.

#### Design of Seminars, Audience Factors, and Educational Factors

The seminars were designed by the researcher, based on a literature review in the areas of stress, stress management, aging, retirement, and health promotion. Seminars were designed in an educational format for a naive audience (on the subject of stress). It was decided to cover stress within a general framework, and including historical precedence, current concepts, and applications to older adults and retired professionals.

Since the dean was specifically interested in having the Advisory Board become more aware of stress symptoms, it was decided to first present a general overview of "stress", and then to discuss various stress signs and symptoms in more detail. Other topics, such as stress management strategies, were to be covered in a second seminar session. A detailed description of the educational program, its content and formats, is presented later in this section.

There were a number of constraints defined by the dean and

Advisory Board that affected the design of the intervention. First, it was known from prior projects that members would be reluctant to complete lengthy questionnaires. They seemed to have an aversion to the term "questionnaire" because it apparently seemed less personal and more closely associated with jobs. The term "survey" was preferred, even if there were no actual differences in the instrument. Second, seminars could not be scheduled on Mondays, Fridays, holidays, afternoons, or during the summer or winter months. Third, it was necessary to limit each meeting to two hours. Of this time, 90 minutes would be devoted to the presentation itself, and the remaining 30 minutes for discussion and socializing.

#### Phase I

#### Advisory Board Study

Participants. The participants for this phase of the study were 18 members (9 women, 9 men) of the 24 on the "New Dimensions Pre-Retirement Advisory Board, of Virginia Polytechnic Institute & State University. All board members were either retired faculty members of the university, or spouses. For the women, the average age was 67 years and the mean length of retirement was 6 years. For the men, the average age was 71 years; the mean length of retirement was 8 years. The average retirement income was \$20,000.

Setting. Seminars were held in a conference room on the campus

of VPI & SU. Participants were comfortably seated at tables, which were placed in a "U"-shaped arrangement. There was a projection screen at one end of the room, and a lecturn nearby for the speaker.

Procedure. The researcher, a clinical psychology graduate student, presented a series of 3 seminars on "stress" over a 3 month period. Each seminar lasted for 1-1/2 hours. Participants were invited to comment and/or ask questions at any time throughout the presentation. The presentation followed an outline, which was visually displayed on the projection screen.

At the first session, and prior to beginning the presentation, the researcher distributed surveys on pre-printed computer scanning forms and requested that members fill them out. At the close of the first session, evaluation forms were distributed, so that participants could give suggestions or comments to the researcher. After each of the next two sessions, feedback and suggestions were given verbally only. At the end of the series, the researcher distributed individual copies of the seminar outlines to the participants.

Seminar content. The first session served as a general introduction to the concept of "stress". The stress response was defined as an automatic, integrated psychophysiological reaction that involves autonomic nervous system arousal. Individual variability in response to stress was discussed, and moderating factors, such as expectation, interpretation, and health status. There was a

distinction made between acute stress and chronic stress and their implications for health, i.e., acute stress reaction can be adaptive, such as the fight-or-flight response. With chronic stress, the reaction loses its signalling function over time and ceases to be adaptive. The sustained stress response results in fatigue, pain, autonomic nervous system overactivity, and ill effects on body systems. Common stressors were identified, e.g., major life events (Holmes & Rahe social readjustment rating scale, 1967), lack of control, inadequate resources. An overview of various symptoms of stress were presented and some common, physical signs were described, (e.g., increase in heart rate, respiration, and perspiration). However, it was emphasized that the stress response involves cognitive, affective, and behavioral components as well. (see Appx. A for first seminar session outlines.)

The second session provided a brief summary of the points covered in the first session. Effects of chronic stress were more clearly detailed under the different categories of physical, emotional, cognitive, and behavioral. The long term negative health effects were also presented, ranging from minor aches and pains to more serious illnesses. This session covered some ways to manage stress, e.g., goal setting, coping skills, education, behavioral health strategies. Examples of effective and ineffective strategies from Lazarus' coping grid, 1966; in Pines, Aronson, & Kafry, 1981) were given, e.g., confronting the source of stress, avoiding the

stressor, collapsing. (see Appx. B for second seminar session outlines).

The third session covered some applications of stress and stress management to an aging population, i.e., behavioral health strategies of proper exercise, diet, relaxation techniques, social support. It provided some suggestions to members for what they could do as paraprofessionals to assist others in preventing negative effects of stress, e.g., social support, referral to a professional mental health provider. This session was also a summary and review. (see Appx. C for third seminar session outlines).

Measures. Data on demographics, base level of knowledge about the mental health and aging, subjective level of stress, perceived level of control over stress, and current stress management behaviors were assessed using a self-report, pre-printed computer scanning form. The initial "survey", on a pre-printed computer scanning form, contained 47 items (Appx. D). These included: demographics (age, sex, length of retirement); 16 true-false questions on mental health and aging (Pruchno & Smyer, 1980) to assess general information level; a Likert-like rating scale of subjective level of stress (1=not stressful, 7=very stressful); 12 items for frequency of using particular relaxation methods (from the Conflict-Stress Questionnaire, 1976; cf. Steinmetz, Kaplan, & Miller, 1982); and 11 Likert-like rating scales (1=strongly disagree, 6=strongly agree) of the Health Locus of Control (Wallston, Wallston, Kaplan & Maides,

1976).

The follow-up evaluation form (Appx. E) contained 6 items. Four questions were Likert-like rating scales (usefulness of the information presented; quality of the presentation; willingness or confidence in using the stress management techniques discussed; usefulness of the seminar to the New Dimensions retirees. The other two questions were open ended: (a) inquiring what was most useful about the seminar; and (b) asking for suggestions for future presentations to New Dimensions. Verbal feedback only was solicited after the second and third sessions; written follow-up evaluations were not used.

#### Evaluation and Revisions

##### Pre-Production Research for Phase II

The information on stress concerns from the Advisory Board and New Dimensions, along with the data and suggestions gathered from the Advisory Board study, was used as the basis for developing the seminar series for New Dimensions. Because the health effects and social aspects of stress were of greatest concern to the target audience, it was decided to focus on these areas. Two seminar series, "Stress Management for Older Adults", and "Stress Management after Retirement" were offered to New Dimensions members.

Seminars were organized in two parts, with the sessions one week

apart. As with the Advisory Board sessions, scheduling was limited to mid-week, early morning, and warm weather conditions. The number of participants for each seminar was limited to 25 because of the capacity of available meeting rooms.

Pre-registration for seminars was coordinated through the dean's office, two months prior to the planned dates. There were 55 members who pre-registered for either seminar. Several days before the first session, registrants were telephoned by the dean's office to confirm their planned attendance. At that time, 11 members cancelled because of illness and two because of other plans. Nine registrants could not be reached to confirm, and did not attend. The remaining 33 members did attend the seminars.

Several changes were incorporated into the seminars based on the findings from Phase I. These changes included reformatting the survey forms, eliminating some survey items, and adding or reworking others. Specifically, the Health Locus of Control (Wallston, et al., 1976) was replaced by a single 7-point Likert-like scale of perceived control over stress. Four questions from the Mental Health and Aging Quiz (Pruchno & Smyer, 1980) were chosen to be administered rather than the 16 given in Phase I. These steps made the survey shorter, while still preserving the measures. A 13-item Profile of Mood States (Cobb, 1970) was included as a measure of state stress level. The list of relaxation methods from the Conflict-Stress Questionnaire (see Steinmetz, et al., 1982) was used to assess coping strategies,

and amended to include "prayer". Both the Conflict-Stress Questionnaire and the Profile of Mood States are self-report inventories, in which respondents rate the frequency of occurrence for each item.

## Phase II

### New Dimensions Study

Participants. The participants for this phase were 33 members (22 women, 11 men) of the New Dimensions group of VPI & SU. As with the Advisory Board, members were either retired faculty from the university, or a spouse. Nearly half (N=16) were between the ages of 65 and 74, and half (N=17) were married and living with their spouse. Their lengths of retirement were as follows: 18% had been retired more than 10 years; 6% retired between 6 to 10 years; 18% retired 3 to 5 years; 15% retired 1 to 2 years; and 24% were not retired (e.g., had not been employed, a non-professional spouse). All seminar participants were Caucasian. The average retirement income was between \$17,000 and \$18,000.

Setting. Seminars for Phase II were held in a large meeting room off-campus at the town community center. Participants were seated in chairs which were arranged in rows, with a center aisle. There were no tables available. As before, there was a projection screen at the front of the room, and a lecturn nearby.

Procedure. Each seminar was held in two 2-hour sessions, one week apart. Seminars were again conducted by the researcher. The seminar content followed the Phase I seminars closely. The first session covered a working definition of stress, the distinction between acute and chronic stress, sources of stress, symptoms of chronic stress, and the relevance of stress to aging and retirement. The second session included a brief review and covered coping strategies, ways to minimize stress, and stress and management techniques. Delivery style was manipulated either towards a didactic style or an interactive style in order to assess the effectiveness of the Phase I tailoring. A brief, general description of the two different delivery styles follows. A more detailed outline of each style is presented in the appendices.

In the didactic style, the seminar was conducted as a lecture. As in Phase I, an outline of the information was presented visually via overhead projector. The lecture presentation followed the outlines closely. An outline for each topic was shown in its entirety during the presentation of that topic. Each point was introduced, and then presented by the speaker. Audience-speaker interactions during the presentation were kept to a minimum, and these interactions were separate from the actual presentation of information. Audience questions were reserved for the end of the presentation. A 45-minute sample from each session was recorded; the number of questions during the presentation and during the question-and-answer period were

tallied.

In the interactive style, the seminar was conducted as a combination lecture-discussion. The audience was invited and encouraged to participate actively throughout the presentation, so as to maximize interactions. These frequent interactions served as feedback which enabled the leader to closely tailor the information to the audience's needs. The seminar content was flexible, and occasionally deviated slightly from the outlines because of an audience comment or question. An outline of each topic was presented visually, but it was not shown in its entirety. Instead, only one point was "revealed" at a time to the audience, after it had been discussed, to conclude the discussion of that point.

Measures. Participants were given a 39-item survey form (Appx. F) at the beginning of the first seminar session. This pre-intervention survey was similar to that given to the Advisory Board and used to assess New Dimensions' initial status on a number of variables. It assessed the participants' stress level, perceived control over stress, moods, and coping strategies, using rating scales. It contained open-ended questions on stress symptoms, coping strategies. The survey also contained "true-false" items concerning general knowledge of mental health and aging. At the end of the first session, participants were given a 7-item intermediate evaluation form (Appx. G), which was used to evaluate the quality and usefulness of the presentation. The evaluation form contained rating scales and

open-ended questions.

Last, a 21-item post-intervention survey (Appx. H) was given at the end of the second session. This was used to ascertain how participants were affected by the seminars. This survey contained the same rating scale measures of stress level, perceived control, and moods as on the pre-intervention survey. It contained open-ended questions concerning participants' ability to identify personal stress symptoms, sources of stress, and coping strategies, and to give feedback about what information in the seminar was useful. This survey also included rating scales for the participants' degree of intention to use stress management strategies and their confidence level in using them.

Data Analysis. The experimental design of the present study was a composition of various factorial designs (e.g., 2x5, 2x2x4, 2x4, 2x2) and simpler paired comparisons. Analysis of variance was the statistical procedure used to evaluate the significant differences between the various measures. The specific design employed in each component of the study is identified in the Results section. Post-hoc comparisons of significant results that involved a factor with more than two levels were performed with a Newman-Keuls test (Myers, 1979).

The principal component factor analysis were performed on the data from the Conflict-Stress Questionnaire and the Profile of Mood States. The factor structures generated by factor analysis reflects

the interrelationships among the larger set of variables. since the interrelationships are defined by the pattern of each subject's responses, the factor structure ultimately reflects the subject's conceptualization or categorization of the range of variables (Rozeboom, 1966). In the present study, the factor structures would reflect how the subjects conceptualized some specific coping strategies as being the same and how others as different. Similarly, the factor structure of the mood states would reflect how subjects organized the various descriptions of mood states according to their own conceptualizations of moods. When different variables loaded on different factors, the participants were discriminating between different types of mood states, which are independent.

There were two reasons for choosing the principal component factor analysis procedure over the principal axis procedure. First, no particular assumptions concerning the underlying structure of the variables were required. Second the principal component factor analysis generates the linear combination variables that account for the greatest amount of variance (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). These reasons were important because the factor structure of mood states from the present study was compared to the factor structure reported by Steinmetz et al. (1983). The best summary description, without a predetermined factor structure, was necessary for a non-biased comparison. Furthermore, a Kaiser-Varimax Rotation, which maintains orthogonality of factors, was performed on the

present factor structure because Steinmetz et al. (1983) reported their findings in this form.

To determine the number of significant factors, the eigenvalue of each factor had to be greater than 1.0. Eigenvalues greater than 1.0 indicate that the factor accounted for more variance than an individual variable when a principal component factor analysis is employed. To determine whether a variable was significantly loaded on a factor, each factor loading (the correlation coefficient between variable and factor from a principal component analysis) was tested if it was significantly greater than zero using a Student's *t* distribution. The reason for using a *t*-test to determine significance was that the present sample was relatively small and the significance criterion of *t*-tests is sensitive to sample size. A Bonferroni procedure (Myers, 1979) was also used to reduce the probability of the Type I errors of identifying a variable as loading on a factor when it actually did not. To do this, the alpha level of .05 was divided by the number of factors generated by the principal component analysis. For example, if four factors were generated, the significance of the factor loadings would be tested at the .0125 level.

Two types of factor scores were constructed from the factor structures: factor composite scores and factor coefficient scores. The function of both of these scores was to represent the factor-categories of the coping strategies and the moods states. For

example, participants rated 12 different coping strategies and if five factors were generated from the analysis, five factor scores would be computed for each participant. The five factor scores represent a summarization of the repeated measures of coping strategies and become a variable in a factorial design that included the Advisory Board vs. New Dimensions comparisons (i.e., a 2x5 mixed ANOVA).

Factor composite scores represent the mean value of significantly and uniquely loaded variables for each factor. Factor composite scores are independent mean scores because they were based on independent factors and they are only computed from uniquely loaded variables. For example, if three variables significantly and uniquely loaded on a factor, the mean of these three variables would become the factor composite score. If a variable was not significantly loaded on a factor or was significantly loaded on more than one factor, it was omitted from the computation of the mean. An important advantage of factor composite scores is that the factor scores have units. All variables entered into each factor analysis used the same rating scale so that the magnitude of the factor score can be interpreted using the original scale values. Thus, differences in the magnitude of coping strategy or mood state factor composite scores would represent differences in the actual frequency of use of the different types of coping strategies or mood states.

The second type of factor score was the factor coefficient

score. A factor coefficient score was constructed from each factor for each participant using all the variables. The amount that each variable contributed to the value of the factor coefficient scores is directly dependent upon the magnitude of the factor loading of that variable. Rather than only having significant and unique variables contribute to a factor score, as in the case with the factor composite score, the factor coefficient score includes significant and non-significant variables and every variable contributes to every factor coefficient score. The advantage of factor coefficient scores is that the intercorrelations among the variables are controlled for so that some variables can function as "suppression" variables to produce the best estimate, given the data set (Nie et al., 1975). Factor coefficient scores are also standardized which allows for the replacement of some missing values with the values equal to the mean of non-missing values. In the present analysis, subjects were allowed to have one or two missing data points out of the 12 coping strategies and 13 mood states. One important disadvantage of factor coefficient scores is that the standardization of the scores does not permit comparisons between repeated measure variables in an analysis of variance. Consequently, only differences between the Advisory Board and New Dimensions, between the interactive and didactic delivery styles, or any interactions involving these separate groups can be tested using factor coefficient scores. Any differences in the absolute scale magnitude of the factors representing the categories

of coping strategies or mood states and changes over the course of the intervention are eliminated by the standardization of the repeated measure scale values. Another disadvantage is that the factor coefficient scores are the best estimates for the specific data set and generalization can be problematic. In contrast, the factor composite scores are based only on the variables that significantly load on a factor. The test of significance before the construction of the factor composite score increases its reliability and generalizability. Because of the advantages of the factor composite scores over the factor coefficient scores, factor composite scores were used in most of the analyses. Factor coefficient scores were used when their advantages could provide important information.

## RESULTS

The results are organized according to three primary areas of investigation, corresponding to the three basic research questions. The first section addresses the question of how representative a sample the Advisory Board group was for New Dimensions. The second section examines the effect of an educational approach to stress management and the differences between the delivery styles. The third section is concerned with the issue of tailoring, specifically for the population segments of the New Dimensions group. Because the design of the study involves multiple phases, each section includes a review of the predictions and a brief discussion of some results.

### Comparisons between Advisory Board and New Dimensions

Chi-square tests were performed to compare the Advisory Board and New Dimensions groups on the demographic variables of sex, age, and length of retirement. The three age categories were under 65 years, 65-74 years, and 75 years or more. There were three categories for length of retirement: less than 5 years, 5 years or more, and not retired. The two populations were not found to differ significantly on any of the variables examined. There were no differences in group composition with respect to sex ( $X^2(1, N=47)=.76, p>.1$ ); age ( $X^2(2, N=41)=1.33, p>.1$ ); or length of retirement ( $X^2(2, N=42)=1.79,$

p>.1). Thus, the populations could be considered equivalent in demographic composition.

Table 2 shows the Advisory Board's and New Dimensions' corresponding mean ratings and tests of significance on several other variables of stress. Both the magnitude of these ratings and the comparisons are informative. In general, neither group was very knowledgeable about mental health and aging, as they answered only about half of the questions correctly. They rated themselves as having a moderate level of perceived control over stress and a relatively low level of stress. The similarities in their ratings of seminar usefulness also suggested that the Advisory Board and New Dimensions "processed" or responded to the seminar equally. The two groups were not significantly different, with the possible exception of stress ratings. The New Dimensions members rated themselves as having slightly greater subjective stress than the Advisory Board; this difference was marginally significant. In light of the stresses usually reported by many older adults, both of these groups reported surprisingly low stress levels.

The relaxation methods (or coping strategies) used by the participants were assessed with the Conflict-Stress Questionnaire (1976; see Steinmetz, Kaplan, and Miller, 1982). A principal component factor analysis with Kaiser-Varimax rotation was performed for several reasons. (Please refer to Method for details of factor analysis.) The factor structure reflects the participants'

conceptualization of the coping strategies. The resultant factor structure of the present study was compared with that reported by Steinmetz et al. (1982), in an attempt to replicate their findings. Both the similarities and the differences in the factor structures provided information about the generalizability of coping strategies across different populations. It also compared the usage of specific coping strategies by the retirees in this study with the coping strategies used by the employed health care professionals and administrators that were studied by Steinmetz and her colleagues.

Table 3 shows the significant factor loadings of the 12 coping strategies from the Conflict-Stress Questionnaire and the eigenvalues of the five resultant factors. There are two important features of the factor structure to note. First, all coping strategies significantly loaded on a factor, even though a conservative criterion level was used to determine significance. Second, all coping strategies were uniquely loaded on a factor, which produced a simple factor structure. This simple structure permitted the construction of factor composite scores from all of the variables, which were then used to compare the Advisory and New Dimensions groups. (Please refer to Method for details of factor composite scores.) The comparisons between these two groups follows the presentation of the factor analysis results.

The five categories of coping strategies represented by the five factors in the present study are described as follows: Factor 1 is

called relaxation methods & physical activity; Factor 2 is called self-medication, or ingesting taxable items (i.e., alcohol, tobacco, and over-the-counter remedies); Factor 3 is described as verbal or social skills; Factor 4 is described as eating (i.e., food, snacks, caffeine containing beverages) or ingesting non-taxable products; and Factor 5 is called prescription medications.

Table 4 shows a comparison of the present study's factor structure with the three factors reported by Steinmetz et al. (1982). The variables were labelled "relaxation methods" by Steinmetz and her colleagues, but will be referred to as "coping strategies" in the present study, since this was felt to be a broader, more appropriate label. As shown in Table 4, there are numerous similarities between the two factor structures, both in how the coping strategies loaded on the factors, and in the relative magnitude of the eigenvalues of the similar factors.

Steinmetz et al.'s (1982) Factors 2 and 3 closely corresponded to Factors 1 and 2 of the present study. The similarity between these two sets of factors was further represented by the same relative magnitude of eigenvalues for these factors. The factors which represented relaxation and physical activity accounted for more variance than the factors which represented over-the-counter drugs, smoking, and drinking. The variable which described the use of prescription medication represented a separate factor in the present study. This was not unexpected within a population of elderly

retirees because of their higher incidence and greater severity of health problems.

Steinmetz et al.'s (1982) Factor 1 decomposed into two factors (Factors 3 and 4) in the present study. If the eigenvalues of Factors 3 (verbal & social skills) and 4 (eating) are summed to represent the amount of variance accounted for by Steinmetz's Factor 1, then the ordinal relationships between eigenvalues of the three factors in Steinmetz' study and the present study are virtually identical. In summary, the five factors generated from the present study represent the same general factor structure as reported by Steinmetz et al. (1982), with the exception of more specific discriminations between classes of coping strategies which were made by the retirees in the present study.

The replication of Steinmetz et al.'s (1982) factor structure is significant for two reasons. The strong similarities indicate that the general conceptualization (or categorization) of coping strategies by the retirees and the actively employed professionals can be reliably discriminated by quite different populations. Thus, information about coping strategies in a stress management program would not have to be tailored differently for these two populations because they conceptualized them in very similar ways. Another reason that the replication is important is because it supports the reliability of the data collected in the present study. Although there were substantially fewer subjects in this study than the 243

subjects in Steinmetz et al.'s study, the same general results were found. Thus, comparisons between groups in the present study are more likely to represent reliable differences.

Factor composite scores were computed, which reflected the mean frequency of use of each of these five, independent categories of coping strategies. A 2 x 5 mixed ANOVA (group by coping strategy) was performed on the factor composite scores to compare the Advisory Board and New Dimensions across the five coping strategies.

Table 5 shows the mean factor composite scores for the five coping strategy categories for Advisory and New Dimensions groups. Overall, the New Dimensions group tended to use coping strategies more frequently than did the Advisory Board ( $F(1,23)=4.03, p<.06$ ). The overall difference between the two groups was also represented in the factor coefficient scores ( $F(1,33)=4.65, p<.04$ ). Factor coefficient scores are standardized scores that represent the contribution of all variables to each factor, in accordance with the factor loading (see Method section). There was also a significant difference in the frequency of usage between the five coping strategies (factor composite scores,  $F(4,92)=4.16, p<.004$ ). Post-hoc comparisons indicated that relaxation & physical activity, verbal or social skills, and eating were engaged in more frequently than self-medication or prescription medication. The strategies employed more frequently can be described as more healthful than those that were used less often. There was no significant interaction between

groups and coping strategies ( $F(4,92) < 1.0, p > .1$ ).

The pattern of findings indicated that New Dimensions rated themselves as having more stress and that they used coping strategies more frequently than the Advisory Board. Although there were many similarities between these two groups, the differences in the amount of stress and use of coping strategies suggested that the Advisory Board may not have been representative of New Dimensions on the relevant stress variables. Consequently, the Advisory Board may not have provided valid information to the researcher for tailoring the stress seminars to New Dimensions.

However, there were two pieces of evidence that did not support this possible conclusion. First, the Advisory Board was asked to rate how useful the stress seminars were for themselves and also for their constituents in New Dimensions. The Advisory Board's ratings indicated that they were aware of the differences between themselves and New Dimensions, since they rated the presentation as more useful for New Dimensions than for themselves (5.71 vs. 5.36 respectively), although this difference was not significant ( $t(13) = 1.33, p > .1$ ). The non-significant correlation between these variables ( $r(12) = .37$ ) indicated that the Advisory Board members were also able to separate their own opinions from those of New Dimensions. A restricted range could have been a factor in its non-significance; all participants found the seminar to be very useful.

The second piece of evidence which suggested that the Advisory

Board was not misrepresentative of New Dimensions was the absence of interaction between the groups and the coping strategies. Although the Advisory Board used coping strategies less frequently overall, the absence of an interaction indicated that the Advisory Board and New Dimensions had the same relative use of the five coping strategies. Furthermore, the Advisory and New Dimensions groups rated the overall quality of the seminar and the seminar's usefulness similarly high. They also responded with an equivalent number of written suggestions, when asked for feedback (see Table 2).

In summary, the Advisory Board was representative of New Dimensions on many variables. Consequently, the likelihood that the feedback provided by the Advisory Board was accurate should be high. Overall, the Advisory Board's comments after the presentation, as well as their written evaluations, indicated that New Dimensions would greatly benefit from the stress seminars.

The Advisory Board also made some specific comments that led to the alterations in the seminar format. For example, they made these recommendations: (1) the retirees should be allowed to participate actively and comment in the seminar; (2) the seminar should emphasize the symptoms of stress; and (3) the stress seminar should be a continuing series. In addition to these direct comments from the Advisory Board members, other format changes were called for on the basis of their feedback: (4) the printed text of the outlines on the overhead transparencies (the visual aids) was to be done in oversized

letters; (5) computer scanning forms would not be used for data collection sheets; (6) the number of questions on the survey would be shortened; and (7) some items required rewording or reformatting. These changes were incorporated into Phase II (New Dimensions), in accordance with tailoring the seminars to the audience's needs.

The evidence that supports the representativeness of the Advisory Board for New Dimensions is the basis for making specific predictions about the outcome of the stress seminars with New Dimensions. In particular, it was expected that there would be no difference in outcome between the interactive (tailored) and didactic (standard) delivery style formats, and there would be significant benefits of the stress seminars in general. These predictions are examined in the next section.

### Evaluation of Stress Seminars

Two methodological concerns are addressed before the experimental hypotheses are examined. First, a manipulation check was conducted to insure that there were no procedural differences between the delivery styles. Second, the participants who attended the different seminars were compared to evaluate any initial differences between the groups because random assignment of participants to the two different seminars was not possible.

The first 45 minutes of each session were tape recorded in order

to sample the program content, and then transcribed for content analysis. The transcripts are in the appendices. The number of audience comments which provided the leader with information for tailoring was tabulated for each delivery style condition. For the first seminar session, there were 56 audience comments that occurred for the interactive and one for the didactic. In the second session, there were 44 audience interactions for the interactive style, and zero for the didactic style. The didactic condition participants were given the opportunity to question or comment following the presentation. During this period, there were six audience comments or questions at the end of session 1 and six comments from the audience at the close of session 2. In summary, there were procedural differences between the interactive and didactic delivery styles that were in accordance with the experimental design.

The participants who attended the interactive and didactic seminars were compared on a number of variables to test if there were any initial differences between the groups. The two seminar groups did not significantly differ in the composition regarding sex, marital status, age, or length of retirement ( $\chi^2(1, N=33)=1.64, p>.1$ ;  $\chi^2(1, N=33)=.86, p>.1$ ;  $\chi^2(2, N=28)=1.45, p>.1$ ;  $\chi^2(2, N=28)=.06, p>.1$ ), respectively). The two groups also did not differ significantly on their knowledge of mental health and aging prior to the seminar ( $t(31)=1.01, p>.1$ ).

Table 6 shows the mean frequencies of the five different

categories of coping strategies (i.e., the five factors) which were identified from the factor analysis for the didactic and interactive delivery styles conditions. There were no significant differences between the two delivery style conditions ( $F(1,16) < 1.0$ ,  $p > .1$ ). As reported earlier, there was a significant difference between usage of the five coping strategies ( $F(4,64) = 6.03$ ,  $p < .003$ ). There was no interaction between coping strategies and groups ( $F(4,64) = 1.56$ ,  $p > .1$ ). Therefore, the initial characteristics of the participants in the interactive and didactic conditions were not significantly different. Thus, any differences between the groups after the seminar (post-intervention) were more likely to be attributable to the effect of the seminar rather than to initial differences between the groups.

Table 7 shows the mean ratings of the measures concerning the levels of stress and perceived control, and the number of stress symptoms, and the number of concepts that were most useful for the two delivery styles at pre-intervention and post-intervention. As shown in Table 7, the current level of stress reported by all participants was not significantly affected by the intervention. There was no significant difference between the delivery styles ( $F(1,15) < 1.0$ ,  $p > .1$ ); no overall effect of the seminar ( $F(1,15) = 1.34$ ,  $p > .1$ ); and no interaction ( $F(1,15) < 1.0$ ,  $p > .1$ ). Thus, the seminars did not sensitize the participants to stress in their lives. Although New Dimensions' ratings of stress level did not increase over the course of the intervention, the number of stress symptoms they could

identify in themselves increased for both delivery styles.

There was a main effect of the seminars on the number of stress symptoms reported ( $F(1,18)=8.18, p=.01$ ). There was no significant difference between delivery style ( $F(1,18)<1.0, p>.1$ ), and no interaction ( $F(1,18)=1.10, p>.1$ ). In addition, the participants' ratings of their perceived control over stress also improved overall ( $F(1,15)=4.49, p=.05$ ), but there was no difference between the interactive and didactic seminar conditions ( $F(1,15)<1.0, p>.1$ ) and no interaction ( $F(1,15)=2.69, p>.1$ ).

Participants were also asked to list information that they found most useful after each of the two sessions. As shown in Table 7, the number of ideas they recalled as most useful marginally increased across sessions ( $F(1,17)=3.71, p<.08$ ). There was no significant difference between the delivery styles ( $F(1,17)=2.48, p>.1$ ) and no interaction ( $F(1,17)=1.0, p>.01$ ).

Table 8 shows the participants' mean intermediate and post-intervention ratings. The intermediate ratings were: (a) quality of seminar; (b) usefulness of seminar; (c) number of written suggestions; (d) number of personal stress management strategies identified. The post-intervention ratings were: (a) the number of personal stressors they identified; (b) the number of ways they reported they can deal with their stress more effectively; (c) the extent to which they intended to use any of the stress management techniques regularly; and (d) their degree of confidence in using the

techniques.

As shown in Table 8, there were no significant differences between the interactive and didactic conditions. The magnitude of the ratings represents the participants' strong intention to use the stress management techniques on a regular basis and their high level of expressed confidence in their ability to use the techniques. Thus, the less expensive didactic delivery style was as effective as the more expensive interactive style in getting the retirees to identify their major personal stressors and to recognize ways of dealing effectively with stress. The didactic style was also effective in promoting a high degree of confidence and intention to use the techniques without significantly reducing the quality of the presentation.

The above analysis reflects New Dimensions' general ratings of the stress management education. The next section evaluated the participants' specific knowledge of their own mood states. The Profile of Mood States (Cobb, 1970) asked subjects to rate the frequency of specific mood states which are representative of stress symptoms. The responses on the Profile of Mood States (Cobb, 1970) were factor analyzed and factor composite scores were then computed (see Method section). The factor analysis was used to assess the participants' conceptualization of various symptoms; factor composite scores represented the frequency of the resultant categories of symptoms in the participants' lives. Since the Profiles of Mood

States was completed before and after the intervention, changes in the factor structure and the factor composite scores were considered to be attributable to the seminars.

Table 9 shows the significant factor loadings of the variables on the obtained factor structure based on the participants' pre-intervention ratings. As shown in the table, all of the variables were significantly loaded on a factor and all but one ("aggravated") were uniquely loaded on a factor. The "aggravated" variable was omitted from the analysis of factor composite scores because of its double loading. The factors were labelled as follows: dysthymia (Factor 1); euthymia (Factor 2); displeasure (Factor 3); and restlessness (Factor 4).

Table 10 shows the mean factor composite scores based on the pre-intervention factor structure of moods for the two seminar delivery styles, before and after the presentation. (Note that for this analysis, the pre-intervention factor structure was used to analyze the post-intervention mood ratings. Thus, the analysis is based on the assumption that the factor structure remained the same over the course of the intervention. This assumption was examined; discussion to follow). The magnitude of the ratings indicated that New Dimensions were feeling euthymic "a good part of the time, while they were feeling dysthymic, displeased, and restless "some of the time". The results of the 2x2x4 mixed ANOVA on the factor composite scores showed that this difference in the frequency of feeling

positive versus negative was significant ( $F(3,36)=22.32, p<.0001$ ).

A more complete summary of the analysis of variance results is shown in Table 11. The increase in the overall frequency of mood states was marginally significant. This result suggested that participants became more aware of the occurrence of their mood states. The absence of a significant interaction indicated that participants in both interactive and didactic groups increased in their frequency judgments of mood states.

Table 12 shows the significant factor loadings of the variables on the obtained factor structure for mood states based on the participants' post-intervention ratings. While the post-intervention factors were not as clearly or simply defined as the pre-intervention factors, the following labels were used: depression (Factor 1); assertiveness (Factor 2); agitation (Factor 3); anxiety (Factor 4); and dysphoria (Factor 5). As in the pre-intervention factor structure, all of the variables were significantly loaded on a factor and all but one ("angry") were uniquely loaded on a factor. This variable was omitted from the post-intervention analysis of factor composite scores. Before the differences in the pre-intervention and post-intervention factor structures are examined, the differences between the delivery style conditions on the factor composite scores computed from the post-intervention factor structure are discussed.

As shown in Table 13, the mean post-intervention, factor composite scores for the "positive" (i.e., calm, good) moods were

reported to occur more frequently than the "negative" (i.e, blue, irritated) moods ( $F(4,68)=7.98, p<.0001$ ). As in the previous analyses on nine different variables, there was no significant difference between delivery styles ( $F(1,17)<1.0, p>.1$ ), and no interaction between delivery style and mood categories ( $F(4,68)<1.0, p>.1$ ). In all, these results strongly supported the conclusion that the less costly, didactic delivery style was equally effective in presenting stress information as the interactive style. The additional significance of this conclusion was that it was predicted by the assessment of the representativeness of the Advisory Board for New Dimensions.

As reported earlier, there were differences between the pre-intervention and post-intervention factor structures of the mood frequencies (Tables 9 and 12, respectively). The major difference was reflected by the increase in the number of factors with eigenvalues greater than one, from four factors to five. This change indicated that after the seminar was presented, the participants were using an additional, independent category of moods. It appeared that they had acquired a greater range of categories with which to discriminate various mood states. More specifically, the shifting of factor loadings in the factor structure indicated that the participants' conceptualization of moods was changed by the information in the seminars.

One of the major pre-post shifts in factor loadings occurred for

the variables "sad", "unhappy", "depressed", and "blue". Table 9 shows that these variables were highly loaded on Factor 1, (dysthymia) prior to intervention, but that they split into two independent factors (Factor 1 and 5; depression and dysphoria) in the post-intervention factor structure.

To further illustrate this finding, Table 14 shows the correlation matrix for the four variables of the dysthymic factor, at pre-intervention and post-intervention assessments. Prior to the seminar, all four variables were significantly and highly correlated. However, after the seminar, the variables "sad" and "unhappy" were no longer correlated with "depressed" and "blue". This discrimination between intensities of dysthymic moods was consistent with the discrimination between acute and chronic stress, their effects, which was conveyed repeatedly in the seminars. It appeared that participants were able to distinguish between depressed mood and more severe, clinical depression on the basis of intensity or chronicity. This finding suggested that the participants learned this conceptual distinction from the presentation, although the particular labels of 'sad', 'unhappy', 'depressed', and 'blue' were not specifically used to identify acute and chronic mood states.

This conclusion is strengthened by the pre-post stability in correlations between variables which were not discussed in the seminars. Table 15 shows the correlation matrix for the variables "nervous", "fidgety", and "jittery" from both the pre-intervention

and post-intervention assessments. These variables were described as anxiety moods states. As shown in Table 15, the correlations among these variables remained very stable over the course of the intervention. So the conceptualization of stress symptoms that was the focus of the seminars changed, while the relationships among the symptoms that were not a focus did not change.

A method to test the strength of the discrimination between the two intensities of dysthymic moods was to limit the number of factors generated by the principal component factor analysis, and to perform the Varimax rotation on the constrained four-factor structure. If the "sad" and "unhappy" values that were initially loading on Factor 5 were clearly independent of the "depressed" and "blue" values that were initially loading on Factor 1, then these two sets of variables would be expected to remain on different factors in an intentionally constrained factor analysis.

The post-intervention factor structure was limited to four factors because there were four factors in the pre-intervention factor structure. Table 16 shows the significant factor loadings of the post-intervention mood values on the four factors. As shown in Table 16, this prediction was confirmed; the strength of the discrimination between the two types of dysthymic moods was strong enough to be maintained in the constrained factor analysis.

Another method to test if the participants' conceptualization of stress symptoms was changed by the stress seminar was to correlate

all of the factor loadings of each variable on the pre-intervention assessment with the corresponding factor loadings from the four factor constrained post-intervention assessment. If the factor structure did not change, the correlation should be positive and significant. (A comparison between the pre-intervention factor structure and the unconstrained post-intervention factor structure was not possible due to the unequal number of factors.) The Pearson correlation between these two sets of data was not significant ( $r(50)=.09$ ). Thus, the factor structure did change significantly.

Finally, to test whether the change in factor structure was the same for the interactive and didactic groups, a  $2 \times 2 \times 4$  ANOVA on the factor coefficient scores was performed. (see Method section for detailed discussion of factor coefficient scores.) This analysis is basically a split-half reliability test of factor structures. If the two delivery styles resulted in the same factor structures, then there should be no overall difference in factor coefficient scores, and no interactions between the delivery styles, four mood categories, and the effect of seminar from pre- to post-intervention. These predictions were confirmed; there was no main effect of delivery style ( $F(1,14)=1.08, p>.1$ ) and all interactions were not significant ( $F's(3,42)<1.0$  and  $F's(1,14)<1.0, p's>.1$ ). This finding, in combination with the results demonstrating that the factor structure changed in specific ways in accordance with the seminar information, indicated that the stress seminars did significantly

change the participants' conceptualization of their own stress symptoms.

In summarizing this section of results, three general findings are particularly important. First, the prediction that the interactive and didactic delivery styles would be equally effective was consistently supported. The representative character of the Advisory Board provided accurate information to the researcher to design a more efficient, didactic presentation that had the same benefits as the interactive seminar. Second, the seminar format was effective in significantly changing the New Dimensions members' conceptualization of their own stress symptoms, in accordance with the current scientific conceptualization of stress presented in the seminar. Third, the seminar format significantly increased the participants' general perceptions of control over stress and increased their awareness of stress management techniques which they indicated they intended to use with confidence.

#### Evaluation of Seminars on Population Segments

The final section of results presents comparisons of the different segments of the New Dimensions population on various stress variables. The Advisory Board members were included in the population segments, when they could contribute data. The reason for these analyses was to test whether different segments of this sample

responded differently to stress and the stress seminars. If there were significant differences between different segments of the sample, then additional tailoring of the seminar would be called for in order to maximize the benefits. Because the section involved reanalyzing the same data set, the probability of Type I errors increased. Therefore, the reliability of significant differences should be interpreted with caution. When factorial designs are present in this section, only the main effects of the population segments and interactions including population segments are reported. The significance of the other factors, such as different coping strategies, different mood states, and the overall effect of the seminars, was reported in the previous section of results.

The New Dimensions group was segmented in four different ways: (a) by sex (women vs. men); (b) by marital status (married vs. not married); (c) by age (under 65 years vs. 65-74 years vs. 75 years or more); and (d) by retirement status (not retired vs. retired less than 5 years vs. retired 5 years or more).

Table 17 shows the mean factor composite scores for the five different categories of coping strategies assessed by the Conflict-Stress Questionnaire for women and men. There was no significant difference between the sexes ( $F(1,16) < 1.0$ ,  $p > .1$ ) and no interaction ( $F(4,64) < 1.0$ ). Table 18 shows the mean factor composite scores for the four different categories of moods assessed by the pre-intervention Profile of Mood States for men and women. Women

tended to report feeling these moods more frequently overall than did men, although not significantly ( $F(3,66)=2.84, p<.11$ ) and there was no interaction ( $F(3,66)=1.30, p>.1$ ). Table 19 shows the mean factor composite scores for moods assessed after the seminars. There was no difference between women and men ( $F(1,17)<1.0, p>.1$ ) and no interaction ( $F(4,68)<1.0, p>.1$ ).

Table 20 shows the mean ratings of stress management variables obtained both before and after the seminars. The only marginally significant difference between women and men was that women's ratings of control increased while men's ratings decreased slightly. Table 21 shows other mean ratings obtained pre-intervention, after session 1 (intermediate), and post-intervention. Again, there were no significant differences between women and men except for their ratings of confidence in implementing the stress management techniques. On this measure, women were marginally more confident than men. Overall, there was little evidence that women and men would require separately tailored presentations.

Table 22 shows the mean factor composite scores for the five categories of coping strategies (from the Conflict-Stress Questionnaire) for married (and living with spouse) and non-married (included widowed and never married) participants. There was no difference between the marital status groups ( $F(1,16)<1.0, p>.1$ ) and no interaction between marital status and coping strategy ( $F(4,64)=1.78, p>.1$ ). Table 23 shows the mean factor composite scores

for the four pre-intervention mood states for marital status. Table 24 shows the mean factor composite scores for mood states at post-intervention. Again, there was no main effect of marital status either before or after the seminars ( $F(1,22) < 1.0$ ,  $p > .1$ ;  $F(1,17) < 1.0$ ,  $p > .1$ , respectively) and neither of the interactions were significant ( $F(3.66) < 1.0$ ,  $p > .1$ ;  $F(4,68) < 1.0$ ,  $p > .1$ , respectively.)

Table 25 shows the mean ratings of stress management variables obtained both before and after the seminars. Married participants improved their rating of control significantly more than those who were not married. There were no other significant differences between these groups. Table 26 shows other ratings obtained at pre-intervention, intermediate, and post-intervention times. Again, there were no significant differences for marital status across all of the variables. Other than focusing on feelings of control for those who are alone, there did not appear to be substantial evidence that marital status was an important variable which would require tailoring.

Table 27 shows the mean factor composite scores for the five coping strategy categories for the three age groups. There were no differences between ages ( $F(2,15) < 1.0$ ,  $p > .1$ ) and no interaction between age and coping strategy ( $F(8,60) < 1.0$ ,  $p > .1$ ). Table 28 shows the mean factor composite scores for the four categories of moods at pre-intervention. There were no differences between age groups ( $F(2,21) < 1.0$ ,  $p > .1$ ) and no interaction ( $F(6,63) < 1.0$ ,  $p > .1$ ). Table 29

shows the mean factor composite scores for moods at post-intervention assessment. Again, there were no differences between ages ( $F(2,13) < 1.0, p > .1$ ) and no interaction ( $F(8,52) < 1.0, p > .1$ ).

Table 30 shows the mean ratings of stress variables assessed pre- and post-intervention. The findings indicated that all three age groups were affected by the seminar in the same way. Table 31 shows other mean ratings assessed at pre-intervention, intermediate, and post-intervention periods. Again, there were no significant differences between the three age groups on any of the variables. Overall, there is no evidence for this sample that the participant's age was a factor that would require different tailored seminars.

Table 32 shows the mean factor composite scores for the coping strategy categories for the three retirement status groups. There were no differences between the groups ( $F(2,15) < 1.0, p > .1$ ) and no interaction between retirement status and coping strategy ( $F(8,60) < 1.0, p > .1$ ). Table 33 shows the mean factor composite scores for the four pre-intervention mood categories. There were no significant differences between the retirement status groups ( $F(1,21) < 1.0, p > .1$ ) and there were no significant interaction ( $F(6,63) < 1.0, p > .1$ ). Table 34 shows the mean factor composite scores for post-intervention moods. Again, there were no significant differences between the retirement status groups ( $F(2,13) < 1.0, p > .1$ ), but there was a marginally significant interaction ( $F(8,52) < 1.82, p < .1$ ). Participants who were retired for five years or more tended to

experience negative moods more frequently and positive moods less frequently than did participants who were retired for shorter periods of time or not retired.

Table 35 shows the mean ratings of stress variables assessed pre- and post-intervention for retirement status. Retirement status was a significant variable on participants' pre-post levels of stress and perceived control. As shown in Table 35, if a person was retired longer, there was a greater increase in stress level and a decrease in level of perceived control. This suggested a sensitization effect. In contrast, stress levels decreased at post-intervention for persons who were not retired, while their levels of perceived control increased. This increase in perceived control over stress was also evident for participants who had retired more recently.

These two significant interactions of retirement status with both stress level and perceived control level suggested that participants who were in the initial phases of retirement benefitted most from the seminars while those who had been retired for some time may have been adversely affected. The seminars may have been better suited to people who were still in transition from employment to retirement. This possibility was examined further by other comparisons.

Table 36 shows the mean ratings of several seminar variables, assessed before and after the first session and after the second session, including seminar usefulness, levels of intention and

confidence, and the number of personal stressors and stress management strategies identified. The findings indicated that participants who were retired for more than five years were generally not different from those who were more recently retired. All three retirement status groups rated the seminars as very useful and indicated equally high levels of intention and confidence in using the stress management strategies. In fact, retirees listed a marginally greater number of personal stress management strategies than did participants who were not retired. The results then, are mixed. The latter results suggested that retirement status was not an important variable for tailoring in this sample, while the earlier reported findings of stress and perceived control levels suggested otherwise. Although these results do not provide conclusive evidence that retirement status necessitates tailoring, they do illustrate how an educational approach can match or mismatch the needs of different population segments.

In summary, the major clinical goals of the stress management educational seminars were to: (1) improve participants' ability to identify their individual stress symptoms or patterns; (2) present strategies and methods to control stress that would be remembered; (3) increase the participants' level of perceived control over their stress; and (4) positively influence the participants' degrees of intention and confidence in utilizing the management techniques.

The results of this stress profile are strong evidence that the clinical goals of the stress seminars were achieved. They are also strongly supportive of having achieved the experimental goal to test the effectiveness of the educational approach to stress management. The evidence that demonstrated the representativeness of the Advisory Board for New Dimensions led to predictions on a different set of dependent variables. Specifically, it was predicted that the seminar would be effective overall and that there would be no differences between the interactive and didactic delivery style conditions. These predictions were consistently supported. Thus, both the clinical and experimental objectives of this study were achieved.

## DISCUSSION

The discussion section is organized in two sub-sections. The first part addresses the experimental objective of the study, which was to test the effectiveness of the educational approach to stress management training. The second part addresses the clinical goals and significance of presenting stress management educational seminars.

### Experimental Objectives

Kotler (1977, 1984) has previously stated that social marketing is based on a system of exchanges. However, his statement does not specify the degree of exchanges or the circumstances under which they are to be carried out. The major experimental objective of this dissertation was to test a prototypical intervention process within a social marketing framework that would both maximize the benefits and minimize the costs of tailoring an intervention. In order to achieve this advantageous combination of outcomes, a two phase intervention design which allowed for evaluation and revisions at an intermediate point was the main focus. The results of this study strongly support the objective of testing the effectiveness of the educational approach to stress management training.

The interactive delivery style is designed to produce a greater amount of information, more useful information, and

increased participation and personal investment from the audience. These results would allow for a closer tailoring of information to the specific needs and characteristics of the audience, but with a higher cost of implementing it. The less costly, didactic delivery style is designed to be adequate for most general audiences, but does not afford the degree of specific tailoring from the interactive style. The two stage design of the study demonstrated that both the interactive and didactic approaches can be integrated into a single educational program to obtain the best combination of cost-effectiveness and informativeness. Once the seminars were tailored according to the results of the interactions with the Advisory Board, the didactic delivery style with the New Dimensions program was as effective and less costly than the interactive delivery style.

The Advisory Board served as a test market for initially presenting the basic stress management concepts and for obtaining information that was accessible only in an interactive format. Because this phase involved relatively few participants and occurred early in the project, less investment and effort was required.

In this initial phase, it was found that the Advisory Board was representative of the New Dimensions group on demographic variables, coping strategies, and other ratings such as processing the seminar information. Because of this representativeness, it was predicted that the interactive and didactic delivery styles

would be equally effective in changing the New Dimensions audience's assessments of mood states. These factor-analysis derived mood states were virtually the same as those identified by Eitinger (1971) as stress symptoms in the elderly. An important feature of this predicted equality in effectiveness between delivery styles was that the predictions were made on a different set of variables from the ones which were used to evaluate representativeness.

Assessing the representativeness of an advisory panel for a larger population should be a prerequisite in any large scale intervention. If the population and the advisory panel are similar, then the experimenter can expect to generalize the tailoring that was derived from the higher cost advisory panel interactions to the lower cost educational programs with the larger population.

The examination of the different population segments also suggested that the educational program's effectiveness could be generalized across all of the different segments, except for retirement status. The finding that retirement status was a discriminating variable is consistent with the findings of Ekerdt et al. (1985) that retirement satisfaction is not stable over time. The few differences between the sexes that were suggested in this study were consistent with findings by West and Simons (1983) and McConnell and Deljavan (1983).

The present study also developed an assessment procedure

which utilized factor analysis. It replicated findings from the Conflict-Stress Questionnaire (Steinmetz et al., 1981), and provided further support for using this questionnaire as an instrument for studying coping strategies. The factor analysis of Cobb's Profile of Mood States (1971) was important because it reflected the complex interrelationships between the various mood states that represent the individual's conceptualization of stress. The significance of this lies in the fact that stress is based on an individual's perception of events and circumstances. Therefore, stress must be assessed by a measure of one's conceptualization. The construction of the factor composite scores and factor coefficient scores provided summary measures that helped describe the changes in the conceptualization of stress.

### Clinical Objectives

The major clinical goals of the stress management educational seminars were: (1) to improve the participants' ability to identify their individual stress symptoms or patterns; (2) to present strategies and methods of controlling stress, and in a way so that they would be remembered; (3) to increase the participants' level of perceived control over their stress; and (4) to positively influence the participants' degrees of intention and confidence in utilizing the stress management techniques. The results of these stress management seminars provided strong evidence that the clinical goals of the study were achieved.

In part, these goals were achieved because the program met the criteria for adoption of an innovation that were determined by Rogers and Shoemaker (1971). In their model, Rogers and Shoemaker stipulated that a program must be perceived as advantageous, simple, low risk, observable in results, and consistent with one's lifestyle in order to be accepted.

The present program consisted of two relatively short seminars in which the audience's required effort was minimal. Since the audience was composed of former faculty members, they were familiar with and adept at using the lecture discussion format of the seminars. The subject matter of the seminars had been requested by the membership, and the audience was presumably receptive to hearing information on the topic. Attendance and participation were completely voluntary and without obligation. Members were able to identify their own stress symptoms and stress management strategies via the survey forms, and the repeated use of these surveys allowed them to track these responses over the course of the seminars. This tracking further allowed members to reassess their conceptualization of stress and to integrate seminar information into their individual lifestyles. In effect, the present program design met Rogers and Shoemaker's criteria for a "successful" program, and this was an important factor in its clinical success.

### Methodological Constraints

There were a number of methodological constraints that were required to test certain hypotheses. These constraints will be addressed in the following section along with suggestions on how future studies should be extended beyond the present constraints.

Although the didactic group could have been larger in size, it was kept to the same size as the interactive group. The size of the interactive group was kept small enough to insure that interactions among the participants would be more likely to occur. By keeping the group sizes similar, the differences between delivery styles were not confounded with differences in group size and the associated social variables. In future studies, the size of the didactic sample should be increased to test the predicted cost-efficiency of the didactic delivery style.

The same concepts of stress management were presented in the outlines and the overhead transparencies. In the future, different seminar contents could be presented to test which aspects of the program were most effective and to develop new seminar contents.

The seminar leader was held constant in the present study to control for the individual delivery style, gender, and appearance of the presenter. This control did create a confound with the order of delivery style presentation. The didactic presentation occurred before the interactive presentation, and therefore, the seminar leader had more practice with the material for the interactive group. However, the significance of the potential

order effect is debatable.

First, the leader already had three sessions of experience with the Advisory Board before presenting to either of the delivery style condition groups. Second, the personal characteristics of the leader were determined to be more important to control than order effects. Third, if there was any significant order effect, it would have been represented by significant interactions or main effects of the delivery styles. There was no evidence for this, as both conditions were equally affected by the intervention.

Two final important considerations are concerns more of application rather than experimentation. The university dean specifically requested that the present author be the seminar leader for both groups, and it was under this condition that the Advisory Board made its recommendations. In order to work within an applied setting, the experimenter must strike a compromise between the constraints of the setting and ideal experimental standards. In this case, it was necessary to relinquish some of the controls of the intervention to the consumers; this included the right to specify the seminar leader.

In the future, it would be important to employ different seminar leaders in order to evaluate the cost-efficiency of the program. For example, the use of low-cost paraprofessionals that have been specifically trained to present the didactic seminar could be evaluated. If the program has been appropriately tailored

from a representative advisory panel, the paraprofessionals should be as effective as higher cost professionals.

There is also the ethical consideration of deliberately withholding information that has been found to be useful from one experimental group. Again, because this study was "consumer driven", it was decided that a group could not be intentionally given certain conditions which had been found to be less than effective, such as visual aids and data collection forms.

In summary, the present dissertation research achieved the following: (1) it provided a service to a population which demonstrated a need; (2) it had a positive clinical outcome; (3) it confirmed the use of an advisory panel tailoring procedure before addressing the total population as a means of increasing effectiveness while decreasing cost, i.e., a compromise; (4) it replicated and developed measures and statistical methods to examine the effectiveness of the program; and (5) it developed a prototypical cost-effective stress management education program for the mass market.

Table 1.

Percentages of Advisory Board and New Dimensions Respondents  
Who Identified Stress Concerns on Pre-Production Survey

Stress Concerns	Groups	
	Advisory Bd.*	New Dimensions**
physical well-being	92%	99%
loss of mobility	92%	98%
finances	79%	100%
being left alone	79%	98%
lost identity	79%	95%
estate (material possessions)	71%	77%
personal loneliness	63%	75%
relationships	63%	73%
fear of death	50%	73%
emotional stability	46%	68%
jealousy (real or imagined)	33%	58%

\* based on 24 Advisory Board members

\*\* based on 250 New Dimensions survey participants

Table 2.

Pre-Intervention Stress Status of  
Advisory Board (A.B.) and New Dimensions (N.D.)

Variables	Groups				t	df
	A.B.	N.D.	A.B.	N.D.		
	Means		Std. Errors			
Stress level	2.29	3.15	.43	.24	1.90*	39
Perceived control	4.07	4.41	.27	.19	1.01	39
Seminar quality	5.71	5.84	.24	.22	.36	37
Sem. usefulness	5.36	5.29	.25	.18	-.22	36
No. correct mental health & aging questions	1.72	2.18	.36	.28	.98	49
No. written suggest	.93	.73	.20	.13	-.87	38
No. add'l strategies	1.00	.83	.26	.23	-.46	41
No. concepts rated most useful	1.43	1.11	.27	.10	-1.30	38

\* p=.065

Table 3.

Principal Component Varimax Rotated Factor Analysis  
of Coping Strategies for  
Advisory Board and New Dimensions Combined

Variables	Coping Strategy Factors				
	F1	F2	F3	F4	F5
relax. techniques	.776				
leisure activities	.933				
exercise	.873				
aspirin or non- prescription meds.		.737			
smoke		.896			
drink to relax		.740			
talk to someone			.680		
leave situation			.718		
laugh; use humor			.867		
drink coffee, tea, or cola				.873	
eat more				.773	
prescription medication					.940
EIGENVALUES	3.222	2.176	1.953	1.167	1.021

Significant factor loadings greater than .505 (N=25; alpha = .01)

Factor labels:  
 F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of taxable items)  
 F5 = prescription medication

Table 4.

Comparison of Factor Structures  
of Coping Strategies:  
Present Study vs. Steinmetz et al. (1982) Study

Variables	<u>Coping Strategies Factors</u>				
	F1	F2	F3	F4	F5
relaxation techs.	2				
leisure activities	2				
exercise	2 (1)				
aspirin or meds.		3			
smoke		3			
drink to relax		3 (1)			
talk to someone			1		
leave situation			1		
laugh; humor			1		
drink coffee, tea, cola				1	
eat more				1	
prescript. medication					3 (2)

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5 = prescription medication

Note: Numbers in table represent factor number in Steinmetz et al. (1982) study. For example, the variable of relaxation techniques loaded on Factor 1 in the present study, and on Factor 2 in the Steinmetz et al. study. Numbers in parentheses indicate the variable was double loaded in Steinmetz et al.'s factor structure.

Table 5.

Mean Factor Composite Scores for Coping Strategies  
for Advisory Board and New Dimensions

Groups	Coping Strategy Factors					Overall	N
	F1	F2	F3	F4	F5		
Adv. Bd.	1.86	1.33	2.33	1.71	1.43	1.73	7
New Dim.	2.98	1.48	2.74	2.56	1.78	2.31	16
Overall	2.67	1.44	2.63	2.32	1.68		25

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5 = prescription medication

Scores are rated on the following scale:

- 1 = not at all
- 2 = 1 or 2 times a week
- 3 = 3 to 5 times a week
- 4 = once every day
- 5 = more than once a day

Table 6.

Mean Factor Composite Scores of Coping Strategies  
for New Dimensions Groups,  
Pre-Intervention Measures

Groups	<u>Coping Strategy Factors</u>					Overall	N
	F1	F2	F3	F4	F5		
Didactic	3.03	1.36	2.52	2.95	1.64	2.30	11
Interactive	2.90	1.67	3.10	1.93	2.00	2.32	7
Overall	2.98	1.48	2.74	2.56	1.78	2.31	18

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5= prescription medication

Table 7.

Mean Pre-Intervention and Post-Intervention Measures of  
Didactic and Interactive New Dimensions Groups

Variables	<u>Delivery Styles</u>		
	Didactic	Interactive	Overall
stress level (pre)	3.40	3.10	3.30
stress level (post)	3.80	3.50	3.60
overall	3.60	3.30	
perc'vd control(pre)	4.56	4.00	4.29
perc'vd control(post)	4.67	4.88	4.75
overall	4.61	4.44	
stress symptoms (pre)	1.50	1.25	1.40
stress symptoms (post)	2.00	2.38	2.15
overall	1.75	1.81	
* concepts rated most useful (sess 1)	.91	1.38	1.11
* concepts rated most useful (sess 2)	1.36	1.75	1.53
overall	1.14	1.56	

Table 8.

Comparisons between Seminar Delivery Styles of  
Intermediate and Post-Intervention Measures

Variables	<u>Delivery Styles</u>				t	df
	Did.	Int.	Did.	Int.		
	Means		Std. Err.			
	After Session 1					
Seminar quality	5.50	6.15	.38	.22	-1.52	23
Usefulness rating	5.01	5.46	.25	.24	-1.06	22
No. written suggest.	.77	.69	.17	.21	.29	24
No. other stress controls	1.06	.54	.35	.27	1.15	27
	After Session 2					
No. stressors	1.38	1.88	.26	.30	1.19	22
Intentions	5.50	6.00	.23	.33	1.28	20
Confidence	5.35	5.75	.27	.31	.92	20
No. ways deal with stress	2.25	2.12	.31	.40	.24	22

Table 9.

Principal Component Varimax Rotated Factor Analysis  
Pre-Intervention Mood States  
New Dimensions

Variables	Mood State Factors			
	Factor 1	Factor 2	Factor 3	Factor 4
sad	.86			
unhappy	.83			
depressed	.92			
blue	.83			
jittery	.62			
good		.86		
cheerful		.83		
calm		.77		
angry			.86	
aggravated*			.60	.51
irritated			.78	
nervous				.77
fidgety				.80
EIGENVALUES	5.12	2.47	1.56	1.08

Significant factor loadings greater than .505 (N=24; alpha=.0125)

Factor labels:  
F1 = dysthymia  
F2 = euthymia  
F3 = displeasure  
F4 = restlessness

\* omitted from analysis of factor composite scores due to double loading.

Table 10.

Mean Factor Composite Scores for  
Pre-Intervention Factor Structure Variables of Mood States  
for Didactic and Interactive New Dimensions Groups

Groups	Mood State Factors				Overall
	Factor 1	Factor 2	Factor 3	Factor 4	
Didactic Style					
Pre	1.40	2.81	1.64	1.64	1.87
Post	1.66	3.00	1.93	1.57	2.04
Overall	1.53	2.91	1.79	1.61	1.96
Interactive Style					
Pre	1.83	2.86	1.93	1.79	2.10
Post	1.80	3.00	1.93	1.71	2.11
Overall	1.82	2.93	1.93	1.75	2.11
Overall	1.67	2.92	1.86	1.68	

Factor labels:  
F1 = dysthymia  
F2 = euthymia  
F3 = displeasure  
F4 = restlessness

Scores are rated on the following scale:  
1 = not at all  
2 = 1 or 2 times a week  
3 = 3 to 5 times a week  
4 = once every day  
5 = more than once a day

Note: Factor composite scores were constructed using  
alpha level of .0125.

Table 11.

Analysis of Variance Summary Table of  
Pre-Intervention Factor Structure Variables of Mood States  
Factor Composite Scores

Source	SS	df	MS	F	p
Delivery Style	.620	1	.620	1.71	.22
Error	4.359	12	.363		
Mood States	29.908	3	9.969	22.32	<.0001
Md St. X Del. Sty.	.241	3	.080	.18	.79
Error	16.076	36	.447		
Session	.217	1	.217	3.10	.10
Session X Del. Sty.	.168	1	.168	2.39	.15
Error	.842	12	.070		
Md. St. X Session	.247	3	.082	.49	.69
Md. St. X Sess. X Del Sty.	.122	3	.041	.24	.81
Error	6.046	36	.168		

Table 12.

Principal Component Varimax Rotated Factor Analysis  
 Post-Intervention Mood States  
 New Dimensions

Variables	Mood State Factors				
	F1	F2	F3	F4	F5
depressed	.94				
blue	.97				
cheerful	-.67				
angry*	.59				-.62
good		.71			
aggravated		.85			
calm		.80			
fidgety			.66		
irritated			.66		
nervous				.92	
jittery				.78	
sad					.86
unhappy					.68
EIGENVALUES	3.95	3.14	1.93	1.12	1.03

Significant factor loadings greater than .575 (N=19; alpha = .01)

Factor labels:  
 F1 = depression  
 F2 = assertiveness  
 F3 = agitation  
 F4 = anxiety  
 F5 = dysphoria

\* omitted from analysis of factor composite scores due to double loading.

Table 13.

Mean Factor Composite Scores of  
Post-Intervention Factor Structure Variables of Mood States  
for Didactic and Interactive New Dimensions Groups

Groups	Mood State Factors					Overall	N
	F1	F2	F3	F4	F5		
Didactic	1.76	2.52	1.73	1.91	1.59	1.90	11
Interactive	1.79	2.63	1.75	1.75	1.81	1.95	8
Overall	1.77	2.56	1.74	1.84	1.68		

Factor labels: F1 = depression  
F2 = restlessness  
F3 = agitation  
F4 = anxiety  
F5 = dysphoria

Scores are rated on the following scale:

- 1 = not at all
- 2 = 1 or 2 times a week
- 3 = 3 to 5 times a week
- 4 = once every day
- 5 = more than once a day

Note: Factor composite scores were constructed using  
alpha level = .01.

Table 14.

Correlation Coefficients for Dysthymic Mood States  
New Dimensions

	Dysthymic Mood States			
	sad	unhappy	depressed	blue
	Pre-Intervention			
sad	1.00	.78	.79	.61
unhappy		1.00	.70	.62
depressed			1.00	.81
blue				1.00
	Post-Intervention			
sad	1.00	.43	-.13	-.03
unhappy		1.00	-.18	-.08
depressed			1.00	.95
blue				1.00

Table 15.  
 Correlation Coefficients for Anxiety Mood States  
 New Dimensions

<u>Anxiety Mood States</u>			
	nervous	fidgety	jittery
Pre-Intervention			
nervous	1.00	.42	.73
fidgety		1.00	.36
jittery			1.00
Post-Intervention			
nervous	1.00	.41	.77
fidgety		1.00	.55
jittery			1.00

Table 16.

Principal Component Varimax Rotated Factor Analysis  
 Limited to Four Factors  
 Post-Intervention Mood States  
 New Dimensions

Variables	Mood State Factors			
	Factor 1	Factor 2	Factor 3	Factor 4
depressed	.89			
blue	.95			
cheerful	-.74			
angry	.69			
nervous		.91		
jittery		.88		
fidgety		.59		
irritated*		.57	.58	
good			.83	
calm			.78	
aggravated			.74	
sad				.79
unhappy				.76

Significant factor loadings greater than .568 (N=19, alpha=.0125).

Factor labels:  
 F1 = depression  
 F2 = restlessness  
 F3 = euthymia  
 F4 = dysphoria

Table 17.

Mean Factor Composite Scores of Coping Strategies  
for Men and Women

Sex	N	<u>Coping Strategy Factors</u>					Overall
		F1	F2	F3	F4	F5	
Female	12	3.00	1.53	2.64	2.54	1.33	2.21
Male	6	2.94	1.39	2.94	2.58	2.67	2.51
Overall	18	2.98	1.48	2.74	2.56	1.78	

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5 = prescription medication

Scores are rated on the following scale:

- 1 = not at all
- 2 = 1 or 2 times a day
- 3 = 3 to 5 times a day
- 4 = once every day
- 5 = more than once a day

Table 18.

Mean Factor Composite Scores of  
Pre-Intervention Factor Structure Variables of Mood States  
for Men and Women

Sex	N	Mood State Factors				Overall
		F1	F2	F3	F4	
Female	16	1.73	2.81	1.88	1.81	2.05
Male	8	1.43	3.04	1.44	1.63	1.88
Overall	24	1.63	2.89	1.73	1.75	

Factor labels:  
F1 = dysthymia  
F2 = euthymia  
F3 = displeasure  
F4 = restlessness

Scores are rated on the following scale:

- 1 = almost never
- 2 = some of the time
- 3 = a good part of the time
- 4 = most of the time

Table 19.

Mean Factor Composite Scores of  
Post-Intervention Factor Structure Variables of Mood States  
for Men and Women

Sex	N	Mood State Factors					Overall
		F1	F2	F3	F4	F5	
Female	12	1.78	2.69	1.79	1.75	1.67	1.94
Male	7	1.76	2.33	1.64	2.00	1.71	1.89
Overall	19	1.77	2.56	1.74	1.64	1.68	

Factor labels:  
 F1 = depression  
 F2 = assertiveness  
 F3 = agitation  
 F4 = anxiety  
 F5 = dysphoria

Scores are rated on the following scale:  
 1 = almost never  
 2 = some of the time  
 3 = a good part of the time  
 4 = most of the time

Table 20.

Mean Scores of the Effects of Seminars  
for Men and Women

Variables	Sex	
	Female	Male
Stress level (pre)	3.46	2.75
Stress level (post)	3.69	3.50
Sex: $F(1,15) < 1.0, p > .1$ ; Interaction: $F(1,15) < 1.0, p > .1$		
Perceived control (pre)	4.15	4.75
Perceived control (post)	4.85	4.50
Sex: $F(1,15) < 1.0, p > .1$ ; Interaction: $F(1,15) = 3.01, p = .10$		
No. stress symptoms (pre)	1.38	1.50
No. stress symptoms (post)	2.12	2.20
Sex: $F(1,18) < 1.0, p > .1$ ; Interaction: $F(1,18) < 1.0, p > .1$		
No. concepts rated most useful (sess. 1)	1.20	.75
No. concepts rated most useful (sess. 2)	1.47	1.75
Sex: $F(1,17) < 1.0, p > .1$ ; Interaction: $F(1,17) = 2.23, p > .1$		

Table 21.

Pre-Intervention, Intermediate, and Post-Intervention Measures  
for Men and Women

Variables	Sex		t	df
	Female	Male		
	Before Session 1			
No. correct mental health & aging questions	2.50	1.74	1.70	45
	After Session 1			
No. suggestions	.70	.92	-.96	34
Usefulness rating	5.24	5.08	.57	32
No. other stress controls	.93	.81	.31	41
	After Session 2			
No. stressors identified	1.59	1.43	.36	22
No. ways deal with stress	2.06	2.57	-.97	22
Intention	5.87	5.29	1.46	20
Confidence	5.47	4.64	2.03*	28

\* p=.052

Table 22.

Mean Factor Composite Scores of Coping Strategies  
for Married and Non-married Participants

Marital Status	Coping Strategy Factors						Overall
	N	F1	F2	F3	F4	F5	
Married	7	2.52	1.71	3.29	2.21	1.86	2.32
Not Married	11	3.27	1.33	2.39	2.77	1.73	2.30
Overall	18	2.98	1.48	2.74	2.56	1.76	

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5 = prescription medication

Scores are rated on the following scale:

- 1 = not at all
- 2 = 1 or 2 times a day
- 3 = 3 to 5 times a day
- 4 = once every day
- 5 = more than once a day

Table 23.

Mean Factor Composite Scores of  
Pre-Intervention Factor Structure Variables of Mood States  
for Men and Women

Marital Status	N	Mood State Factors				Overall
		F1	F2	F3	F4	
Married	12	1.53	2.94	1.67	1.75	1.97
Not Married	12	1.72	2.83	1.79	1.75	2.02
Overall	24	1.63	2.89	1.73	1.75	

Factor labels:  
 F1 = dysthymia  
 F2 = euthymia  
 F3 = displeasure  
 F4 = restlessness

Scores are rated on the following scale:  
 1 = almost never  
 2 = some of the time  
 3 = a good part of the time  
 4 = most of the time

Table 24.

Mean Factor Composite Scores of  
Post-Intervention Factor Structure Variables of Mood States  
for Married and Non-married Participants

Marital Status	N	Mood State Factors					Overall
		F1	F2	F3	F4	F5	
Married	6	1.94	2.33	1.58	1.83	1.75	1.89
Not Married	13	1.69	2.67	1.81	1.84	1.65	1.93
Overall	19	1.77	2.56	1.74	1.84	1.68	

Factor labels: F1 = depression  
F2 = assertiveness  
F3 = agitation  
F4 = anxiety  
F5 = dysphoria

Scores are rated on the following scale:  
1 = almost never  
2 = some of the time  
3 = a good part of the time  
4 = most of the time

Table 25.

Mean Scores of the Effects of Seminars  
for Married and Non-married Participants

Variables	Marital Status	
	Married	Not Married
Stress level (pre)	3.00	3.45
Stress level (post)	3.33	3.82
Marital Status: $F(1,15) < 1.0, p > .1$ ; Interaction: $F(1,15) < 1.0, p > .1$		
Perceived control (pre)	4.17	4.36
Perceived control (post)	5.33	4.45
Marital Status: $F(1,15) < 1.0, p > .1$ ; Interaction: $F(1,15) = 5.74, p = .03$		
No. stress symptoms (pre)	1.57	1.31
No. stress symptoms (post)	2.00	2.23
Marital Status: $F(1,18) < 1.0, p > .1$ ; Interaction: $F(1,18) < 1, p > .1$		
No. concepts rated most useful (sess. 1)	1.14	1.08
No. concepts rated most useful (sess.2)	1.43	1.58
Marital Status: $F(1,17) < 1.0, p > .1$ ; Interaction: $F(1,17) < 1.0, p > .1$		

Table 26.

Pre-Intervention, Intermediate, and Post-Intervention Measures  
for Married and Non-married Participants

Variables	<u>Marital Status</u>		t	df
	Married	Not Married		
	Before Session 1			
No. correct mental health & aging questions	2.12	2.25	-.23	31
	After Session 1			
No. suggestions	.69	.77	-.29	24
Usefulness rating	5.18	5.38	-.57	22
No. other stress controls	.47	1.21	-1.69	27
	After Session 2			
No. stressors identified	1.33	1.67	-.80	22
No. ways deal with stress intention	2.33	2.13	.39	22
Confidence	5.00	5.50	1.28	20
	5.75	5.36	-.92	20

Table 27.

Mean Factor Composite Scores of Coping Strategies  
for Age Groups

Age	N	<u>Coping Strategy Factors</u>					Overall
		F1	F2	F3	F4	F5	
LT 65	6	2.67	1.06	2.89	3.00	1.50	2.22
65-74 yr.	9	2.85	1.74	2.59	2.17	1.78	2.23
GE 75	3	4.00	1.56	2.89	2.83	2.33	2.72
Overall	18	2.98	1.48	2.74	2.56	1.78	

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5 = prescription medication

Scores are rated on the following scale:

- 1 = not at all
- 2 = 1 or 2 times a day
- 3 = 3 to 5 times a day
- 4 = once every day
- 5 = more than once a day

Table 28.

Mean Factor Composite Scores of  
Pre-Intervention Factor Structure Variables of Mood States  
for Age Groups

Age	N	Mood State Factors				Overall
		F1	F2	F3	F4	
LT 65 yrs.	6	1.73	2.56	1.83	1.75	1.97
65-74 yrs.	15	1.59	3.02	1.70	1.80	2.03
GE 75 yrs.	3	1.60	2.89	1.67	1.50	1.91
Overall	24	1.63	2.89	1.73	1.75	

Factor labels:  
 F1 = dysthymia  
 F2 = euthymia  
 F3 = displeasure  
 F4 = restlessness

Scores are rated on the following scale:  
 1 = almost never  
 2 = some of the time  
 3 = a good part of the time  
 4 = most of the time

Table 29.

Mean Factor Composite Scores of  
Post-Intervention Factor Structure Variables of Mood States  
for Age Groups

Age	N	Mood State Factors					Overall
		F1	F2	F3	F4	F5	
LT 65	4	2.25	2.58	1.88	1.75	1.63	2.02
65-74 yrs.	7	1.62	2.62	1.79	1.71	1.64	1.88
GE 75	5	1.67	2.53	1.60	1.80	1.80	1.88
Overall	16	1.79	1.58	1.75	1.75	1.69	

Factor labels: F1 = depression  
 F2 = assertiveness  
 F3 = agitation  
 F4 = anxiety  
 F5 = dysphoria

Scores are rated on the following scale:  
 1 = almost never  
 2 = some of the time  
 3 = a good part of the time  
 4 = most of the time

Table 30.

Mean Scores of the Effects of Seminars  
for Age Groups

Variables	Age		
	LT65	65-74	GE75
Stress level (pre)	3.75	3.71	2.50
Stress level (post)	3.75	3.86	3.33
Age: $F(2,14)=1.26, p>.1$ ; Interaction: $F(2,14)<1.0, p>.1$			
Perceived control (pre)	3.75	4.29	4.67
Perceived control (post)	4.50	5.14	4.50
Age: $F(2,14)<1.0, p>.1$ ; Interaction: $F(2,14)=2.14, p>.1$			
No. stress symptoms (pre)	1.80	1.62	1.00
No. stress symptoms (post)	2.20	2.25	2.17
Age: $F(2,16)<1.0, p>.1$ ; Interaction: $F(2,16)<1.0, p>.1$			
No. concepts rated most useful (sess.1)	1.00	1.29	1.00
No. concepts rated most useful (sess.2)	1.60	1.57	1.50
Age: $F(2,15)<1.0, p>.1$ ; Interaction: $F(2,15)<1.0, p>.1$			

Table 31.

Pre-Intervention, Intermediate, and Post-Intervention Measures  
for Age Groups

Variables	Age			F	df
	LT65	65-74	GE75		
	Before Session 1				
No. correct mental health & aging questions	2.82	2.64	1.62	2.00	38
	After Session 1				
No. suggestions	.73	.69	1.14	1.16	31
Usefulness rating	4.90	5.19	5.50	1.06	29
No. stress mgmt. strategies	1.45	.64	.88	1.92	38
	After Session 2				
No. stressors	1.40	1.75	2.00	<1.0	16
No. stress mgmt. strategies	1.80	2.38	2.67	<1.0	16
Intention	5.00	6.00	6.00	1.94	15
Confidence	5.12	5.20	5.14	<1.0	22

Table 32.

Mean Factor Composite Scores of Coping Strategies  
for Retirement Status Groups

Retirement Status	<u>Coping Strategy Factors</u>					Overall	
	N	F1	F2	F3	F4		F5
LT 5 yrs.	7	3.24	1.38	2.90	2.57	2.00	2.42
GE 5 yrs.	6	2.89	1.89	2.22	2.58	1.67	2.25
Not Retired	5	2.73	1.13	3.13	2.50	1.60	2.22
Overall	18	2.98	1.48	2.74	2.56	1.78	

Factor labels: F1 = relaxation and physical activity  
 F2 = self-medication (ingestion of taxable items)  
 F3 = verbal and social skills  
 F4 = eating (ingestion of non-taxable items)  
 F5 = prescription medication

Scores are rated on the following scale:

- 1 = not at all
- 2 = 1 or 2 times a day
- 3 = 3 to 5 times a day
- 4 = once every day
- 5 = more than once a day

Table 33.

Mean Factor Composite Scores of  
Pre-Intervention Factor Structure Variables of Mood States  
for Retirement Status Groups

Retirement Status	N	Mood State Factors				Overall
		F1	F2	F3	F4	
LT 5 yrs.	11	1.65	2.91	1.73	1.86	2.04
GE 5 yrs.	6	1.63	2.89	1.58	1.83	1.98
Not Retired	7	1.57	2.86	1.86	1.50	1.95
Overall	24	1.63	2.89	1.73	1.75	

Factor labels:  
 F1 = dysthymia  
 F2 = euthymia  
 F3 = displeasure  
 F4 = restlessness

Scores are rated on the following scale:  
 1 = almost never  
 2 = some of the time  
 3 = a good part of the time  
 4 = most of the time

Table 34.

Mean Factor Composite Scores of  
Post-Intervention Factor Structure Variables of Mood States  
for Retirement Status Groups

Retirement Status	N	Mood State Factors					Overall
		F1	F2	F3	F4	F5	
LT 5 yrs.	7	1.57	2.71	1.79	1.71	1.64	1.89
GE 5 yrs.	5	2.20	2.26	1.70	2.10	1.60	1.97
Not Retired	4	1.67	2.75	1.75	1.38	1.88	1.88
Overall	16	1.79	2.58	1.75	1.75	1.69	

Factor labels:

- F1 = depression
- F2 = assertiveness
- F3 = agitation
- F4 = anxiety
- F5 = dysphoria

Scores are rated on the following scale:

- 1 = almost never
- 2 = some of the time
- 3 = a good part of the time
- 4 = most of the time

)

Table 35.

Mean Scores of the Effects of Seminars  
for Retirement Status Groups

Variables	<u>Retirement Status</u>		
	LE5	GT5	Not Ret.
Stress level (pre)	3.17	3.17	3.60
Stress level (post)	3.67	4.33	2.80
	Ret. St: $F(2,14) < 1.0, p > .1$ ; Interaction: $F(2,14) = 5.73, p < .02$		
Perceived control (pre)	4.33	4.67	3.80
Perceived control (post)	5.17	4.33	4.80
	Ret. St: $F(2,14) < 1.0, p > .1$ ; Interaction: $F(2,14) = 4.18, p < .04$		
No. stress symptoms (pre)	1.86	1.33	1.17
No. stress symptoms (post)	2.71	2.00	1.83
	Ret. St: $F(2,16) = 1.61, p > .1$ ; Interaction: $F(2,16) < 1.0, p > .1$		
No. concepts rated most useful (sess. 1)	1.14	1.00	1.67
No. concepts rated most useful (sess. 2)	1.86	1.60	1.67
	Ret. St: $F(2,15) < 1.0, p > .1$ ; Interaction: $F(2,15) = 1.08, p > .1$		

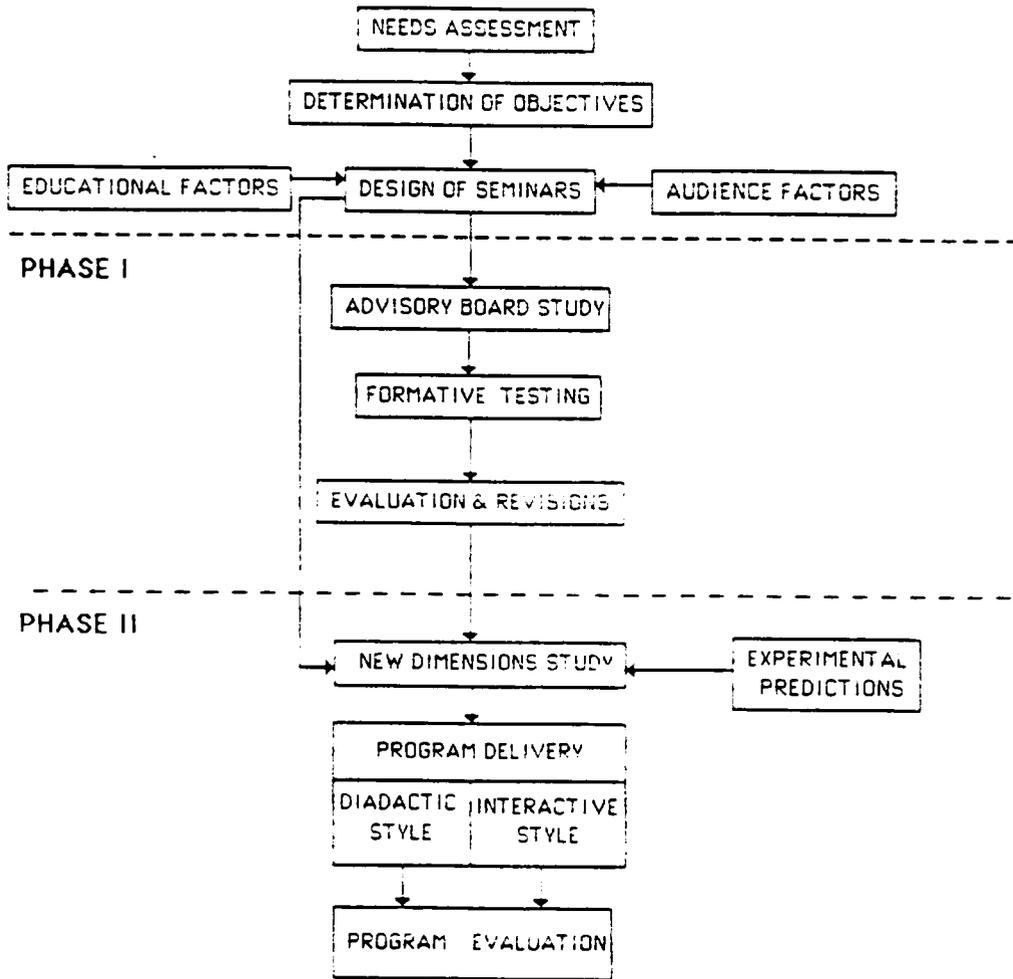
Table 36.

Pre-Intervention, Intermediate, and Post-Intervention Measures  
for Retirement Status Groups

Variables	<u>Retirement Status</u>			F	df
	LES	GTS	Not Ret.		
	Before Session 1				
No. correct mental health & aging questions	2.68	2.18	2.33	<1.0	39
	After Session 1				
No. suggestions	.82	.78	.67	<1.0	32
Usefulness rating	4.94	5.33	5.43	1.28	30
No. other stress controls	1.26	.73	.50	1.90	39
	After Session 2				
No. stressors identified	1.29	1.20	1.20	1.34	16
No. ways deal with stress	2.66	2.67	1.33	3.52*	16
Intention	5.71	5.67	6.00	<1.0	15
Confidence	4.75	5.57	5.43	1.34	23

p = .054

PRE-PRODUCTION RESEARCH



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APPENDIX A.  
Advisory Board Seminar Outlines  
First Session

# healthstyle a self-test

All of us want good health. But many of us do not know how to be as healthy as possible. Health experts now describe *lifestyle* as one of the most important factors affecting health. In fact, it is estimated that as many as seven of the ten leading causes of death could be reduced through common-sense changes in lifestyle. That's what this brief test, developed by

the Public Health Service, is all about. Its purpose is simply to tell you how well you are doing to stay healthy. The behaviors covered in the test are recommended for most Americans. Some of them may not apply to persons with certain chronic diseases or handicaps, or to pregnant women. Such persons may require special instructions from their physicians.

## Cigarette Smoking

If you **never** smoke, enter a score of 10 for this section and go to the next section on **Alcohol and Drugs**.

- |  |                                  |
|--|----------------------------------|
|  | Always/Always<br>Sometimes/Never |
| 1. I avoid smoking cigarettes.   | 2 1 0                            |
| 2. I smoke only low tar and nicotine cigarettes or I smoke a pipe or cigars. | 2 1 0                            |

Smoking Score: \_\_\_\_\_

## Alcohol and Drugs

- |   |                                  |
|---|----------------------------------|
|   | Always/Always<br>Sometimes/Never |
| 1. I avoid drinking alcoholic beverages or I drink no more than 1 or 2 drinks a day.  | 4 1 0                            |
| 2. I avoid using alcohol or other drugs (especially street drugs) as a way of handling stressful situations or the problems in my life.               | 2 1 0                            |
| 3. I am careful not to drink alcohol when taking certain medicines (for example, medicine for sleeping, pain, colds, and allergies) or when pregnant. | 2 1 0                            |
| 4. I read and follow the label directions when using prescribed and over-the-counter drugs.   | 2 1 0                            |

Alcohol and Drugs Score: \_\_\_\_\_

## Eating Habits

- |  |                                  |
|--|----------------------------------|
|  | Always/Always<br>Sometimes/Never |
| 1. I eat a variety of foods each day, such as fruits and vegetables, whole grain breads and cereals, lean meats, dairy products, dry peas and beans, and nuts and seeds. | 4 1 0                            |
| 2. I limit the amount of fat, saturated fat, and cholesterol I eat (including fat on meats, eggs, butter, cream, shortenings, and organ meats such as liver).            | 2 1 0                            |
| 3. I limit the amount of salt I eat by cooking with only small amounts, not adding salt at the table, and avoiding salty snacks.   | 2 1 0                            |
| 4. I avoid eating too much sugar (especially frequent snacks of sticky candy or soft drinks).  | 2 1 0                            |

Eating Habits Score: \_\_\_\_\_

## Exercise/Fitness

- |  |                                  |
|--|----------------------------------|
|  | Always/Always<br>Sometimes/Never |
| 1. I maintain a desired weight, avoiding overweight and underweight.   | 3 1 0                            |
| 2. I do vigorous exercises for 15-30 minutes at least 3 times a week (examples include running, swimming, brisk walking).  | 3 1 0                            |
| 3. I do exercises that enhance my muscle tone for 15-30 minutes at least 3 times a week (examples include yoga and calisthenics).  | 2 1 0                            |
| 4. I use part of my leisure time participating in individual, family, or team activities that increase my level of fitness (such as gardening, bowling, golf, and baseball). | 2 1 0                            |

Exercise/Fitness Score: \_\_\_\_\_

## Stress Control

- |   |                                  |
|---|----------------------------------|
|   | Always/Always<br>Sometimes/Never |
| 1. I have a job or do other work that I enjoy.  | 2 1 0                            |
| 2. I find it easy to relax and express my feelings freely.  | 2 1 0                            |
| 3. I recognize early, and prepare for, events or situations likely to be stressful for me.                                | 2 1 0                            |
| 4. I have close friends, relatives, or others whom I can talk to about personal matters and call on for help when needed. | 2 1 0                            |
| 5. I participate in group activities (such as church and community organizations) or hobbies that I enjoy.                | 2 1 0                            |

Stress Control Score: \_\_\_\_\_

## Safety

- |  |                                  |
|--|----------------------------------|
|  | Always/Always<br>Sometimes/Never |
| 1. I wear a seat belt while riding in a car.   | 2 1 0                            |
| 2. I avoid driving while under the influence of alcohol and other drugs.   | 2 1 0                            |
| 3. I obey traffic rules and the speed limit when driving.  | 2 1 0                            |
| 4. I am careful when using potentially harmful products or substances (such as household cleaners, poisons, and electrical devices). | 2 1 0                            |
| 5. I avoid smoking in bed.   | 2 1 0                            |

Safety Score: \_\_\_\_\_

## What Your Scores Mean to YOU

### Scores of 9 and 10

Excellent! Your answers show that you are aware of the importance of this area to your health. More important, you are putting your knowledge to work for you by practicing good health habits. As long as you continue to do so, this area should not pose a serious health risk. It's likely that you are setting an example for your family and friends to follow. Since you got a very high test score on this part of the test, you may want to consider other areas where your scores indicate room for improvement.

### Scores of 6 to 8

Your health practices in this area are good, but there is room for improvement. Look again at the items you answered with a "Sometimes" or "Almost Never." What changes can you make to improve your score? Even a small change can often help you achieve better health.

### Scores of 3 to 5

Your health risks are showing! Would you like more information about the risks you are facing and about why it is important for you to change these behaviors? Perhaps you need help in deciding how to successfully make the changes you desire. In either case, help is available.

### Scores of 0 to 2

Obviously, you were concerned enough about your health to take the test, but your answers show that you may be taking serious and unnecessary risks with your health. Perhaps you are not aware of the risks and what to do about them. You can easily get the information and help you need to improve, if you wish. The next step is up to you.

## YOU Can Start Right Now!

In the test you just completed, there were numerous suggestions to help you reduce your risk of disease and premature death. Here are some of the most significant.



**Avoid cigarettes.** Cigarette smoking is the single most important preventable cause of illness and early death. It is especially risky for pregnant women and their unborn babies. Persons who stop smoking reduce their risk of getting heart disease and cancer. So if you're a cigarette smoker, think twice about lighting that next cigarette. If you choose to continue smoking, try decreasing the number of cigarettes you smoke and switching to a low tar and nicotine brand.



**Follow sensible drinking habits.** Alcohol produces changes in mood and behavior. Most people who drink are able to control their intake of alcohol and to avoid undesired, and often harmful, effects. Heavy, regular use of alcohol can lead to cirrhosis of the liver, a leading cause of death. Also, statistics clearly show that mixing drinking and driving is often the cause of fatal or crippling accidents. So if you drink, do it wisely and in moderation. **Use care in taking drugs.** Today's greater use of drugs—both legal and illegal—is one of our most serious health risks. Even some drugs prescribed by your doctor can be dangerous if taken when drinking alcohol or before driving. Excessive or continued use of tranquilizers (or

"pep pills") can cause physical and mental problems. Using or experimenting with illicit drugs such as marijuana, heroin, cocaine, and PCP may lead to a number of damaging effects or even death.



**Eat sensibly.** Overweight individuals are at greater risk for diabetes, gall bladder disease, and high blood pressure. So it makes good sense to maintain proper weight. But good eating habits also mean holding down the amount of fat (especially saturated fat), cholesterol, sugar and salt in your diet. If you must snack, try nibbling on fresh fruits and vegetables. You'll feel better—and look better, too.



**Exercise regularly.** Almost everyone can benefit from exercise—and there's some form of exercise almost everyone can do. (If you have any doubt, check first with your doctor.) Usually, as little as 15-30 minutes of vigorous exercise three times a week will help you have a healthier heart, eliminate excess weight, tone up sagging muscles, and sleep better. Think how much difference all these improvements could make in the way you feel!



**Learn to handle stress.** Stress is a normal part of living, everyone faces it to some degree. The causes of stress can be good or bad, desirable or undesirable (such as a promotion on the job or the loss of a spouse). Properly handled, stress need not be a problem. But unhealthy responses to stress—such as driving too fast or erratically, drinking too much, or prolonged anger or grief—can cause a variety of physical and mental problems. Even on a very busy day, find a few minutes to slow down and relax. Talking over a problem with someone you trust can often help you find a satisfactory solution. Learn to distinguish between things that are "worth fighting about" and things that are less important.



**Be safety conscious.** Think "safety first" at home, at work, at school, at play, and on the highway. Buckle seat belts and obey traffic rules. Keep poisons and weapons out of the reach of children, and keep emergency numbers by your telephone. When the unexpected happens, you'll be prepared.

## Where Do You Go From Here:

Start by asking yourself a few frank questions: *Am I really doing all I can to be as healthy as possible? What steps can I take to feel better? Am I willing to begin now?* If you scored low in one or more sections on the test, decide what changes you want to make for improvement. You might pick that aspect of your lifestyle where you feel you have the best chance for success and tackle that one first. (Once you have improved your score there, go on to other areas.)

If you already have tried to change your health habits (to stop smoking or exercise regularly, for example), don't be discouraged if you haven't yet succeeded. The difficulty you have encountered may be due to influences you've never really thought about—such as advertising—or to a lack

of support and encouragement. Understanding these influences is an important step toward changing the way they affect you.

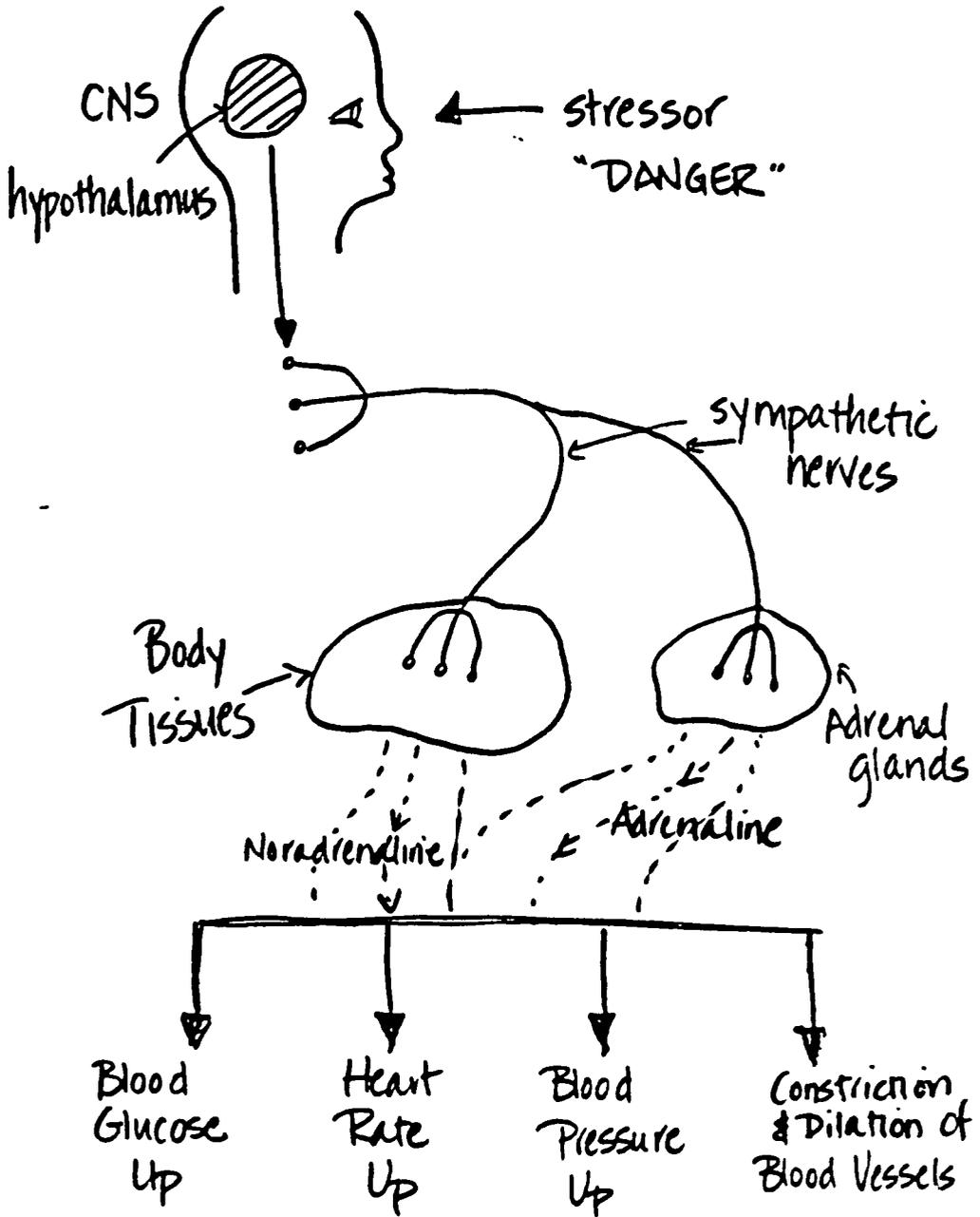
**There's Help Available.** In addition to personal actions you can take on your own, there are community programs and groups (such as the YMCA or the local chapter of the American Heart Association) that can assist you and your family to make the changes you want to make. If you want to know more about these groups or about health risks, contact your local health department or the National Health Information Clearinghouse. There's a lot you can do to stay healthy, or to improve your health—and there are organizations that can help you. Start a new HEALTHY LIFE TODAY!

For assistance in locating specific information on these and other health topics, write to the National Health Information Clearinghouse:

National Health Information Clearinghouse  
P.O. Box 1133  
Washington, D.C. 20013

## "STRESS"

- AN AUTOMATIC INTEGRATED REACTION
- "PSYCHOSOMATIC": MIND AND BODY
  - BODY FUNCTIONING
  - THOUGHTS AND EMOTIONS
  - BEHAVIOR
- ACUTE STRESS VS. CHRONIC STRESS
  - STRAIN AND FATIGUE
  - HEALTH
  - PERFORMANCE
  - LIFE SATISFACTION
- MAJOR LIFE EVENTS VS. MINOR HASSLES
- TIMING AND EXPECTATION



COMMON REASONS FOR STRESS

- SOME LIFE EVENTS ARE UNIVERSALLY STRESSFUL
- SITUATIONAL CHANGES
- INADEQUATE RESOURCES
- NO CONTROL
- FEAR OF THE UNKNOWN
- MALADAPTIVE INTERPRETATIONS
- POOR COPING SKILLS

## THE SOCIAL READJUSTMENT RATING SCALE

T. H. Holmes &amp; R. H. Rahe (1967)

LIFE EVENT	VALUE
1. Death of spouse	100
2. Divorce	73
3. Marital separation	65
4. Jail term	63
5. Death of close family member	63
6. Personal injury or illness	53
7. Marriage	50
8. Fired at work	47
9. Marital reconciliation	45
10. Retirement	45
11. Change in health of family member	44
12. Pregnancy	40
13. Sex difficulties	39
14. Gain of new family member	39
15. Business readjustment	39
16. Change in financial state	38
17. Death of close friend	37
18. Change to different line of work	36
19. Change in number of arguments with spouse	35
20. Mortgage over \$10,000	31
21. Foreclosure of mortgage or loan	30
22. Change in responsibilities at work	29
23. Son or daughter leaving home	29
24. Trouble with in-laws	29
25. Outstanding personal achievement	28
26. Spouse begin or stop work	26
27. Begin or end school	26
28. Change in living conditions	25
29. Revision of personal habits	24
30. Trouble with boss	23
31. Change in work hours or conditions	20
32. Change in residence	20
33. Change in schools	20
34. Change in recreation	19
35. Change in church activities	19
36. Change in social activities	18
37. Mortgage or loan less than \$10,000	17
38. Change in sleeping habits	16
39. Change in number of family get-togethers	15
40. Change in eating habits	15
41. Vacation	13
42. Christmas	12
43. Minor violations of the law	11

APPENDIX B.

Advisory Board Seminar Outlines

Second Session

## SOME SYMPTOMS OF STRESS

### PHYSICAL

- MUSCLE ACHES & PAINS
- HEADACHES
- STOMACH ACHES
- BACK ACHES
- STIFF NECK
- ELEVATED BLOOD PRESSURE
- FATIGUE
- INSOMNIA
- ULCERS
- SKIN RASHES
- GENERAL DISCOMFORT

### EMOTIONAL

- WORRYING
- DEPRESSION
- FRUSTRATION
- IMPATIENCE
- LONELINESS
- POWERLESSNESS
- INFLEXIBILITY
- FEAR
- NERVOUSNESS
- FEELING THREATENED
- ANGER
- UNHAPPINESS

### BEHAVIORAL

- CRYING
- FORGETFULNESS
- YELLING
- BLAMING
- BOSSINESS
- AGITATION
- EXCESSIVE GUM CHEWING
- COMPULSIVE EATING
- INCREASED SMOKING
- INCREASED DRINKING
- TEETH GRINDING
- INAPPROPRIATE AFFECT

## **COGNITIVE STRESS SYMPTOMS**

- 1. IMPAIRED SHORT-TERM MEMORY**
- 2. DECREASED CONCENTRATION & COMPREHENSION**
- 3. CATASTROPHIZING**
- 4. DECREASED ATTENTION SPAN**
- 5. SPEEDING, RACING THOUGHTS**
- 6. OBSESSIONS WITH NEGATIVE THOUGHTS**
- 7. STUBBORNESS**
- 8. CRITICAL ATTITUDE**
- 9. PERCEIVED VICTIMIZATION**
- 10. DEMANDING**
- 11. HUMOR CHANGES**
- 12. POOR PLANNING**
- 13. ESCAPIST FANASY**

## MANAGING STRESS

1. BECOME AWARE OF THE PROBLEM
2. TAKE RESPONSIBILITY FOR DOING SOMETHING ABOUT THE PROBLEM
3. GET A CLEAR IDEA OF WHICH ASPECTS OF THE PROBLEM CAN BE CHANGED AND WHICH ASPECTS CANNOT
4. DETERMINE PRIORITIES
5. SET GOALS
6. DEVELOP NEW COPING STRATEGIES AND REFINE OLD STRATEGIES

## TYPES OF COPING STRATEGIES

### ACTIVE

### INACTIVE

#### DIRECT

- CHANGE THE SOURCE OF STRESS
- CONFRONT THE SOURCE
- ADOPT A POSITIVE ATTITUDE

- IGNORE THE SOURCE OF STRESS
- AVOID THE SOURCE
- LEAVE OR WITHDRAW

#### INDIRECT

- TALK ABOUT SOURCE
- CHANGE SELF
- GET INVOLVED IN ACTIVITIES

- SELF-MOTIVATION
- GETTING ILL
- COLLAPSING

APPENDIX C.

Advisory Board Seminar Outlines

Third Session

## AGING AND STRESS

- DOES GETTING OLDER MEAN MORE STRESS?
  - DIFFERENT STRESSES AT DIFFERENT AGES
  - TIME AND ILLNESS INTERACT
  
- WHAT DO WE MEAN BY "AGING"?
  - AGING BEGINS AT BIRTH
  - AGE IS A DEFINING CHARACTERISTIC
  - AGING IS BIOLOGICAL, SOCIAL, & CULTURAL
  
- WHAT POTENTIAL STRESSORS DO I FACE AS I GET OLDER?
  - EFFECTS OF AGING ITSELF
  - GREATER LIKELIHOOD OF ILLNESS OR INJURY
  - RETIREMENT (YOU OR YOUR SPOUSE)
  - LONELINESS
  - EMOTIONAL UPSETS
  - REDUCED SOCIAL STATUS
  
- HOW CAN I RECOGNIZE WHEN I AM UNDER STRESS?
  - PHYSICAL SIGNS
  - EMOTIONAL & COGNITIVE SIGNS
  - BEHAVIORAL SIGNS

## RETIREMENT

- A MAJOR LIFE EVENT
- ASSOCIATED WITH OTHER STRESSFUL EVENTS
  - GETTING OLDER
  - CHANGE IN ACTIVITIES: TYPE & LEVEL
  - REDUCED INCOME
  - CHANGE IN PERSONAL LIFE
  - CHANGE IN HEALTH STATUS
  - REORGANIZATION OF TIME & ENERGY
  - LESS "PROFESSIONAL SOCIALIZING"
- AN INCREASING PROPORTION OF LIFESPAN

## WAYS TO MINIMIZE STRESS

### DEFINE THE PROBLEM MORE SPECIFICALLY

- IDENTIFY STRESSORS
- RECOGNIZE YOUR PERSONAL STRESS REACTION

### DECIDE ON A PLAN OF ACTION

- PREVENTION
- MANAGEMENT & COPING
- OUTSIDE RESOURCES

### LEARN SPECIFIC WAYS TO DEAL WITH THE STRESS

- STAY AS HEALTHY AS POSSIBLE
  - WELL BALANCED DIET
  - LIGHT, REGULAR EXERCISE
  - PERIODIC CHECK-UPS
- KEEP A POSITIVE ATTITUDE
  - EFFECTIVE COMMUNICATION
  - RELAXATION
  - FAITH & HOPE
  - SOCIAL SUPPORT
  - TAKE RESPONSIBILITY FOR YOUR STRESS
- SKILLS & TECHNIQUES

**SOME COMMON STRESS MANAGEMENT TECHNIQUES**

- SOCIAL SUPPORT
- CHANGING IRRATIONAL BELIEFS
- RELAXATION OR MEDITATION
- TIME MANAGEMENT
- ASSERTIVENESS SKILLS
- GOAL SETTING
- INFORMATION
- PREPARATION

APPENDIX D.

Advisory Board Survey Computer Scanning Form

VPI & SU LEARNING RESOURCES CENTER

NAME COURSE DATE

INCORRECT MARKS

CORRECT MARKS

USE NO. 2 PENCIL

Please answer the following questions by darkening the appropriate circle in the column at the right. All questions are answered consecutively.

1. Sex: (1) Female; (2) Male
2. Age: Code first digit under Question 2; Code second digit under Question 3.
4. Length of retirement:
  - (1) 0 - 6 months
  - (2) 7 - 12 months
  - (3) 13 - 18 months
  - (4) 19 - 24 months
  - (5) 25 - 30 months
  - (6) 31 - 36 months
  - (7) 3 - 5 years
  - (8) 5 - 10 years
  - (9) 10 - 15 years
  - (10) more than 15 years

For Questions 5 - 20, please mark (1) for "true" and (2) for "false".

5. Old age is a time of relative peace and tranquility.
6. Emotional disturbance in younger years is highly correlated with emotional disturbance in later life.
7. The incidence of serious mental illness increases with age.
8. Symptoms of organic brain impairment are easily distinguishable from those of functional impairment.
9. Poor nutrition is a problem which plagues older people.
10. Depression occurs more frequently among older people than among the young.
11. At least three-fourths of the elderly express a fear of death.
12. Elderly persons complain of sleep disturbances more often than do younger persons.
13. One-fourth of the suicides in the U.S. are committed by persons 65 years of age or older.
14. Older widows adjust to their loss better than younger widows.
15. Drug abuse is not a serious problem of the elderly.
16. At least one-fourth of the aged residing in nursing homes suffer from psychiatric illnesses.
17. Most older adults have little contact with their children.
18. Approximately 15% of the older population are in need of immediate mental health services.
19. Psychotherapy is ineffective with older patients.
20. Most mental health problems of older adults cannot be prevented.
21. On a scale of 1-7, how would you rate your current level of stress?
 

1	2	3	4	5	6	7
not stressful						very stressful

Q. NUMBER	FORM	PAT. NO.	GROUP
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			



APPENDIX E.

Advisory Board Follow-Up Evaluation Form



APPENDIX F.

New Dimensions Pre-Intervention Survey



7. Many people can identify certain signs in themselves that happen only when they are under stress, such as eating more or getting headaches. What signs have you noticed about yourself under stress?

Here are some descriptions about how people may feel. Please rate how much of the time you feel this way.

- (1) Never or a little of the time
- (2) Some of the time
- (3) A good part of the time
- (4) Most of the time

8.	I feel sad.	1	2	3	4
9.	I feel unhappy.	1	2	3	4
10.	I feel good.	1	2	3	4
11.	I feel depressed.	1	2	3	4
12.	I feel blue.	1	2	3	4
13.	I feel cheerful.	1	2	3	4
14.	I feel nervous.	1	2	3	4
15.	I feel jittery.	1	2	3	4
16.	I feel calm.	1	2	3	4
17.	I feel fidgety.	1	2	3	4
18.	I get angry.	1	2	3	4
19.	I get aggravated.	1	2	3	4
20.	I get irritated or annoyed.	1	2	3	4

For the next set of questions, please indicate how often you use each method for reducing stress in a typical week.

- (1) = not at all  
 (2) = 1 or 2 times a week  
 (3) = 3 or 5 times a week  
 (4) = once every day  
 (5) = more than once a day

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 21. Take aspirin or non-prescription medication.                              | 1 | 2 | 3 | 4 | 5 |
| 22. Take prescribed medication.   | 1 | 2 | 3 | 4 | 5 |
| 23. Drink coffee, tea, or cola drinks.  | 1 | 2 | 3 | 4 | 5 |
| 24. Eat (more than usual or extra snacks).                                    | 1 | 2 | 3 | 4 | 5 |
| 25. Use formal relaxation techniques<br>(e.g., meditation or deep breathing). | 1 | 2 | 3 | 4 | 5 |
| 26. Use informal relaxation (e.g. leisure activity)                           | 1 | 2 | 3 | 4 | 5 |
| 27. Exercise.   | 1 | 2 | 3 | 4 | 5 |
| 28. Talk to someone you know.   | 1 | 2 | 3 | 4 | 5 |
| 29. Leave the activity you're doing.  | 1 | 2 | 3 | 4 | 5 |
| 30. Smoke.  | 1 | 2 | 3 | 4 | 5 |
| 31. Use humor (laugh it off, make a joke of it).                              | 1 | 2 | 3 | 4 | 5 |
| 32. Have a drink to relax.  | 1 | 2 | 3 | 4 | 5 |
| 33. Use prayer.   | 1 | 2 | 3 | 4 | 5 |

34. Are there other things you do to control your stress? Please list :

Please answer "TRUE" (T) or "FALSE" (F) for the following:

- |  |   |   |
|--|---|---|
| 35. Old age is a time of relative peace and tranquility.             | T | F |
| 36. Poor nutrition is a problem which plagues older people.          | T | F |
| 37. Drug abuse is not a serious problem of the elderly.              | T | F |
| 38. Most mental health problems of older adults cannot be prevented. | T | F |

APPENDIX G.

New Dimensions Intermediate Evaluation Form



APPENDIX H.

New Dimensions Post-Intervention Survey

Name:

 I.  
 II.  
 Both

 STRESS SEMINARS SURVEY - II  
 New Dimensions

1. My current level of stress is:

1	2	3	4	5	6	7
not stressful						very stressful

2. The amount of control I feel I have over my stress is:

1	2	3	4	5	6	7
no control						total control

3. What I found most useful about this seminar was:

4. The way(s) I react to stress is (are):

5. My major stressors are:

6. The way(s) I can deal with my stress more effectively is (are):(If more than one, please list in order of importance to you.)

7. To what extent do you intend to use any of these stress management methods on a regular basis?

1	2	3	4	5	6	7
not at all						very much

8. How confident do you feel in using these stress management techniques?

1	2	3	4	5	6	7
not confident						very confident

Here are some descriptions about how people may feel. Please rate how much of the time you feel this way.

- (1) Never or a little of the time
- (2) Some of the time
- (3) A good part of the time
- (4) Most of the time

8.	I feel sad.	1	2	3	4
9.	I feel unhappy.	1	2	3	4
10.	I feel good.	1	2	3	4
11.	I feel depressed.	1	2	3	4
12.	I feel blue.	1	2	3	4
13.	I feel cheerful.	1	2	3	4
14.	I feel nervous.	1	2	3	4
15.	I feel jittery.	1	2	3	4
16.	I feel calm.	1	2	3	4
17.	I feel fidgety.	1	2	3	4
18.	I get angry.	1	2	3	4
19.	I get aggravated.	1	2	3	4
20.	I get irritated or annoyed.	1	2	3	4

APPENDIX I.

New Dimensions Seminar

Didactic Delivery Style Description

## Didactic Delivery Style

## "Stress and Retirement" - Session 1

Retirement has often been referred to as a very stressful event, i.e., a time of inactivity and uselessness. However, others view retirement as not stressful at all. These different perceptions can influence your own experience of retirement.

Stress due to retirement is not entirely inevitable and not entirely uncontrollable. Retirement is a major life event and as with any major life event, there are stresses associated with it. It's something different, a change.

The term "stress" has been used mostly negatively, but that is not necessarily so. Stress, or the stress reaction, is an automatic, integrated reaction. It affects the autonomic nervous system. A stress reaction is "psychosomatic" , i.e., psychophysiological. Some of the effects in a stress reaction are increased heart rate, increased blood flow, rapid, shallow respiration. In general, physiological systems are aroused. The body gets a surge of energy, in order to act upon the situation.

Thoughts and emotions are also affected, because the body has received a signal of danger. Thoughts may be racing and automatic. Emotions may be of worry or panic, a feeling of being under pressure. In general, behavior becomes accelerated. Stress and the stress reaction is necessary and adaptive because of a potentially dangerous

situation in which extra energy or a more rapid response time is necessary in order for self-preservation.

The effects of acute (short-term) stress can be distinguished from those of chronic (prolonged) stress. In an acute situation, the stress reaction is adaptive because of its mobilizing function. It is necessary for self-preservation. If this situation is prolonged, the autonomic nervous system becomes strained from constant arousal. The body becomes fatigued because it is not meant to be in a state of constant arousal. This strain can lead to health problems (e.g., high blood pressure, muscle aches, pain, ulcers) in extreme conditions; performance is negatively affected; thinking becomes less clear, more confused, mentally fatigued. All of this can eventually lead to a general dissatisfaction with life.

There are two major categories of stressors. One is major life events, such as a change in marital status, buying or selling a house, death of a close one, retirement. These are stressful for anyone; they are different from the normal routine. The other kind of stressors are minor hassles. These are not major, but the everyday annoyances. But the body can get the stress reaction from these as well. These things can actually be less healthy than the major life events, because major life events are acute, but minor hassles happen everyday. These have the potential for keeping you in a stressed state.

The timing and expectation of events also causes stress. If an

event is unexpected, there is not time to prepare for it, and it is more stressful than if it occurred under expected circumstances. So timing has an effect. So the same event, e.g., retirement, widowhood, can have a different impact at different times, and that affects the level of stress that you feel.

Retirement in itself is a stressful change but it's also associated with other changes that can be stressful, e.g., a change in work, activity level, getting older. A change in activities is associated with retirement. Although some people keep up very similar types of activities, others find that they give up employment and go into recreational hobbies. Sometimes the level of activities changes. Either overdoing it or inactivity can be a physical stressor.

Retirement is also associated with a change in personal life. For example, people have more time to spend home with family. Another way that your personal life changes is if friends move away, and they're not as close, or if some of them pass away. When you lose friends, and you don't have the same kind of network as when you were working.

Another associated stressful event is a change in health status. Some people are forced to retire because their health is poor. As you get older the likelihood of having a health problem increases. This is stressful, in addition to being retired.

The individual is more responsible for planning and providing his/her own structure after retirement because the working day is no

longer there. There is less "professional socializing" through work connections, so socializing may taper off. So retirement in itself can be stressful, but all of these other associated events can also be stressful.

Retirement is becoming a more important topic because more people are retiring, and living in retirement for a longer period of time. In 1900, the average amount of retirement that a man spent was 1.2 years, the time between when he retired, and when he died. The life expectancy was only 46 years, so retirement was 3% of that person's life. In 1980, retirement accounted for 20% of a person's life. The average period of retirement is 14 years now, and a man's life expectancy is 69. This is no longer a short amount of time. Retirement is no longer such a small percentage of someone's life that it can continue to be dismissed. You can't afford to spend 14 years of your life in a state of chronic stress. You need to know how to extend that period, and make it more enjoyable.

Retirement is a relatively new concept. The age limit of 65 was set, arbitrarily, mostly due to economic and political factors.

These stress symptoms are organized into 3 categories: physical signs, e.g., elevated blood pressure, tense muscles, aches & pains, headache, stomachache, backache, muscle stiffness. People react in different places. There may be other symptoms, e.g., general fatigue, difficulty sleeping, rashes, general discomfort.

Many of the physical signs of stress are also associated with

getting older, e.g., sleeplessness, muscle stiffness. The emotional signs: worry, depression, frustration, impatience, loneliness, a feeling of powerlessness, feeling stubborn and inflexible, fear, general unhappiness. These happen to everyone from time to time; but it is a cause for worry if they happen chronically because that's when it can affect health and happiness.

The cognitive stress symptoms (from Baldwin, 1985): poor short-term memory, frequent forgetfulness, decreased ability to concentrate and comprehend, catastrophizing, shorter attention span, becoming overly critical or stubborn, blaming others, perceived victimization, poor planning ability, escapist fantasy. These are all interrelated. You can become demanding, lose your sense of humor, become less patient, sarcastic, which can in turn isolate others. So those are the cognitive stress symptoms.

Sources of stress can be physical, social, cognitive, or combination. Some sources can become effects as well, e.g., poor health. Some sources are more likely as you get older and reach retirement age, e.g., change in financial status, health problems, change in social network.

## Didactic Delivery Style

## "Stress and Retirement" - Session 2

Brief review of conceptualization of stress; not always neg., happens all the time; not looking to eliminate, but to manage it better. Reasons for stress: significant events, e.g., retirement as a major life event which requires change and adjustment, doing things different. Stress vs. change or adaptation. Stress = distress in perceptions, i.e., the feelings ones have re: adaptive changes during stressful events. Distress as subjective component; stress as objective component. Subjective component accounts for individual variability. Stressful event may be the same, but people react to it differently, e.g., retirement affects people differently. Some don't wish to retire and view it negatively; others view it as a transition and a change to engage in other types of activities, not negative.

Stress vs. change, adaptation, transition (may be alternative terms). Some events like retirement force you to change you lifestyle in a major way. Some major events, e.g., retirement, loss of a loved one, moving, require major changes and are therefore stressful for everyone. Stress is normal in these situations. It would actually be abnormal to go through such an event without feelings of distress, because we are human. The ability to experience emotions means that some may be positive and some may be negative.

Situational changes, minor hassles, can cause stress because

they require adaptation. Some people feel more distress or stress than others. Differences may be accounted for by one's resources: knowing what to expect, information, preparation, social support, financial.

A feeling of not having control can happen when things aren't clear, which is stressful. But everyone has some degree of control, some influence over the distress component. People who feel they have no control experience more distress. Cycle of feeling out of control and actually being out of control. Some loss of control is real, e.g., mandatory retirement, loss of friends to moving, illness, death; some is perceived control, e.g, how you view retirement. This affects how you feel mentally. Remember the stress reaction is "psychosomatic". If you're feeling bad about things, that may affect your health, mood, which in turn makes you feel worse. A circle, cycle.

Fear of the unknown can be stressful. When you are employed, you know what to expect. After retirement, structure from working is now gone, you have to build in own structure and plans. Not everyone is used to that, especially those who had highly structured jobs. Fear, lack of control, inability to prepare causes bodily and emotional reaction.

Maladaptive interpretations: Much stress and distress is the emotional component, the interpretation of events. Black-and-white thinking is an example; but most things don't happen in an all or

none way, they are on a continuum. If you look at retirement as the complete opposite of being employed (active, professional, happy, busy) vs. retirement (inactive, no mental activity, uninvolved, doing nothings) you eliminate choices. You can look at things differently as a transition, still being busy but doing different things, changing the activities, replacing activities with different ones. Coming up with more alternatives or choices vs. all or none.

Other maladaptive interpretations: the image of complete self-reliance and perfection. If you have that goal, it makes you feel as if you're under lots of pressure. Another aspect of the perfection image is the need to appear very much in control and being calm, able to meet all challenges. Too high standards set you up for failure. It's better to not set yourself up that way in the first place. Maladaptive thoughts can occur to anyone at any age.

Poor coping skills is another reason people experience distress. This fits in with some of the others, e.g, inadequate resources, information, self-forgiveness in event of mistake, lack of alternatives, or unhealthful coping skills. Coping skills have been categorized according in a grid (Lazarus, 1966): active vs. inactive, and direct vs. indirect. Active-direct coping skills are to change the source of stress, confront the source, and to adopt a positive attitude. Inactive-direct coping skills are to ignore the source of stress, avoid the source, and leave or withdraw from the situation. Active-indirect coping includes talking about the source of stress,

changing oneself, and becoming involved with other activities. Any of these three categories can be adaptive and beneficial. However, the last category, inactive-indirect coping is the least desirable. This category includes self-medication, becoming ill, and collapsing.

Managing stress entails several steps: becoming aware of the problem; taking responsibility for doing something about it; determining what can be changed from what cannot be changed; determining priorities; setting goals; and developing or refining coping strategies.

The first step in minimizing stress and distress is to identify the problem as specifically as possible. This gives you some direction about what things you can do to resolve the problem. Defining the problem specifically includes two components that define stress: identifying the situations or conditions in which you feel stressed; and identifying the stress symptoms that occur in you. By becoming aware of personal stressors and personal stress symptoms, you will be able to take steps to avoid worsening the situation. This awareness and self-monitoring can allow you to prevent becoming overly stressed.

Then you can begin to do something about your stress, e.g., employ coping skills, utilize resources, practice relaxation, learn more information, and develop a plan of action, determine goals and priorities. One of the best ways to minimize the effects of stress is to maintain optimal health status, e.g., by eating, resting,

exercising properly, and obtaining routine health care. Other ways include specific techniques such as assertiveness, communication skills, relaxation techniques, goal-setting, time management, information, and preparation. You can see some examples on this "Healthstyle" questionnaire (National Health Information Clearing House).

APPENDIX J.

New Dimensions Seminar

Interactive Delivery Style Description

Interactive Delivery Style  
"Stress and Aging" - Session 1

(NOTE: The symbol "-" denotes an audience remark.)

If you have any questions at any time, please interrupt me, I'm going to give you information that builds on what I've said before.

The term "stress" is used differently to explain many different things, usually negative. What is stress to you?

- I feel like it's something that grips you and controls you.
- Something that stimulates you.
- Right. Pressure.
- Strain.
- A generally unhealthy situation.

These are all partly true, but incomplete. They fall into the category of effects of chronic stress, which is usually more negative, less healthful. But there is more to stress than just that.

Stress is a reaction your body has to a stimulus (visual, tactile, auditory, or even memories or thoughts). The body responds with an automatic, integrated reaction involving all of the systems of the autonomic nervous system. The body and mind are interconnected; the stress reaction is psychosomatic, i.e., psychophysiological. Usually a stressor signals danger, so your body rises to meet this danger, becomes activated. Under acute

(short-term) stress conditions, it is very adaptive and necessary for survival.

For example, if you're walking along, crossing the street, and you see a car in the road that's not slowing down, that's a signal for danger. What do you do?

- Get out of the way.

What are you thinking?

- Hurry before I get hit.

What changes are going on in your body during this?

- Getting tight.

- Your heart is beating like crazy.

The autonomic nervous system is activated, aroused, enabling you to act on the danger quickly. If your body did not respond that way, you would not be able to get yourself out of danger.

Distinction between acute stress and chronic stress: What do you think chronic stress is?

- Something that lasts.

- Something that keeps you from performing as well as you should.

How does it affect your performance? If you maintain the stress reaction, you get tired. It's adaptive for a short period of time, when it's necessary, but then you return to your regular level. If you try to maintain the state of arousal, your body can become fatigued and weakened. So chronic stress is a potential danger

because it's asking too much. What was adaptive for an acute situation is no longer true for a chronic situation. What kind of feelings in your body do you have when you feel like your pressured all the time?

- Tired.

For example, your back is tired, your neck is tight, your arms are tired, you feel like sleeping, you feel mentally tired, you don't want to do anything anymore. What do you think this does for your health?

- It injures your health.

What about heart rate?

- High blood pressure.

What else can happen with your health? What about this constant state of muscle tension?

- Headaches?

- Tension headaches.

- And sometimes it's the stomach that hurts.

- Stomach ulcers.

- Back problems.

If the muscles in your back are always tight, and you never let them get loose enough or relax, you can develop low back pain. The effects of chronic stress can have a negative impact on your health. If you're in poor health, it affects your performance. You're going to less effective in activities; Consequently, how satisfied do you

think you're going to be with life?

- Very unsatisfied.

If you're in a constant state of chronic stress, you're not going to be very satisfied; uncomfortable, thinking about these things that aren't comfortable; maybe feel so overwhelmed that you don't feel like doing anything at all; you're not going to be happy.

Acute stress versus chronic stress can tie into the concepts of major life events and minor hassles. What are major life events?

- Death.

- Birth, too.

Major life event's aren't always negative. But it's a stress, why?

- You change.

Even though it's an event that you look forward to and is happy, it's a big change, and something you have to adapt to. What other kinds of major life events?

- Moving?

- Retirement?

- Illnesses.

- Marriage and divorce.

- When your children marry, and they're coming back.

- What about your accomplishments? Like long term stress and finally finishing a book.

All of these are good examples. What about minor hassles?

- Preparing meals 3 times a day.
- Any type of repairs, like on your car or a lawnmower or something.
- Some sicknesses. Like some of them can be major, but not all of them.
- Various miscommunications and misunderstandings, that's a killer, with your family and friends.
- Driving to work in traffic.
- Like when you go to the grocery store and you've used all of your blank checks last night at another store.

Minor hassles happen everyday, and you may have several. The danger here is you can be in chronic stress, because the stressors may be different but you still react the same way. They have the potential for maintaining a chronic state of stress in you, and that is what we want to avoid.

How do you think this relates to getting older? Does getting older mean you're going to have more stress?

- Maybe you don't mind the degree.
- But it's going to be more difficult to deal with, because after all these years, you're tired of fighting.
- The stresses are different.

In every stage of life, there are stresses; major life events happen at different ages, e.g., school pressures, social cliques, are extremely important to young teenagers.

- I think with older people, they learn that anything's not worth worrying about.

- It seems to me a problem we have today is that people think they shouldn't have stress. We should teach and say that stress is natural and normal. We respond to stress, it's a matter of growth and change. If there isn't any stress, we stay in the same rut. The young people ought to know that to go to college has real hurts, and then overcoming them and learning something and getting to a new level. That's more approach in any area, stress can be good and bad, but I look on stress as a good thing.

Acute stress when you can identify a challenge and rise to meet it. Stress is on a continuum, a difference in degree and intensity. It can be good, because otherwise you don't get anything done. Life requires stress.

- There's a positive side to stress, to meet certain challenges. If you don't have any, you actually can't stay in one physical state, or you may go the other way.

Back to the question of getting older meaning more stress. No it doesn't. There are different stresses at different ages. It's hard to say that one is more stressful than another, because they are happening at different times in your life. Minor hassles are equally likely at all ages. There's an interaction between stress and aging. There's a higher probability of illness or injury with increasing age, but they don't necessarily go together all the time, e.g., childhood

illnesses.

- On the other hand, as you get older, you sometimes get immune to things that you once suffered from. Like hay fever, or allergies.

What do we mean by 'aging'? When does aging start?

- When you're born.

What do you usually think about by the term 'aging'?

- You think old.

- Wrinkles.

- I think of ideas that are fixed. Some people are old at 30 years old.

- All those things.

We start aging at birth, it goes on constantly. We're all aging. For example, senses start declining at age 10, not at 60. So at retirement, people have been experiencing the downward effects of aging for some 40 years. So things keep going on the same way as before.

- We should think about some of the good things that we are learning, to understand people better, situations better, and there's not so much need to get stressed. We ought to welcome the fact that we've had all of this additional opportunity to learn about the world of people.

- This is what I think too about aging as walking in new paths that are untried. Learning how to deal with stress and not react as we once did. Working without friction.

Age brings more experience, other ways of solving problems, maybe compromising more often than younger people. So you're arguing for a less stress position. I would still say, on average, that stresses are only different at different ages.

- Pace changes. When you're working, go, go, go, morning to night, everyday. If you're tired, it's tough. After you retire you sometimes have to learn that tomorrow's another day, not everything has to be approached in one day. You may need a change of pace or variety.

To review the points, aging doesn't start at 50 or 40, but when you're born, it's a fact of life. Age becomes important in our culture for defining yourself, an identity. Socialization of age as a defining characteristic. Chronological age is biological age, but different from social factors.

Stresses that may be encountered with aging: declining health, lost social relationships, concern about children's lives, retirement, reduced social status, loneliness, financial strain.

- You may be moving. Moving to a smaller house. Or planning to because you see you won't be able to keep up the house.

- Caring for aging parents.

- Being alone becomes something you've got to learn to live with.

- Health problems

- Sometimes people get impatient that I'm not able to move

faster and that's upsetting to me.

So these are potential stresses you can have just due to being older. Remember, they're not necessarily more stressful, but they are different from stresses you may have had when you were a different age.

How can you tell when you're under stress? Some of the common symptoms of stress grouped under different categories: physical, emotional, behavioral, and cognitive; e.g. aches & pains, insomnia, fatigue, worry, depression, loneliness, forgetfulness, agitation, compulsive eating, critical attitude, decreased attention span, maladaptive thoughts. Everyone is affected differently.

Interactive Delivery Style  
 "Stress and Aging" - Session 2

To briefly summarize last week's seminar: what stress is, signs, symptoms, how to recognize it in yourself, where stress comes from, major life events, minor hassles.

About the sources of stress - where do you think it comes from? A number of places, today's weather is a good example. The physical environment can be stressful. How does it affect you?

- Sometimes this kind of weather is kind of oppressing.
- When it's icy, I'm afraid I'll fall.
- Smog makes it more difficult to breathe.

Physical environmental factors. Also some aspects of building design, e.g, narrow pathways, uncomfortable chairs, harsh colors, fluorescent lights, bright light, noise can contribute to discomfort. This relates to those minor hassles.

- Talking about light, I read an article about research into how depression can be related to light. Some people keep their houses too dark and it tends to add to depression.

There was a recent PBS series that addressed that. Some people can really get depressed clinically, not just a depressed mood, but a clinical depression for some because of the lack of light. So the physical environment affects you. Other reasons you get stressed?

Lack of resources, e.g. knowledge, time, financial resources,

friends or relatives. Why do you think some people do get stressed, and don't deal well with changes?

- Isolated from all those resources.

You may get more isolated as you get older, e.g, you may become widowed, your children move away, your friends move away or pass away; the isolation can promote a feeling of being sorry for yourself, which leads to a more unpleasant mood. It's usually better to get out and talk with others. When you're isolated, you're drawing only on yourself. If you have negative thoughts, they repeat. You don't have someone to help you see things differently or to help you. What about time as you get older?

- You get less.

- You can think about more things to do with your time and you don't have as much time left to do them as you did when you were younger.

A reorientation of time. When you're younger, there's a tendency to look at time since birth, but as you get older, you look at time as how much you have left. You look at time differently. But do you really have less time in any particular day?

- Well, it may take longer to do something.

So you may not be able to get as many things done as when you were younger. But if you keep trying to do as many things as when you were younger, what does that do to your stress level?

- It goes up.

What does this tell you about how you can look at your day differently, now that you're older and you may be doing things more slowly?

- There's tomorrow.

Planning differently; don't expect to do as many things in one day. When you have too many things, your thoughts tend to be on what you didn't finish rather than on what you did, and you don't feel good about what you did do. This affects your thoughts by making you feel less capable. Thoughts affect your body, especially negative or maladaptive thoughts.

- So you give up.

Right. You act in line with those thoughts. What happens to your physically? You feel slower, pay attention to aches and pains that you might not otherwise.

- I'm reminded of a story of a man who had a list of 20 things to do. He decided to do the last thing, which was take a nap. Some people try to sleep off their problems. Escape.

Sleeping too much can be a sign of depression; too much can make you have less energy and can contribute more to depression.

Bad thoughts. The way we interpret things has a strong impact on how we deal with them. Some things are universally stressful, e.g., a natural disaster, loss of a loved one, war. But minor hassles can be viewed differently. For example, when you go to the post office and there's a long line, you could get upset or angry. What's another way

to look at it that's more positive?

- You can talk to someone else in line.

- People watch.

- Leave and go somewhere else.

- You can take work along.

- Re-check your priorities - is it really important that I stay here and finish this. If it is, then I'm going to refuse to react, because why should I punish myself for something I can't do anything about.

Our thoughts are our interpretations of the situation. Negative thoughts and interpretations can cause problems. Catastrophizing, blowing things out of proportion. We need to catch ourselves, step back and reexamine what we're doing, see if we're making things worse, look at things more realistically. Sometimes we can even laugh at ourselves to relieve the tension. When you have negative thoughts, you are your own worst enemy. So you can also be your best ally if you reverse those thoughts.

Another source of stress is your health. Chronic stress is not healthy, it causes wear and tear. Poor health can result from chronic stress; weakened ability to respond in a necessary acute stressful situation. Why?

- It takes away your energy, so you have less energy.

Your energy is sapped because of a chronic problem. You have only so much energy; in an emergency when extra give is necessary,

you may not have anything left, so you can, feel bad, your health declines.

Some of you mentioned pain as a constant stress. When you're under stress, do you feel more or less pain?

- More.

Pain is affected by muscles that are tense and increases pain. How does pain affects your thoughts?

- Makes them negative.

If you can relax, and allow some of those negative thoughts to leave, then you'll find the pain doesn't bother you as much, and you feel better.

What can we do to minimize stress? When you have a chronic stress problem, does that give you any clues about how to deal with it?

- No.

What do you think you can do about it?

- You've got to grapple with it. I think you stop and think.

- I think I try to see if a rainy day can turn into something positive. If you think you're going to figure out what's your problem, then you're going to have to try to solve it, don't you?

Define the problem as clearly as you can first. It's difficult to find a solution when you don't know where to start. You can spend lots of time trying to figure out where to start instead of beginning to solve the problem itself. You can end up going nowhere.

- A vicious circle.

So when you have what seems to be a big problem, it makes it easier if you can identify it first. Lists help you to solve problems and give you a place to start. It also helps to see that your problems are specific things. Prioritizing and dealing with things one at a time also helps. Defining the problem more specifically consists of learning how to identify what are your stressors, e.g, situations, feelings, people, etc. (e.g., your children, your bank account, your car, traveling), identifying when you feel more tension and negative thoughts.

The second part is identifying how you react. There are many physical, emotional, and cognitive symptoms, but everyone is different. Which ones fit you? Specifying the problem more clearly doesn't solve your entire problem, but it is a start. You have to identify both components and make the connection between your actions and your feelings.

It helps to write things down to keep your thoughts straight. Then you're ready to do something about your stress. There are 3 different ways or plans. You can prevent becoming very stressed, learn how to deal with it if you cannot prevent it, and look for outside resources to help you.

Some of you brought up an excellent way of preventing stress, which is to not put yourself in a stressful situation unnecessarily. If you identify the situations, the first step, and you know what the

situations are, then you can ask if you need to keep being in those situations. What is your own energy level and durability now?

- It depreciates.

It's not the same, not what it used to be. The ways you can cope with stress have to be different from when you were younger, because you're not as strong as before. So to prevent stress, you need to take a realistic view of what you can do and what you cannot do. Your threshold level may be lower than before, so prevention becomes even more important, in order to conserve as much energy as possible.

What about when you cannot prevent stress and you have to do something, e.g, your children are coming to you for advice? You can't avoid it. What do you do then?

- Do the best you can.

- Do this first, do the best you can and let something else go.

- Why bother, they always do it their way anyway.

- All's well that needs nothing.

- For a while.

So we have some different situations and opinions. What's the best way to deal with stress that you cannot avoid? Determine your priorities, concentrate on one thing at a time, don't try to overexert yourself, learn how to look at things more positively.

- I believe that nothing succeeds like prayer.

So you can practice prevention. You may try to prevent stress by praying, by doing other things, by knowing your early signs of stress

and leaving the situation and going somewhere else.

We'll cover coping strategies in a little while. But what about outside resources? When you're under stress, do you feel that you have to hold everything together yourself?

- It depends on the individual, some may and some may not.

There are lots of people who feel this need to hold everything together, and they forget to ask for help when they can really use it. They don't recognize the need for help. Maybe there are places to go, people to talk to, services available, that can assist you.

- The people that you ask for help, they look at it as a weakness.

So if you ask for help, it means you cannot deal with things and you are weak. If you continuously try to keep up the image, of doing everything for yourself, it may affect you, e.g., more pain, more negative thoughts, weakened health. You can list the pros and cons of taking a particular action in any particular situation, and then decide. The decision is yours, but it can be helpful to look at it from a distance, to get a more balanced perspective. Sometimes those outside resources can help you get that balanced perspective, or the information you need to make the decision yourself.

Coping skills: categorized into 4 types across 2 dimensions. Active-direct coping meets the stressor head-on, e.g, changing the source, confrontation, adopting a positive attitude. Inactive-direct coping addresses the stressor, but does not attempt to change it,

e.g, ignore, avoid, or leave the stressor. Active-indirect coping skills are aimed elsewhere than the stressor itself, e.g., changing oneself, getting involved in other activities, "talking things out". Inactive-indirect coping does not address the stressor in a healthy way, e.g, drinking, smoking, becoming ill, collapsing. Obviously the least desirable category. You may need to develop new coping skills or refine others to deal with new stressors.

Here is the "Healthstyle" health-risk appraisal questionnaire (National Health Information Clearinghouse), to give you an idea of how some practices affect health risk. The ways you can minimize stress effects on yourself may seem simple: maintain your health as much as you can. That means getting proper nutrition, getting adequate sleep, a regular exercise program, regular medical and dental check ups. All of these things will help you to maintain your physical health to be the best it can.

Some things you can do to help maintain your mental health: keeping a positive attitude, being optimistic whenever possible, maintaining perseverance, and trying to do your best.

These are some specific ways: effective communication, faith and hope, social support, and taking responsibility for yourself and your own stress. Stress management techniques include relaxation (or meditation) strategies, changing irrational beliefs, managing time more efficiently, assertiveness skills, goal setting, information and preparation may be most effective.

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