NEEDS ASSESSMENT OF UNIVERSITY FACULTY FOR A WELLNESS PROGRAM

By

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It is the desire of the author to have set the foundation for the initiation of a wellness program at Oklahoma State University. By utilizing this reference, the faculty and staff may benefit from a program that will improve their personal health status. It is further anticipated that faculty productivity may increase and the mission of the University promoted.

Special gratitude is extended to my dear friend, Sue Linnenkohl, for her support, listening ear and constant encouragement to continue professional growth.

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CHAPTER 1

INTRODUCTION

From 1960 to 1978, our total spending as a Nation for health care mushroomed from $27 billion to $192 billion. Almost 11 cents of every Federal dollar goes to health expenditures. In the years from 1960 to 1978, annual health expenditures increased over 700 percent. Most of these increased expenditures have been directed to treatment of disease and disability, rather than prevention (Public Health Service, 1979).

With increased health care costs, Americans have awakened to an increased interest in improving their health. In recent years, simple measures that the American people have considered include: a decrease in cigarette smoking; reduction of alcohol misuse; moderate dietary changes to reduce intake of excess calories, fat, salt and sugar; moderate exercise; and adherence to speed laws and use of seat belts (Public Health Service, 1979).

Today's health care problems, with the exception of degenerative diseases such as heart disease, cancer and strokes, can be prevented more by the actions of individuals, and by altering lifestyles, than by actions of the community. Many of the most serious health problems are directly related to unhealthy behaviors such as smoking, overeating, lack of exercise and abuse of drugs and alcohol (Cohen, 1985). Therapeutic treatments have had little impact in reducing the

incidence of chronic disease, therefore, an ounce of prevention is more effective than a pound of cure. An enormous challenge awaits the health care professional to provide effective preventive activities, which will reduce health care costs, and increase wellness.

Until now, only an insignificant fraction of our resources -- less than 2% of the total amount spent for health care -- has been devoted to keeping people well (Cohen, 1985). Many behavior and social sciences studies Cohen (1985) states, show that investments in health promotion and prevention offer returns not only in reduced health care bills, but longer life, increased productivity, and an enhanced ability to deal with the pressures of modern life.

American businesses are realizing the importance of disease prevention and health promotion since they already have a vested interest in the health of their employees by paying for health care. Senator William S. Cohen, a Republican from Maine, introduced legislation to provide a tax credit to employers who provide preventive health programs for their employees with the Preventive Health Care Incentive Act (U.S. Senate, 1983). At the present time, health care programs are primarily characteristic of larger businesses and major corporations. These programs are also being encouraged by smaller to medium firms as well as universities.

Just as health care problems are characteristic of the American nation as a whole, awareness of these problems has surfaced locally also. In a report of the Faculty Council at Oklahoma State University, May, 1986, a recommendation was made that includes the implementation of a comprehensive wellness program for faculty and staff employed at least three quarters time at Oklahoma State University.

The reason the Council recognized the need for a wellness program was to reduce health care costs and increase productivity. Some suggested topics to be included in the program were also mentioned. In order to implement a wellness program, in the Oklahoma State University setting, the initial step involved the administration of a health habits survey to faculty. The survey assessed health behaviors, attitudes and interests of faculty and became the focus of this study.

Problem Statement

With the increase in the cost of health care services provided by the employer, alternatives are being sought to reduce these costs. Suggestions include health maintenance organizations (HMO's) or prospective payment plans in addition to wellness programs offering components in exercise/fitness, nutrition awareness and stress control, just to mention a few.

A wellness program at a university setting is the avenue the author has chosen to study in an effort to control the increase in costs of health care and the decrease in employee productivity. An on-site facility may attract the university community by encouraging healthy activities as the administration supports their employees during these difficult economic times.

Purpose and Objectives

The purpose of this study is to assess the needs, interests and attitudes of faculty at Oklahoma State University for a wellness program. Specific objectives are:

1. To identify current health behavior problems and potential risks of the faculty at Oklahoma State University.

2. To relate demographic variables of the faculty with their current health concerns.

3. To recommend topic areas of health promotion, based on interest, for faculty to the administration.

Hypotheses

H_1: There are no significant associations between the health-style scores in the categories of cigarette smoking; alcohol and drugs; eating habits; exercise/fitness; stress control and safety with age, sex, rank, college, and relative weight.

H_2: There are no significant associations between breakfast habits, being a former smoker, eating away from home, having a routine health exam, and having a cardiovascular evaluation with age, sex, rank, college, and relative weight.

H_3: There is no significant association between belonging to a fitness/exercise center and the exercise/fitness score.

H_4: There is no significant association between having a cardiovascular evaluation and the exercise/fitness score.

H_5: There is no significant association between having a special diet recommended and the eating habits score.

Assumptions

1. There is an interest and need for a wellness program at Oklahoma State University.

2. The faculty are knowledgeable about the areas of wellness to respond objectively to the survey.

3. The portion of the research instrument utilized from the Public Health Service (1979) is valid and has been pretested. Information has been obtained from the continuous and ongoing bank of data at the National Center for Health Statistics (U.S. Department of Health and Human Services, 1981).

Limitations

A major limitation of this study is that it only surveys faculty at Oklahoma State University employed full-time during the 1986-1987 academic year. Staff should also be surveyed, at a later date, using a similar instrument to determine their needs, interests and attitudes for a university wellness program. Generalizations about the results will apply to faculty working in a university setting who would return a survey.

Definitions

The following definitions were used in this study:

1. Wellness: The actualized potential in each person to function at peak levels of performance with a healthy body, alert mind and sound emotions (Cook, 1981).

2. Disease prevention: To help people at every level gain a better perspective on the measures they can personally and professionally take to improve the prospects for better health for themselves, their children, and their neighbors and colleagues (McGinnis, 1980).

3. Health promotion: Begins with healthy individuals and seeks the development of community and individual measures which help them to develop lifestyles to maintain and enhance their state of well being (Chenoweth, 1986).

4. Employee Assistance Programs: Focuses on emotional problems of employees that may be precursors of more significant and potentially more costly - psychiatric and physical health disorders (Kiefhaber and Goldbeck, 1984).

5. Relative Weight: Values were taken from a table and those values not found on the table had a regression equation fitted to fit the data obtained from the surveys (Bray, cited in Krause and Mahan, 1984).

Format of Thesis

Chapter IV was written according to the Guidelines for Authors of the Journal of the American Dietetic Association using the ADA reference style. Additional results and discussion may be found in Chapter V and the Appendices. All chapters with the exception of Chapter IV were written following the standard Oklahoma State University graduate college procedure.

CHAPTER II

REVIEW OF LITERATURE

This chapter was an attempt to review the concept of wellness and its promotion as well as discuss the components of wellness programs implemented by various organizations. In addition, selected successful wellness programs in existence in various settings will be highlighted.

Concept of Wellness

In recent years the word wellness has come to be an all-inclusive word for anything involving health, absence of disease and healthy habits. Wellness is not a new term, but has recently been recognized by many organizations in an effort to reduce employee costs and create a positive working environment. Dunn (cited in Mullis, 1983) describes wellness as "an integrated method of functioning which is oriented toward maximizing the potential which the individual is capable, within the environment where he is functioning". To further clarify wellness, Bruhn, Cordova, Williams and Fuentes, Jr. (cited in Mullis, 1983) states the following dimensions for this term:

- A process that continues throughout life.
- Action-oriented, consciously dependent on individual behavior, decisions, values, and development.
- Learned as one grows and develops.
- More than the absence of disease.
- Composed of intellectual, emotional, physical fitness, nutrition, social, occupational and spiritual dimensions.

O'Donnell and Ainsworth (1984) state that wellness is an attitude, an approach to life, self, work and even to the way one copes with illness or injury. To summarize the thoughts from the experts, this researcher has found that wellness pertains to all individuals and focuses on a healthy lifestyle which enhances human development.

Wellness Promotion

Initially, wellness was identified on the national level as health promotion and disease prevention in the Surgeon General's Report entitled Healthy People (PHS, 1979). Much attention was given to this document since it dealt with health problems that were not directly related to infections. Health problems addressed were grouped into five major categories which were cigarette smoking, nutrition, alcohol and drug abuse, safety and exercise (PHS, 1979). In addition to these health problems, this document (PHS, 1979) cited a major finding which showed an increase, more than 250 percent, in major chronic diseases such as heart disease, cancer and stroke. Although many of the concerns addressed in this publication are still health risks, another form of health problems has surfaced. This problem is largely a result of an individual's behavior or lifestyle and is characterized by unhealthy habits due to lack of exercise, abuse of alcohol and drugs, overeating and smoking. As stated earlier, wellness focuses on maximizing an individual's potential which obviously is a result of healthy behavioral habits. Wellness can be promoted by "behavior change" as Johnson states of his program at Sentry Insurance (Harris, 1979). Behavior change is accomplished by participation in exercise, helpful nutrition education, weight

reduction, smoking cessation and recognition of unhealthy behavior which influences the mind, body and spirit (Harris, 1979).

Besides wellness efforts at the national level, community emphasis has been implemented in the workplace more so in the last few years. Wellness promotion in the workplace had its beginning in 1909, when President Theodore Roosevelt appointed a committee to review the economic loss to industry caused by illness. The committee's recommendation then given to the current President Taft, instituted an educational program to encourage people to have regular health examinations to detect disease before it became disabling and to correct unhealthy habits of living (McCann, 1981). After Taft left the presidency, he, along with others, formed The Life Extension Institute, with the primary purpose of protecting managerial talent and the overall work force with health education and wellness ideas (McCann, 1981). This idea, however, was not widely accepted by the workplace. Times have changed and with health care costs skyrocketing, industry is now becoming more attentive to the idea of health care in the workplace. Many organizations are waking up to the fact that good health is good business because it increases productivity and morale while it decreases rising health care costs (McMillen, 1986a).

The workplace is the most logical place to implement a wellness program for a number of reasons. Dean (1981) states that working Americans spend 36% of their lives "on the job". This figure does not include the time taken to prepare for work or travel time. Since we spend much of our time at work, much of an individual's identity and lifestyle are formulated and practiced at the workplace. Putting these ideas together, industry has more to gain than lose by offering

a health promotion program. Cohen (1985) offers several advantages for having workplace wellness programs. One advantage is the fact that employees go to the workplace on a regular basis thus facilitating regular participation in the programs. A second feature is the contact with coworkers which can provide reinforcing social support. Cohen (1985) further states that the workplace offers many opportunities for environmental support such as healthy food served in company cafeterias and office policies regarding smoking. Other features include the fact that programs in the workplace are generally less expensive than other comparable programs in the community and are usually more convenient. These two ideas may look attractive to the employee and allow them to continue in a program rather than dropout and become another statistic. Worksite wellness programs are not a cure all for all health problems. The main purpose is to encourage individuals to take better care of themselves with the healthy habits of good nutrition, better exercise and reduced smoking. Industry can benefit by having more productive employees who will feel better about the job they do and be an asset to the organization.

Qualitative Benefits and Costs

A worksite wellness program not only benefits the individual but also the organization as well. An area where little evidence in research is found is in calculating benefits that an organization receives after several years with an existing wellness program. O'Donnell and Ainsworth (1984) suggest potential benefits which can be categorized into four headings: improvement in productivity, reduction of benefit costs, reduction of human resource development costs,

and improvement in the community and national images.

Improved productivity as related to an employee is an increased output by comparable collections of resources under similar circumstances in the same periods (O'Donnell and Ainsworth, 1984). Benefits received by increased output O'Donnell and Ainsworth (1984) discuss include: reducing absenteeism, improving morale, conserving operating costs by less waste of organization resources, improving the ability to perform and developing higher quality staff. Control Data Corporation found that people with poor health habits are 86 percent more likely to miss work and 100 percent more likely to limit the amount of work they do (Rosen, 1984). The second area of potential benefits is the reduction in benefit costs to the employer. Specific areas included in this heading consist of reducing worker's compensation claims and providing welfare benefits. To illustrate this point, Rosen (cited in Kristein, 1981) states that one smoking employee is estimated to cost employers between $624 and $4,611 more annually than a non-smoker in employee medical costs, absenteeism, replacement costs, maintenance, property damage, other insurance increases and lowered productivity. In contrast to the high risk employee, stated above, an employee that takes responsibility for his/her actions and modifies their lifestyle decreases their health risk thus causing fewer claims and in general is a more healthy individual and contributor in the work environment.

The third area O'Donnell and Ainsworth (1984) mention is a reduction in human resources development costs. Areas where costs can be lowered include recruiting higher quality workers who are retained allowing a reduced turnover. Educational and training opportunities

are encouraged for employees that have been productive and thus helps to create a more satisfied and stable work force. The final potential benefit category (O'Donnell and Ainsworth, 1984) is the impact on the image of an organization at the local and national levels. As a result of this researcher's literature review, many organizations have looked attractive due to the fact that there is a wellness worksite program in place. Oftentimes the programs and benefits speak louder to a prospective employee than the basic information available about any job. Examples the image of the organization can portray include general visibility to the public, specific association to products and services relating to health and other consumer awareness areas, and concerned and responsible employers. It is much more likely that an employee will be happier on the job and with his/her performance if the employer shows an attitude of general concern for all.

O'Donnell and Ainsworth (1984) further discuss probable costs incurred by an organization offering a workplace wellness program. Suggested probable costs cited are the impact on the organization's psyche which if not positive may be damaging, an impact on the daily work routine with the various times for program participation, the long-term commitment, administrative costs required in staffing the program and/or facility and the program costs (O'Donnell and Ainsworth, 1984). Although comprehensive long-term studies are not available, the potential benefits and probable costs are not as critical because a wellness program portrays an attractive image to the prospective employee as well as being a role model for the nation as a whole. The bottom line when you add up all the costs and benefits is

a positive investment in an organization's resources which are the employees themselves.

Emphasis of Wellness Programs

Health promotion programs should have as their major goal an emphasis on optimizing physical and mental health and improving the physical and social environment. In order to facilitate this goal, most companies use a health-risk appraisal instrument, available from various public and/or private agencies. These instruments usually are administered to the subjects individually and then are collectively analyzed. To further assess the subjects some laboratory tests may be included in addition to other measurements such as scores on the treadmill test. Data received from this health-risk appraisal instrument along with other information can be analyzed for programming purposes. Various components or emphasis are covered in wellness programs which will be discussed in the following section. Topics of wellness programs may include one or several of the following: good nutrition, physical fitness/exercise, stress control, misuse of alcohol and drugs, smoking cessation, and safety.

Good Nutrition

The role of nutrition in health promotion has always been an important element. A dietitian or nutritionist is the most qualified to discuss the role of diet and how it relates to staying healthy. As previously mentioned, wellness promotes behavior change and this is true of nutrition also. The nutritionist is responsible for educating the public and increasing their awareness of healthful eating habits.

Mullis (1983) covers several areas of nutrition education with the first involving the subject keeping dietary records, which also include social environment cues for eating. This record will help to identify problem areas that will foster behavior change. Another area of education involves food preparation techniques, with emphasis placed on reducing fat, salt and sugar in recipes. The final area is practical application because it requires the subject to select nutritious foods from various menus whether in the hospital, restaurant or at home. The U.S. Department of Agriculture (1985) has published Dietary Guidelines for Americans which suggests characteristics of a good diet for those who are healthy. The guidelines are as follows:

- Eat a variety of foods
- Maintain desirable weight
- Avoid too much fat, saturated fat, and cholesterol
- Eat foods with adequate starch and fiber
- Avoid too much sugar
- Avoid too much sodium
- If you drink alcoholic beverages, do so in moderation

Those individuals with health problems may need to follow a special diet which can be recommended by a registered dietitian. These guidelines can not make a sick person well but can help a person stay well. The Department of Agriculture (1985) through this publication suggests that health is more than diet by also including heredity, lifestyle, personality traits, mental health, attitudes and environment. As has been stated earlier with regard to wellness, good nutrition is just one of the key components to staying healthy.

In keeping with behavior change of nutrition practices as part of the wellness movement, Weston (1983) reports on the development of a unique wellness program that offers students at the University of Wisconsin at Stevens Point an opportunity to learn health-enhancing

lifestyles. The program has three main objectives: 1) to decrease student consumption of fat, salt and sugar; 2) to increase consumption of complex carbohydrates; and 3) to increase consumption of water rather than soft drinks or beer. A task force was created which provided in-service training sessions for foodservice workers. This encouraged feedback from the employees which made them a valuable part of the team and in essence an educator. Changes were made in food preparation of standard items by lowering the sugar, salt and fat content. The production of baked goods incorporated the use of whole wheat in such products as bran muffins, whole wheat breads and sandwich rolls. Another addition was made by offering chicken and fish on "Wellness Nights", thus providing food lower in salt and fat content. Along with the "Choice Eating Campaign", nutrition classes were offered on frequently requested topics such as weight control, vegetarianism and sports nutrition. The method used to encourage healthy food consumption utilized 3 x 5 index cards displayed in front of each entree with the name of the entree, calories per serving, and proportion of fat, carbohydrate and protein per serving listed. This technique using point-of-choice cards helped to emphasize the most important information about the food items.

Weight-control, one of the Dietary Guidelines, is often a frequently requested topic for a wellness session. An example of a program involving bank employees was conducted using behavior modification by nutritionists in Lincoln, Nebraska (Kneip, Fox and Fruehling, 1986). Employees were notified of the program through a special flyer which explained the details and informed the recipients of the bank's willingness to participate by paying half of the registration

fee. This program was an effort on the part of the bank's administration to encourage health maintenance from their employees. Kneip et al. (1986) stated that participants who achieved the greatest success reported that they had modified their method of food preparation, exercised routinely, ate smaller portions of food, and set goals for weight loss. Outcomes of the program were expressed by bank administration in positive terms by their commitment to employee welfare and wellness programs which create good will and a positive public image (Kneip et al., 1986). These illustrations display two of the most critical areas of nutrition education which are eating habits and weight control. Obesity, 20% above ideal body weight, is a common health problem which can create other more serious health problems. In addition, modifying eating behavior by decreasing an individual's consumption of fat, sugar and salt is also necessary for good health.

Physical Fitness/Exercise

Danish and coffee are not the fare for Pat Woods when she arises at 6:30 a.m. As she awakens, her attire is a T-shirt and sweat pants in preparation for a 30 minute aerobic workout at the Dedman Center for Lifetime Sports at Southern Methodist University (McMillen, 1986b). This illustrates the fitness/exercise component of a university wellness program. In keeping with the wellness concept of producing more productive employees, the Soviet Union has done the most extensive research on health/fitness programs. Russian experts found that working people who exercise regularly produce more, visit doctors less, and seem to be more immune to industrial accidents (President's Council on Physical Fitness and Sports, 1981).

According to Conrad (1979), heart attacks kill more than one-half million Americans every year, many of them middle-age and at the peak of their productive lives. Recruitment for their replacements costs companies approximately $700 million each year. About 75 million suffer from one or more types of back pain, usually a result of neglected muscles (Conrad, 1979). In order to combat physical unfitness, business and industry are providing health/fitness programs for the work force at the workplace. Dr. David Wheeler, training consultant and business administration professor at the University of Houston notes that a physically active employee thinks better, is more productive at work, and has a positive attitude toward the company and the job ("Teaching employees," 1979).

The kind of exercise appropriate for an individual depends on age and physical condition. Health authorities recommend regular activity that utilizes many parts of the body. The activity should be vigorous enough to tax the power of the muscles and should be done long enough and strenuously enough to produce a sense of healthful fatigue (President's Council on Physical Fitness and Sports, 1979). In order to stay healthy, exercise must become one of those things that you do without question, like bathing and brushing your teeth, on a regular basis. The man or woman who participates in regular exercise will maintain a better state of physical fitness, will stay active longer, and is more apt to be resistant to the degenerative diseases of middle and later life, especially diseases of the heart and of the blood vessels (President's Council on Physical Fitness and Sports, 1979).

To encourage regular exercise, many companies are following the same approach as Prudential and that is to provide a "health club" as

an employee benefit and encourage employees to use it. Dr. Kenneth Cooper has an aerobics facility in Dallas that serves 1,400 members with a complete clinic, swimming pool, gym, ball courts and a jogging tract. Several corporations such as Tyler, use these facilities in an effort to promote running and other physical activities ("Teaching employees," 1979).

The President's Council on Physical Fitness and Sports (1986) reports on a study of NASA employees which at the end of the first year showed the following personal impressions and conclusions by the participants:

- One-half reported improved job performance and more positive work attitudes.
- Almost all said they felt better.
- Eighty-nine percent reported increased stamina.
- Forty percent reported sounder sleep.
- More than sixty percent lost weight.
- Half said they were paying more attention to diet.
- Many had reduced their smoking or stopped smoking.

A good employee health/fitness program has many positive attributes. The emphasis of the program should be on aerobic, muscular strength and endurance activities suggesting three one-hour periods per week as the optimum dosage (President's Council on Physical Fitness and Sports, 1986). The advantages definitely outweigh the disadvantages with initial expense for facilities being the most costly. According to the President's Council (1981), one estimate received showed that regular exercise can reduce absenteeism by three to five days per person per year -- a savings that would soon pay for the installation and maintenance of a corporate fitness program. If an organization is serious about wellness, considering a fitness program may be beneficial because it may be more costly to be without one.

Stress Control

Work is inevitable and to many employees money is not the motivating factor but instead non-tangible rewards are expected and sought in the workplace (Pierre, 1986). Employees at all levels and in a wide range of occupations are recognizing that the workplace exerts a major impact on their total life. When experiences at work such as uncooperative co-workers, little control, no responsibility, being blamed for an insignificant detail and time demands, are negative an individual experiences stress (Pierre, 1986). Current research projects aim at promoting and enhancing emotional well-being at the workplace by suggesting a social environment and a balance between work and the other parts of an individual's life.

The workplace as a social environment should develop interpersonal relations which can either enhance or diminish the feeling of personal pride and job satisfaction (Pierre, 1986). The main goal is to provide a positive workplace environment. One element of this environment is social support which Pierre (1986) mentions is simply caring and being sensitive to the feelings and needs of others. Support can be shown by touching, listening, offering assistance or advice, or simply a bear hug. In addition to worksite wellness programs that offer sessions on good nutrition and physical fitness/exercise, Pierre (1986) suggests workshops on interpersonal skills (such as communication, assertiveness, conflict management etc.). Workers need this support during special times such as during the loss of a loved one, a sudden accident, divorce or some other crises.

Stress, in several studies, demands a high price in terms of resistance to disease, depression, chronic conditions and feelings of

apathy (Reed, 1984). Excessive stress, Reed (1984) notes threatens a worker's ability to deal effectively with the environment, and thus can lead to less productivity. Ways to deal with stress include exercise, nutrition and relaxation. Exercise is one of the more effective methods of dealing with stress and is beneficial in dealing with stress for three reasons: exercise permits a temporary withdrawal from the stress situation, develops cardiovascular fitness in proper proportions and forces the worker to relax after the exercise (Reed, 1984).

Many organizations are now offering stress management courses or programs. For example Standke (1979) cites The New Jersey Society of CPAs in offering a credited stress-reduction program as part of its continuing professional education program. Interestingly enough, this was originally offered because the program coordinator "saw an interesting brochure and thought it looked like a good idea"; the course proved to be successful and enormously popular. The longest and most complex stress management program available is offered by the Aspen Institute for the Management of Stress (Standke, 1979). This program includes an eight-day plan complete with a physical examination, physical stress testing, behavior response analyses and nutritional and exercise assays. The course continues with personal consultation, lecture, seminars and supervised practice, participants learn to substitute positive behavior patterns and stress-management techniques for those that may become detrimental. The final stage for each participant is a follow-up with receipt of educational materials in order to maintain the newly learned beneficial behavior and attitudinal changes.

A final example of a worksite stress management program is offered by the Life Management Institute (LMI) at Good Samaritan Hospital and Health Center in Dayton, Ohio. Jones (1986) discusses a short term counseling program entitled SUPPORT which is designed to improve employee productivity by providing therapy and stress management to employees of business and government. According to the Institute's director, Ronald Nelson, about 20 percent of the nation's work force at any given time will experience stress or emotional problems that adversely affect their performance (Jones, 1986). Signs of stress may be recognized by the individual or by the employer such as excessive absenteeism, tardiness, high accident rates, waste of work materials, increased use of grievance procedures, and erratic work patterns any of which may cause referral to LMI (Jones, 1986). Behaviors learned in a stress management course guide the individual on how to best deal with the everyday occurrences of life and to plan for more relaxation and leisure time.

Misuse of Alcohol and Drugs

A 1979 survey commissioned by the National Institute on Alcohol Abuse and Alcoholism found that 13% of American adults (and 21% of men) reported that they were heavy drinkers -- consuming more than 60 drinks a month (Kamerow, Pincus and Macdonald, cited in Clark and Midanik, 1982). Ten percent of the adult population exhibited symptoms of loss of control while drinking, or dependency on alcohol during the survey year. Five percent attributed at least one social consequence to the abuse of alcoholic beverages. The National Institute on Drug Abuse 1982 Household Survey on Drug Abuse found that 11%

of Americans of all ages were current users of marijuana and/or hashish (Kamerow et al., cited in Miller et al., 1983).

Both alcohol and drugs can result in addictive behavior as an individual attempts to cope with the problems or stresses of everyday life. Like many other personal and health problems, attention is usually not given to alcohol or drug-related problems until a person's negative behavior forces other people to respond (Jones, 1984). As the individual continues to work there is a daily struggle which can lead to being fired, demoted or transferred to a less demanding job unless help is sought (Jones, 1984). An individual has an alcohol or drug-related problem Jones (1984) states when one or more of life's primary functional areas, such as health, family or job, is repeatedly impaired by the use of a chemical.

The employer enters the picture when an alcohol or drug-related problem impairs the ability of employees to do the work for which they are being paid. Symptoms exhibited at the workplace may include intoxication while at work, absenteeism, tardiness, decrease in productivity and sleepiness. The National Council on Alcoholism (1976) has estimated that employers lose approximately 25 cents on every dollar paid in wages to alcoholic employees (Jones, 1984). The National Institute on Drug Abuse (1979) has reported that an employer in New York estimates a loss of $75,000 per year in turnover costs due to drug use; another company estimates that work performance is reduced by 20% (Jones, 1984). Health problems with alcohol and drugs can affect the workplace and a smart employer will recognize that savings can occur if employee assistance programs are offered to help employees deal with the everyday stresses of life.

Smoking Cessation

Employee awareness of health issues not only includes nutrition, physical fitness, stress and alcohol/drug use but also the health affects of smoking. According to Hansen and Harrup (1984) tobacco smoking is the nation's number one health problem and the most preventable cause of premature morbidity and mortality (U.S. Department of Health, Education and Welfare, 1979). Many diseases are associated with smoking and they include cancers, cardiovascular diseases, circulatory diseases, and chronic obstructive pulmonary diseases. Coronary artery disease accounts for nearly one-half of the deaths in this country, one-third of which are attributable to cigarette smoking (Hansen and Harrup, 1984).

Five ways in which cigarette smoke may interact with other substances to produce or increase adverse health effects are listed in the U.S. Department of Health, Education and Welfare, 1979 publication entitled Smoking and Health: A Report of the Surgeon General and they are:

1. Tobacco products may serve as vectors by becoming contaminated by toxic agents found in the workplace.

2. Toxic agents in tobacco products and smoke may also occur in the workplace, increasing exposure to such agents.

3. Smoking may have an effect comparable to that which can result from exposure to toxic agents found in the workplace, causing an additive adverse effect on health.

4. Cigarette smoke may act synergistically with toxic agents in the workplace to produce and effect which is much more deleterious than that produced by exposure to either a toxic agent or smoke alone.

5. Smoking may contribute to accidents in the workplace by preventing completeness of attention, by making it necessary for one hand to be occupied by smoking, and causing eye irritation, fires, and explosions.

With all the ill effects of smoking, non-smokers have begun vocalizing their opinion by demanding certain rights in the workplace. "No Smoking" signs are now being displayed at individual's desks, in bathrooms, conference rooms, cafeterias, private and open offices and hallways. A 1983 survey conducted by the Gallup organization for the American Lung Association revealed that a significant majority of smokers and non-smokers alike agree that special areas for smokers should be set aside in the workplace (Hubbartt, 1986). This researcher recalls the news media reporting on a story about an individual who was fired from a job because he/she was allergic to the waste products of cigarette smoke. The company the individual worked for had tried to create a protective environment but was unsuccessful in getting all the employees in a nearby area to cease from smoking.

Hubbartt (1986) reports that Michael McCafferty, Director of Smoking and Health for the Chicago Lung Association is receiving calls every week from individuals and companies concerned about establishing a policy about smoking in the workplace. Many programs whether in-house, community service, commercial or programs provided by specialists can be initiated to help employees quit smoking.

Several organizations have recognized smoking policies and/or programs. For example, Quaker Oats has designated public areas with smoking and non-smoking sections and also sponsors a stop smoking clinic offered at no cost to employees (Hubbartt, 1986). One such organization, Quantum Data, Inc., has adapted a strict no smoking policy. According to company president Allen Jorgensen, the company hires only non-smoking employees and any use of smoking materials is prohibited on the company premises. All visitors to the premises,

including customers and vendors, are advised of the no-smoking policy (Hubbartt, 1986). This policy was not instituted overnight but was the result of a partial ban three years ago that confined smoking to the employee lunchroom and washrooms. These areas became too smoked filled so the president offered stop smoking clinics at no charge to those employees who smoked. If employees did not enroll in the clinic, they confined their smoking habits to non-working times or in some cases many left for other jobs, but none were asked to leave.

Those organizations interested in developing a no smoking policy need not feel pressured to set all the policies themselves. Management consulting firms that specialize in organizational development of employee relations issues can develop and implement a program tailored to the firm's needs (Hubbartt, 1986). Other government agencies as well as non-profit organizations can give assistance in the form of pamphlets and/or workshops on the health issue of smoking cessation. As is with some of the other components of health promotion, smoking cessation can increase productivity and reduce absenteeism which is dollars and cents to each and every employer. In addition to saving the company money, a smoking cessation program can improve the attitudes of all the employees by creating a better atmosphere conducive to healthy people.

Safety

The role of safety in health promotion involves two areas. One area which will not be discussed in this section includes occupational safety and health and also toxic agents. The area under consideration involves injury control and accident prevention. Only a small percent

of Americans take an active step in reducing the risks of injury by burns, falls, drownings or poisonings. In addition to injuries, fatalities from automobile accidents account for unnecessary traumas. Laboratory and field studies suggest that universal seat belt use could decrease the number of serious injuries and fatalities by at least 60% (Robertson, cited in Goldbaum, Remington, Powell, Hogelin and Gentry, 1986).

Unintentional injuries are the leading cause of death for people between one and 38 years of age and a leading cause of disability (U.S. Department of Health and Human Services, 1980). To address the injuries described here, further discussion is necessary. Children are the prime target for most of the injuries but adults can be involved at times also. Burns can be caused by many sources. Cigarettes are a prime culprit, but with the decrease in cigarette smoking this cause will decline. Children playing with matches can set a house on fire causing extensive damage to buildings in addition to human lives. Injuries can also involve poisonings which may lead to death. An estimated 400,000 children under age five are accidentally poisoned each year, one-fourth of whom will be retreated for poisoning (DHHS, 1980). Parents need to be extremely careful when storing medication, cleaning supplies and other toxic materials.

According to the 1981-1983 behavioral risk factor survey focusing on failure to use seat belts, 75.9% of the adult U.S. population reported they did not use seat belts (Goldbaum et al., 1986). Further information received showed that blacks were least likely and Hispanics were most likely to use seat belts (Goldbaum et al., 1986). In addition the statistics Goldbaum et al. (1986) explains show that

failure to use seat belts decreased with increasing age and decreased markedly with increased education. To reduce this high rate of failure to use seat belts, many states are instituting mandatory use laws. For example, for the first three months after New York's law was enforced (December 1, 1984), occupant fatalities decreased by 22% throughout the state despite a 4% increase in highway mileage driven (New York State Department of Motor Vehicles cited in Goldbaum et al., 1986).

Healthy people must be concerned about safety from injuries and accidents. One of the 1990 Objectives for the Nation (DHHS, 1980) includes increased public/professional awareness. This can be accomplished by educating the parents of children under 10 in the appropriate measures for handling serious injury to their children. Another avenue for educating the public can be given by primary health care providers as they advise patients on the importance of safety belts and child restraints in preventing automobile injuries. These precautions can help create a positive, healthy atmosphere where lives are valued.

Successful Wellness Program

Many organizations are getting into the act by offering wellness programs either directly for their employees as a benefit or as a service for fee. The various settings this researcher will highlight include the hospital, industry/business and university settings.

Hospital Setting

In the past, hospitals were thought to be places where individuals go to get well after an illness or disease occurs. Today, hospi-

tals have expanded their services to include wellness programs in order to obtain revenue from the loss of competition within the medical care system and also because of the change in the public's attitudes towards health and staying healthy. A 1981 AHA survey showed that 53 percent of hospitals engage in some form of community health education, 59 percent provide a health education program for their own employees, and 13 percent offer services for a fee to industry (Kiefhaber and Goldbeck cited in Jones, 1981). Services designed for employers include many forms of testing services (e.g. pre-employment physicals, occupation hazard screening, fitness testing, and hypertension screening); courses that can be offered at the hospital or the worksite (e.g. stress management, exercise and physical fitness, smoking cessation, special diet programs, healthy back and proper lifting techniques, and nutrition); programs for high-risk populations; employee assistance programs and on-the-job emergency medicine (Kiefhaber and Goldbeck, 1984).

Two programs that will be discussed in this research report include Skokie Valley (Illinois) Community Hospital Good Health Program and SCORE which is the Specialized Center of Rejuvenation and Exercise part of the Oklahoma Cardiovascular Institute at St. Anthony's Hospital in Oklahoma City, Oklahoma.

According to Jacqueline B. Marcus, consultant for the Skokie Valley Hospital Good Health Program, this program was one of the pioneers in the national hospital wellness movement. In 1977, Marcus (1983) explains that the trustees and farsighted community leaders began to put a halt to escalating medical care costs by preventing illness instead of merely treating it. The hospital chose to improve

health throughout the community by health education and other appropriate activities and did so by hiring a staff which included a director with community health experience, an assistant, an exercise physiologist, a registered dietitian, a stress management consultant and smoking clinic coordinator along with several other technicians who performed screening techniques (Marcus, 1983).

The Good Health Program, Marcus (1983) explains can be purchased as either a total package or with individual components (such as the nutrition or weight-control series). The main components of The Good Health Program include a lifestyle assessment, group and/or individual results sessions, health promotion activities, follow-up sessions, and evaluation. The lifestyle assessment includes a confidential health risk appraisal and health screening. One of the components that was marketed in an organization was a weight loss course which emphasized nutrition, exercise and behavior modification (Marcus, 1983). Classes were held twice a week for eight weeks. Success was measured by weight loss and maintenance rather than by questionnaires. The results indicated an adherence to lifestyle recommendations throughout the follow-up period. The topic of weight loss was what the employers were most interested about. Thinner employees are happier, more productive and showed more positive attitudes about their work and employer. Even though this program is not generating a profit, it still has potential for creating healthy environments.

The SCORE program at St. Anthony's Hospital operates in some of the same ways as the Good Health Program but is just in the beginning stages with the first participants on the program in February 1985. This researcher was fortunate to interview Bill McClure (1986), direc-

tor of the program for most of the material contained herein. The SCORE program is an aerobic fitness and lifestyle program with an emphasis on cardiovascular treatment and prevention. The components of this program include nutrition, exercise and change in lifestyle. Participants include individuals, civic groups and small businesses. All of the assessments are done on an individual basis and then an individualized diet, exercise and lifestyle pattern are recommended. A one-time fee, good for a year, is charged at the initial evaluation with a discussion of the health evaluation scheduled for a week later. Two follow-up appointments are scheduled at 6 and 12 month intervals. The client is given exercise cards to complete and return to the SCORE headquarters to be entered in a computer for monitoring purposes. The major drawback in this program is the lack of group support to follow a diet or stay on an exercise plan, which was an area the director mentioned in our discussion. Since this program is rather new, advertising has been sparse especially since the Cardiovascular Institute operates as a non-profit organization. The main goal of the program after talking to the dietitian and director is to teach a lifestyle to their participants so that health problems can be avoided. This is the essence of wellness.

Industry/Business Setting

Just as hospitals are recognizing the need for wellness programs so are businesses and industries. Two business programs will be discussed and they are Control Data's 'Staywell' Program and Kimberly-Clark Corporation's Health Management Program.

Control Data's 'Staywell' Program began in 1979 as a free

employee benefit also available to spouses. Participation in the program ranged between 65 to 95 percent at all the site locations with a total of 22,000 employees (Kiefhaber and Goldbeck, 1984). The program includes a confidential health risk profile with a workshop to interpret the results, a health screen, one-hour overview of courses on lifestyle and health, and comprehensive sessions given over periods of several weeks dealing with smoking cessation, stress management, weight control, nutrition, and fitness. One of the unique features of this program includes the follow-up and support-systems programs. The support groups form at the end of each of the Education and Lifestyle-Change Courses so that the peer support can encourage each other to maintain and continue to modify and practice the new learned behaviors (McCann, 1981). Dr. Murray Naditch, director of design and development for Control Data Health Care Programs, states that the focus of the program is on long-term rather than short-term change (McCann, 1981). Kiefhaber and Goldbeck (1984) report some positive effects of the Control Data program. For example, smokers enrolled in the smoking cessation course smoked an average of 1.6 packs per day at the start of the course. Twelve months after the course, 30.3 percent were not smoking, 43.5 percent were smoking less than one pack per day, and 24.2 percent smoked one or more packs per day. Learning new behaviors to alter an individual's lifestyle is part of the total wellness concept.

Another program recognized by wellness promoters is the Health Management Program at Kimberly-Clark. Darwin E. Smith, chairman and chief executive officer, states that the goal of the program is to help employees maintain or improve their health instead of providing

medical assistance only after they become ill (Weisenberger, 1977). Effectiveness of the program will be determined by using computerized medical histories to document changes in employees' health status. Weisenberger (1977) describes the steps of the Health Management Program which initially includes an evaluation of the health risks of each employee through an extensive medical history, a series of health tests, a complete physical examination and a treadmill test. Secondly, the employee receives an individualized health prescription to reduce those risks. In order to operate this program, a 7,000 square foot multiphasic health testing facility and a 32,000 square foot physical fitness facility adjoining one of its corporate office building was built. The complex has a staff of 15 full-time health care personnel under the direction of Dr. Robert E. Dedmon, physician.

In addition to exercise, the health prescription may also include seminars on such topics as obesity, nutrition, alcohol and drug abuse, and stress. During the initial assessment of employees, Dr. Dedmon had a "Health Hotline" telephone installed to encourage comments and questions and get employees to voluntarily sign up for the program, which produced more than a 60 percent response after a target of only 50 percent (Weisenberger, 1977). A comment by Leo E. Suycott, president of Blue Cross of Wisconsin, Weisenberger (1977) notes indicates that he is pleased with Kimberly-Clark's recognition of preventive medicine to lower medical costs and increase productivity.

University Setting

The final setting to be considered for health promotion is the university setting. Often, this setting is overlooked due to the

diverse jobs found among academia (faculty) and the support staff (secretaries and technicians). The daily schedule of these employees is usually more varied than in a corporate setting with set hours of 8 a.m - 5 p.m. One study assessed and compared cardiovascular fitness levels, general fitness status, and stressful life experiences among women who teach at the college and university level with women in other professional positions (Shields, 1984). Several significant relationships were noted. Teachers appear to be more vulnerable than doctors and attorneys to stressors such as frustration, overload, and aggressive time urgent behaviors according to Shields (1984). Job stress can negatively affect an individual which likely affects absenteeism, health care costs, worker fitness and productivity and may affect the classroom environment, the teaching/learning process, and the attainment of educational goals and objectives. Further, stress at work has broader implications for the quality of one's life outside of work, especially one's physical and mental health and family roles. Shields (1984) notes that the relationship between fitness, stress, and coronary heart disease cannot be ignored.

Physical fitness facilities have long been available on college and university campuses. Other areas of expertise by members of physical-education and athletic departments, counseling services, and medical centers are encouraging employees to adopt "lifetime" regimens or good living practices (McMillen, 1986a). According to the National Wellness Institute at the University of Wisconsin at Stevens Point, about 20 percent of higher education institutions now have health promotion plans in place (McMillen, 1986a). Robert H. Rosen, an assistant clinical professor of psychiatry at George Washington

University, who is also a consultant to the Washington Business Group on Health, states that academic institutions were behind the private sector, but now are catching up in the area of health promotion (McMillen, 1986a). Some academic officials McMillen (1986a) states predict that colleges will soon promote health programs to recruit faculty members.

The National Wellness Institute at the University of Wisconsin at Stevens Point serves as a clearinghouse for information on health promotion and is also a resource for those wishing to set up employee programs (McMillen, 1986a). Faculty and administrators at the University of Wisconsin's campus at Stevens Point exhibit one of the most extensive wellness programs on college campuses. Features of the program include nutrition in the form of weight loss, exercise patterns, and most importantly the reinforcing of healthy living habits. Habits that are discouraged include smoking and coffee breaks serving coffee and doughnuts. Instead, non-smoking areas are emphasized along with fruit juice and bran muffins for coffee breaks. This program was initially started for students and then was added for administrators and faculty members. To make it easy for faculty to participate, exercise activities are incorporated into work schedules such as reserving the gymnasium for administrators and faculty at the lunch hour. The university has no statistical data on whether absenteeism and health costs have decreased as a result of the wellness program but one thing is sure and that is it has created happier employees in this working environment.

Two other university programs that have gained some regional attention include the Texas A & M University wellness program and the

Emporia State University wellness program. Texas A & M's program has been in existence approximately five years under the direction of George T. Jessup (personal communication, November, 1981). The aim of the program is to identify health-risk factors and control them through education, diet, exercise, and personal counseling. To begin with, the program includes a wellness profile (health and lifestyle history, dietary evaluation and medical evaluation). After the initial assessment, educational and supervised group programs are used to instruct the participants. Emporia State University has a fairly new wellness program, having been in existence for only two years, under the direction of Darrell Lang (personal communication, January, 1987). Components of this program are similar to the others including medical evaluation, dietary analysis and physical fitness aptitude. It can definitely be acknowledged that campus, university or college, wellness programs are an up and coming avenue to help reduce health care costs, increase productivity and improve employee morale.

Summary

The idea of wellness was first mentioned in the government document entitled Healthy People (PHS, 1979). Americans became health conscious as a result of health problems related to unhealthy living habits. Businesses became aware of health problems when health care costs escalated with less or the same amount of coverage as in previous years. Both of these have fostered the growth of the wellness movement or smart living for healthy people. The wellness concept has been incorporated at the worksite most conveniently because people spend a great deal of their day in that place. Areas included in

wellness programs range from fitness/exercise and nutrition to stress control, smoking cessation and drug/alcohol abuse.

It is advantageous for businesses to consider a wellness program for their employees because it can be cost effective by reducing absenteeism and causing the employee to be more productive while on the job. A wellness program offered by an organization is a vote for positive health habits for the employees by the employer. Corporate businesses and hospitals have been involved in the wellness movement for sometime now. The university setting needs to realize that it also needs to offer some kind of incentive to keep good employees fit by incorporating a program to foster a lifestyle with healthy habits.

CHAPTER III

METHODOLOGY

The purpose of this study was to assess the needs, interests and attitudes of faculty at Oklahoma State University for implementation of a wellness program. Recommendations will then be made to the administration on areas where employees need the most improvement in addition to the faculty's areas of preference. This chapter includes the research design; description of the population to be studied; data collection including instrumentation and procedure; and data analysis.

Research Design

The research design used in this study is a descriptive status survey or assessment. This study will not attempt to manipulate variables, but instead focus on the relationships between them (Best and Kahn, 1986).

Population

The population includes only the faculty employed full-time at Oklahoma State University during the 1986-1987 academic year who hold the position of instructor, assistant, associate, or full professor status. An "other" column was added for those individuals who are visiting and adjunct professors. The mailing list (N=955) was obtained from the OSU central mailing office.

Data Collection

Instrumentation

Part one of the healthstyle portion of the research instrument was developed and pretested by the Public Health Service (1981) with data obtained from the National Health Interview Survey (U.S. Department of Health and Human Services, 1981). The remaining portions were developed after a review of literature by the researcher. The first portion of the questionnaire included 24 questions that were grouped into the following categories: cigarette smoking; alcohol and drugs; eating habits; exercise/fitness; stress control and safety. Part two included demographic information such as sex, age, rank, college and other information not included in Part one. Part three contained questions concerning the employees interest and participation in a wellness program.

Ten staff members in the College of Home Economics pretested the questionnaire for clarity of instructions, and to offer suggestions (Appendix A). Some revisions were made, but final review by the researcher's graduate committee was given prior to the distribution of the questionnaire to the faculty. The letter and instrument were printed on buff colored paper.

A cover letter accompanied the questionnaire explaining the study. A copy of the cover letter and research instrument may be found in Appendix B.

Procedure

Permission was obtained from the Vice President of Academic

Affairs at Oklahoma State University prior to circulation. The letters and instruments were delivered to central mailing on the OSU campus for distribution to faculty. The instruments were mailed on September 2, 1986, but faculty did not receive them until September 8, 1986. Eight days were allowed for completion of the instrument with a return date of September 16, 1986. It was determined by the researcher's committee that no follow-up should be used. A total of 484 usable surveys (50.7%) were returned.

Data Analysis

Scores were tallied and then evaluated using the scale provided by the Public Health Service (1981). Each subscale of Part One was worth a total of 10 points. A score of nine or 10 in an area was an excellent score and this showed that the individual was aware of the importance of this area to their health. A score of six to eight in an area showed that practices were good, but room for improvement is possible. A score of three to five definitely showed health risks encouraging a change in behavior. A score of zero to two showed that there were serious and unnecessary risks to an individual's health. In evaluating these data, the researcher included those individuals receiving a score of five or below into one category entitled poor.

Part Two was coded and scores were entered into the computer using the Statistical Analysis System (SAS) to perform the calculations (Helwig, 1983). The following statistical procedures were used: frequency distribution, Pearson product-moment correlation and chi-square analysis (Huck, Cormier and Bounds, 1974). Pearson correlation coefficients were computed describing a relationship between the two

variables of age and weight. A positive correlation showed a direct relationship and a negative correlation showed an inverse relationship. Chi-square analyses were performed to determine the number of responses that fell in two or more categories, such as the six health-style behaviors. This enabled the researcher to identify significant associations between the independent variables of age, sex, rank and college with the excellent, good or poor dependent values on the six health-style categories. The .05 level of significance was used to evaluate the data.

CHAPTER IV

NEEDS, INTERESTS AND ATTITUDES OF UNIVERSITY FACULTY FOR A WELLNESS PROGRAM

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Abstract

During the 1986-1987 academic year, 484 full-time faculty at Oklahoma State University responded to a health habits questionnaire. A Likert scale was used to measure the following categories: cigarette smoking; alcohol and drugs; eating habits; exercise/fitness; stress control; and safety. The highest possible score was 10 for each category. Cumulative scores of nine or 10 indicated excellent health awareness, scores of six to eight indicated good health practices with room for improvement, and scores of five and below indicated serious and unnecessary risks. Categories indicating a need for improvement with mean scores were: exercise/fitness, 5.7; eating habits, 7.3; and stress control, 7.4 points on the 10 point scale.

The survey results had implications for implementation of a wellness program. Three-fourths of all respondents expressed an interest in such a program. Almost two-thirds of those "interested" respondents indicated that they would actually participate in a wellness program. Preferred areas for a wellness program in rank order were: (1) fitness/exercise, (2) stress management, and (3) weight control.

Introduction

In recent years the term wellness has become an all-inclusive word for anything involving health, or the absence of disease. Wellness is not a new concept. Several authors have attempted to define, through the years, what wellness means. For the purposes of this study, wellness was defined as the actualized potential in each person to function at peak levels of performance with a healthy body, alert mind and sound emotions (1).

Only recently have businesses recognized the potential benefits to be derived from wellness programs. Major implementation incentives have included the reduction of fringe benefit costs as well as creation of a positive working environment. Legislative initiatives have been made to provide preventive health programs for American business employees by offering a tax credit to employers. William S. Cohen, senator from Maine, introduced the Preventive Health Care Incentive Act (2) to achieve this objective.

In order to illustrate the concept of wellness, successful programs found in various settings were reviewed. Control Data's 'Staywell' Program which began in 1979 (3) was an example of a program found in the industry/business setting. This program included a confidential health risk profile with a workshop to interpret the results, a health screening, one hour overview of courses on lifestyle and health, as well as comprehensive sessions given over several weeks on smoking cessation, stress management, weight control, nutrition, and fitness. One of the unique features of this program included the follow-up and support-systems programs.

A similar program in the university setting is The National

Wellness Institute at the University of Wisconsin at Stevens Point. It serves as a clearinghouse for information on health promotion (4). Faculty and administrators of the campus at Stevens Point exhibit one of the most extensive wellness programs on college campuses. Major features include: nutrition in the form of weight loss, exercise patterns and reinforcement of healthy living habits.

Two other university programs that have gained regional attention include the Texas A & M University wellness program and the Emporia State University wellness program. Texas A & M's program has been in existence approximately five years under the direction of George T. Jessup (5). The aim of the program is to identify health-risk factors and control them through education, diet, exercise, and personal counseling. Initially, the program includes a wellness profile (health and lifestyle history, dietary evaluation and medical evaluation). Following this, educational and supervised group programs are used to instruct the participants.

A fairly new wellness program is one found at Emporia State University, having been in existence for only two years. It is under the direction of Darrell Lang (6). Components of this program are similar to the others for they include medical evaluation, dietary analysis and physical fitness aptitude. It can definitely be acknowledged that campus, university or college wellness programs are an emerging trend to help reduce health care costs, increase productivity and improve employee morale.

Awareness of health care problems has surfaced locally as evidenced by a report of the Faculty Council at Oklahoma State University in May, 1986 (7). A recommendation was made that includes the implementation of a comprehensive wellness program for faculty and staff in an

effort to reduce health care costs and increase productivity. In order to implement a wellness program, the initial step involved the administration of a health habits survey to faculty. The survey assessed health behaviors, attitudes and interests of faculty and became the focus of this study.

Methods

The sample

Subjects included 955 faculty employed full-time at Oklahoma State University during the 1986-1987 academic year. Of the surveys returned, 484 (50.7% return rate) were usable, of which 75.4% were males and 24.6% were females. The ages of the subjects ranged from 21 to 67 years with a mean age of 43.3 years. Weight ranges were 98 to 285 pounds, with a mean of 168.3 pounds. The range of height was five feet to six feet nine inches with a mean of five feet nine and one-half inches.

The questionnaire

A three part questionnaire contained 46-items with both closed and open-ended questions. Pretesting was done before distribution. Part one of the questionnaire, developed and pretested by the Public Health Service, included data obtained from the National Health Interview Survey's continuous and ongoing bank of data (8,9). The survey had 24 questions which were grouped into the following categories: cigarette smoking; alcohol and drugs; eating habits; exercise/fitness; stress control; and safety. Part two included demographic data such as sex, age, weight, height, academic rank, college and other health

habits not included in part one. Part three contained attitudinal questions, such as interest and participation in a wellness program.

Statistical analysis

Frequency distributions as well as other analyses were completed on all 46 items using the (SAS) Statistical Analysis System (10). Scores were tallied and then evaluated using the scale provided by the Public Health Service, 1981 (8). Each subscale on part one of the survey was worth a total of 10 points. Values of nine or 10 in a subscale received an "excellent awareness of health", a score of six to eight received a "good with room for improvement", and a score of five or below indicated "poor awareness of health with serious risks involved". Pearson correlation coefficients were computed to compare each subscale to the respondents' age and weight (11). A positive correlation suggested a direct relationship and a negative correlation suggested an inverse relationship (11). Chi-square tests were performed to determine whether the distribution of responses to each subscale (excellent, good, or poor) was independent of the demographic variables of sex, rank and college.

Results and discussion

Smoking habits

In the Surgeon General's first report of 1964 on smoking and health, 52% of the men and 32% of the women age 21 and over smoked. By 1975, 39% of the men and 29% of the women were smoking showing a significant decline (12). Of the 484 respondents at Oklahoma State University, 100 (20.6%) were current smokers. The respondents seemed to mirror the national trend as evidenced by the fact that 35.9%

(N=138) of the respondents who were not current smokers had formerly been smokers.

The scores on the smoking subscale from part one of the survey were compared with age and with body weight using Pearson correlation coefficients (Table 1). There was a significant direct relationship between age and smoking scores. There was a tendency for smoking to increase as age increased. Perhaps younger individuals are more educated about the perils of smoking in relation to their health, hence, it has strongly influenced them to avoid smoking. In addition to having adverse affects on the individuals who smoke, the Surgeon General has recently stated that those individuals in contact with cigarette smoke (passive smoking), may experience its adverse affects. The relationship between smoking scores and weight was not significant.

Alcohol and drugs

A 1979 survey commissioned by the National Institute on Alcohol Abuse and Alcoholism found that 13% of American adults (and 21% of men) reported that they were heavy drinkers -- consuming more than 60 drinks a month (13,14). Ten percent of the adult population exhibited symptoms of loss of control while drinking, or dependency on alcohol during the survey year. Five percent attributed at least one social consequence to the abuse of alcoholic beverages. The National Institute on Drug Abuse 1982 Household Survey on Drug Abuse found that 11% of Americans of all ages were current users of marijuana and/or hashish (13,15). In evaluating this subscale, no significance was found with sex, academic rank and college. It should be noted that scores on the alcohol and drug subscale showed a significant indirect rela-

tionship with weight as shown in Table 1. This indicated the tendency for increased alcohol and/or drug consumption as body weight decreased. This may be explained by the fact that those individuals consuming alcohol or drugs may alter their eating patterns and not consume the necessary nutrients for good health.

Eating habits

The U.S. Department of Agriculture has published Dietary Guidelines for Americans (1985) which suggests characteristics of a good diet for those who are healthy (16). With the increase of diabetes, heart disease and other health problems, more Americans have begun to adhere to these guidelines by monitoring their consumption of fat, sugar and sodium. This trend is emphasized by the fairly good scores on individual questions related to the eating habits portion of the questionnaire. About three-fourths of those responding indicated that they ate a variety of foods each day. Concerning the limitation of fat, 51.7% (N=482) reported that they almost always monitored fat consumption. More than fifty percent of respondents limited salt and avoided the consumption of excessive amounts of sugar.

The eating patterns of the faculty followed the dietary guidelines to some extent. Distribution of scores in the eating habits section were as follows: excellent (40.7%), good (34.7%), and poor (24.6%). The distributions of scores were not significantly different by academic rank but were significantly different by sex and college (Table 2). A significant inverse relationship was found when the eating habits scores were correlated with weight (Table 1). This indicated that as weight increased, good eating habits decreased. This is consistent with the literature which indicates that overweight

individuals usually have poor eating habits. A dietetic consultation is advisable to help improve eating habits of those who are overweight, have poor eating habits and those who responded with scores indicating that there was room for improvement. The role of the dietitian is to inform the consumer on nutritional purchases, and healthy food preparation in this fast paced society where convenience often overrules wise choices of nutrient dense foods.

Another area of eating patterns which is frequently problematic is the matter of eating breakfast. Studies have shown that, in some factories, there are more accidents in the latter part of the morning and that the accidents are related to inadequate breakfasts (17,18). Respondents in this study were asked whether they ate breakfast. Two-thirds of them indicated that they almost always ate breakfast. This suggested that of those faculty responding, the majority felt that breakfast was necessary for good performance of their morning activities. Other studies have shown that, without breakfast, it is extremely difficult for an individual to consume all the necessary nutrients to keep the body functioning at an optimal level in a 24-hour period.

Exercise/fitness

With the increase in the popularity of running and aerobics, a 1975 survey indicated that the proportion of people in the United States who exercise on a regular basis has grown to 49%. However, it is discouraging to note that 51% were not participating (19). Respondents to this survey also indicated that the majority were not participating in exercise and fitness activities. This category received the lowest score overall. In addition, age and body weight had an

inverse relationship when correlated with the exercise/fitness score (Table 1). This indicated that older individuals and those with higher body weight were not exercising.

Physical fitness has not been a popular pastime of faculty at this institution. Only 24.0% of the females and 19.2% of the males (N=476) indicated excellent scores (Table 3). It is often true that in most occupations, schedules are tight and time devoted to exercise/fitness, as part of a total health program, is almost negligible.

In addition to having low scores on the fitness portion, the respondents were asked if they belonged to a fitness/exercise center. Over two-thirds answered "no" and less than a third answered "yes". Of those belonging to a fitness/exercise center, 8.8% (N=136) participated zero times a week; 57.4% participated 1-3 times a week; 31.6% participated 4-6 times a week; and 2.2% participated 7-9 times a week. Physical fitness programs for employees should be encouraged for many reasons. Dr. David Wheeler, training consultant and business administration professor at the University of Houston states that a physically active employee thinks better, is more productive at work, and has a positive attitude toward the company and the job (20).

Stress control

The President's Commission on Mental Health (1978) estimated that one of every four people in the United States was suffering from "severe emotional stress", this was true although no diagnosis of mental illness had been made (21,22). Several studies indicated that stress demands a high price in terms of resistance to disease, depression, chronic conditions and feelings of apathy (23). Stress control needs to be emphasized at the workplace. A direct relationship among

respondents to this survey was found when age and body weight were correlated with stress scores. Indications were that stress increases with age and weight (Table 1) and is significant with age at $p < .01$.

Of the 484 individuals who responded to the survey, 44.3% indicated that they sometimes found it easy to relax and express feelings freely. However, concerning early recognition and preparation for stressful events or situations, 47.7% indicated that they do anticipate such events sometimes. Excellent scores for handling stress (Table 4) were reported by 41.9% of the females and 32.6% of the males. Excessive stress threatens a worker's ability to deal effectively with the environment and can lead to lower levels of productivity (23). According to Manuso, in 1980, more than fifty percent of the worker's compensation cases in California were a result of stress-related disorders (22). Knowledge of stress management techniques could be expanded in the Oklahoma State University setting. This was suggested by scores of respondents indicating that there was room for improvement when they were evaluated by both sexes and most colleges.

Safety

According to the 1981-1983 behavioral risk factor survey, 75.9% of a representative sample of the adult U.S. population reported that they did not use seat belts (24). To reduce this high rate of use failure, many states have instituted mandatory laws. An example of the benefit of legislation is that for the first three months after New York's law was enforced (December 1, 1984), occupant fatalities decreased by 22% throughout the state. This was true even though there was a four percent increase in highway mileage driven (24,25).

When safety scores on this survey were correlated with body

weight (Table 1), an inverse relationship was found. This data suggests that as safety scores increased, weight decreased. With regard to wearing seat belts while riding in a car, 62.8% of the respondents indicated that they almost always do this. As of February 1, 1987 the state of Oklahoma instituted mandatory seat belt laws. A relatively high rate of compliance with the law is suggested by faculty at Oklahoma State University. Behavior is consistent with feelings regarding the importance of seat belt usage.

Interest and participation

Respondents were asked to indicate their interest and participation in a wellness program. About three-fourths (N=448) indicated an interest while two-thirds (N=412) indicated that they would actually participate in a wellness program if it was available. Information on personal preference for wellness program topics were ranked from one to five. Choices in the order of preference were: (1) fitness/exercise, (2) stress management and (3) weight control. In addition, a column entitled "other" was included for write-ins (see Table 5). As has been discussed in the previous sections, the area of fitness/exercise received some of the poorest scores when analyzed by sex, academic rank and college. Nevertheless, the faculty demonstrated perception of their needs by indicating that their preferred area of interest in wellness was for an exercise/fitness program.

Implications

Results of this study indicate that faculty in a major university are interested in wellness and will participate in such a program. Need and interest suggest that an exercise/fitness program should be

instituted first. As funds become available, stress management and weight control programs should be added. An attractive exercise/ fitness program should include quality equipment with operating hours scheduled which are convenient for the participants. Health care professionals should be available during periods of heavy facility use. Involved professionals might include a registered dietitian, exercise physiologist, a nurse and a physician.

It should be noted that a successful wellness program in a work setting has implications for happier more productive employees, reduced absenteeism, and lower health and accident insurance rates due to fewer claims. The program can also be used as an attractive marketing device for prospective employees.

Table 1. Correlation coefficients of health habits scores by age and body weight

categories	age	weight
smoking	0.219*	-0.152*
alcohol/drugs	-0.059	-0.092**
eating habits	0.210***	-0.119***
exercise/fitness	-0.049	-0.202***
stress	0.123**	0.014
safety	-0.046	-0.155***

* $p < .05$
** $p < .01$
*** $p < .001$

Table 2. Eating habits scores by sex, academic rank and college

variable	% of responses: excellent* score	good+ score	poor# score	total	x^2	df	p>f
sex							
female	12.0	8.8	3.8	24.6	7.155	2	0.028
male	29.2	25.8	20.4	75.4			
rank							
instructor	3.5	2.9	1.2	7.6	14.616	8	0.067
assistant	9.3	10.7	8.7	28.7			
associate	11.8	12.2	6.8	30.8			
professor	14.7	8.1	7.6	30.4			
other//	1.5	0.8	0.2	2.5			
college							
agriculture	10.0	8.5	5.5	24.0	24.768	8	0.037
arts/sciences	16.1	10.2	7.6	33.9			
business	2.1	2.8	3.0	7.9			
education	2.8	2.8	2.3	7.9			
engineering	3.8	3.4	4.0	11.2			
home economics	2.8	1.9	0.8	5.5			
other**	1.0	0.4	0.2	1.6			
veterinary med	2.5	4.7	0.8	8.0			

* excellent awareness of health; scored 9-10 points in this part
\+ good with room for health improvement; scored 6-8 points
\# poor with serious health risks; scored points of 5 and below
// visiting or adjunct professor
** library faculty

Table 3. Exercise/fitness scores by sex, academic rank and college

variable	% of responses: excellent* score	good+ score	poor# score	total	x^2	df	p>f
sex							
female	5.9	5.9	12.8	24.6	6.303	2	0.043
male	14.5	27.5	33.4	75.4			
rank							
instructor	1.9	1.9	3.9	7.7	11.829	8	0.159
assistant	6.0	8.7	14.0	28.7			
associate	6.8	9.5	14.5	30.8			
professor	4.6	12.8	13.0	30.4			
other//	1.0	0.6	0.8	2.4			
college**							
agriculture	4.3	10.2	9.5	24.0	22.115	14	0.076
arts/sciences	9.3	9.5	15.0	33.8			
business	0.6	3.8	3.4	7.8			
education	1.7	1.7	4.5	7.9			
engineering	1.7	3.4	6.1	11.2			
home economics	1.5	1.7	2.3	5.5			
other++	0.0	0.6	1.1	1.7			
veterinary med	1.5	2.5	4.0	8.0			

* excellent awareness of health; scores 9-10 points in this part
\+ good with room for health improvement; scored 6-8 points
\# poor with serious health risks; scored points of 5 and below
// visiting or adjunct professor
** does not equal 100 percent due to rounding error
++ library faculty

Table 4. Stress scores by sex, academic rank and college

variable	% of responses: excellent* score	good+ score	poor# score	total	x^2	df	p>f
sex //							
female	10.3	11.3	2.9	24.5	5.078	2	0.079
male	24.6	36.1	14.7	75.4			
rank							
instructor	1.9	1.9	3.9	7.7	4.519	8	0.808
assistant	6.0	8.7	14.0	28.7			
associate	6.8	9.5	14.5	30.8			
professor	4.6	12.8	13.0	30.4			
other**	1.0	0.6	0.8	2.4			
college							
agriculture	8.5	11.4	4.0	23.9	27.872	14	0.015
arts/sciences	11.9	15.9	6.1	33.9			
business	1.3	5.3	1.3	7.9			
education	3.8	2.8	1.3	7.9			
engineering	4.0	4.9	2.3	11.2			
home economics	2.3	3.2	0.0	5.5			
other++	0.6	1.1	0.0	1.7			
veterinary med	2.5	2.5	3.0	8.0			

* excellent awareness of health; scored 9-10 points in this part
\+ good with room for health improvement; scored 6-8 points
\# poor with serious health risks; scored points of 5 and below
// does not equal 100 percent due to rounding error
** visiting or adjunct professor
++ library faculty

Table 5. Topic areas of preference for a wellness program

responses*	topics
228+/383#	fitness/exercise
69/321	stress control
61/276	weight control
18/304	nutrition
18/51	smoking cessation
6/6	clinical monitoring/assessments (includes annual and cardiovascular exams)
4/4	medical information/health awareness
3/3	pain management/reduction ex. arthritis
3/3	time management
2/2	relaxation techniques ex. yoga
2/2	leisure activities
2/2	mental wellness
1/154	safety
0/1	health insurance issues
0/1	wellness for retirees
0/1	depression management
0/1	marriage council
0/1	minor problems ex. allergies/colds
0/1	cooking for health
0/1	eating disorders
0/1	homeopathic medicine

* multiple responses not appropriate
+ total first choice responses
# total responses when ranked from 1 (highest) to 5 (lowest)

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CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary

Wellness in the workplace involves many components with the principle areas to include smoking cessation; alcohol and drugs; eating habits; exercise/fitness; stress control and safety. The wellness concept is not a new one but has recently become popular in an effort to reduce health care costs and increase productivity among employees in a work setting.

This study focused on assessing the needs, interests and attitudes of faculty at Oklahoma State University for a wellness program with the following specific objectives: to identify current health problems and potential risks of the faculty at Oklahoma State University; to relate demographic variables of the faculty with their current health problems; and to recommend areas of health promotion for faculty to the administration. Several hypotheses were formulated prior to the distribution of the surveys (Chapter 1).

Hypothesis one stated that the scores in the categories of cigarette smoking; alcohol and drugs; eating habits; exercise/fitness; stress control and safety were not significantly associated with demographic variables. Significant associations were found in 14 of the 30 total analyses performed, with 16 hypotheses exhibiting no significant association. The most significant category was eating

habits when compared with age, sex, rank, college and relative weight. In addition, exercise/fitness and stress were significant by age demonstrating the fact that these three areas need to be emphasized in a wellness program at this university. Since this hypothesis dealt with the analysis of 30 individual hypotheses, the researcher rejected the hypotheses for the 14 with a significant association.

Hypothesis two stated that breakfast habits, being a former smoker, eating away from home, having a routine health exam and having a cardiovascular evaluation were not significantly associated based on demographic variables. A significant association was found in 12 of the 25 analyses performed with most of the significance found among sex, age and rank. This means that health consciousness is age and sex related. Based on this information, the researcher rejected 12 of the 25 hypotheses.

H_3 stated that there would be no significant association between belonging to a fitness/exercise center and the exercise/fitness score. A significant association was found at the 0.001 level, therefore, the third hypothesis is rejected (Table VI).

H_4 stated that having a cardiovascular evaluation would have no significant association when compared with the exercise/fitness score (Table VII). This association was not significant, consequently, the researcher failed to reject H_4.

Hypothesis five stated that there was no significant association between having a special diet recommended and the eating habits score. Analysis shows a significant association of $p < 0.05$, therefore, the fifth null hypothesis is rejected (Table VIII).

TABLE VI

CHI-SQUARE ANALYSIS OF BELONGING TO A FITNESS/EXERCISE CENTER WITH THE EXERCISE/FITNESS SCORE

Frequency %	Exercise/Fitness Score			
	Excellent	Good	Poor	Total
Belong to center				
No	48	110	189	347
	9.9	22.8	39.1	71.8
Yes	50	51	35	136
	10.4	10.6	7.2	28.2
Total	98	161	224	483
	20.3	33.4	46.3	100.0
Statistic	df	value		probability
Chi-square	2	43.7		0.001

TABLE VII

CHI-SQUARE ANALYSIS OF HAVING A CARDIOVASCULAR EVALUATION WITH THE EXERCISE/FITNESS SCORE

Frequency %	Exercise/Fitness Score			
	Excellent	Good	Poor	Total
Had a cardiovascular evaluation				
No	49	74	118	241
	10.2	15.3	24.5	50.0
Yes	47	88	106	241
	9.8	18.3	21.9	50.0
Total	96	162	224	482
	20.0	33.6	46.4	100.0
Statistic	df	value	probability	
Chi-square	2	1.89		0.388

TABLE VIII

CHI-SQUARE ANALYSIS OF HAVING A SPECIAL DIET RECOMMENDED WITH THE EATING HABITS SCORE

Frequency %	Eating Habits Score			
	Excellent	Good	Poor	Total
Special diet recommended				
No	155 32.1	146 30.3	104 21.6	405 84.0
Yes	41 8.5	22 4.6	14 2.9	77 16.0
Total	196 40.6	168 34.9	118 24.5	482 100.0
Statistic	df	value	probability	
Chi-square	2	6.09		0.05

The need and interest for a worksite wellness program was positively expressed by the high return rate of the surveys by the Oklahoma State University faculty. Of the areas mentioned in part one of the survey, the mean of the top three most needed areas for improvement, with 10 being the highest and one being the lowest, in a wellness program include:

Fitness/Exercise	5.7
Eating Habits	7.3
Stress Control	7.4

The faculty when asked to rank the areas where they would like the most emphasis for a wellness program chose fitness/exercise more often as their first choice. A more in-depth listing of the topic areas is summarized in Table V found in Chapter IV. Incentives that would attract participants to a wellness program are summarized in Table IX. The most frequent response was shared expense which means the faculty are willing to invest some of their money if the administration of Oklahoma State University will recognize the need and provide facilities for a wellness program.

Recommendations for Further Research

The findings of this thesis suggest the need for additional research in three specific areas. First, to validate the findings of the faculty more extensively, staff personnel employed at least three quarters time need to be surveyed using a similar instrument. This is necessary since the wellness program in this university setting is for faculty and staff.

The second recommendation refers to the need and interest of the faculty for a fitness/exercise component in the wellness program.

TABLE IX

RESPONSES TO INCENTIVES THAT
WOULD ATTRACT PARTICIPANTS
TO A WELLNESS PROGRAM

Responses*	Incentive
216	Shared expense
146	None needed
110	Bonus Pay
107	Days off
88	Group support
40	Recognition
20	Role models
16	Time during day to participate (flex time)
10	Reduction of health insurance
4	No cost
4	Reduced or waived fees at Colvin Center and other facilities
3	Annual physicals (paid)
3	Convenience
3	Administrative support and recognition of need for fitness and wellness
3	Good quality exercise equipment
	Time
	Intrinsic rewards
	Reasonable work load & class schedule to allow time to participate
	Organized sports
	High quality, well rounded program
	Summer salary
	University participation in a HMO as part of insurance coverage
	Friends enrolled
	If I saw it "pay off" for my peers
	Self improvement

*number of "yes" responses which does not total 484 because of multiple responses

Further extensive tests need to be performed to provide a fitness/exercise program that is individualized and tailored to the needs of those who participate.

The final recommendation concerns the eating habits of the faculty and how they could be improved. A more thorough investigation of an individual's eating habits can be obtained by using a three day dietary intake analysis. This method of analysis takes time but may uncover specific areas where university faculty can learn to modify their eating patterns.

Several features need to be kept in mind when implementing a university wellness program. The most important emphasis includes full support and encouragement of the administration. A smoother running program will occur when top management realizes the need for this program by providing this as an employee benefit with no fee or partial expense to the employee. In order to have a strong program, effective leadership with a personal commitment from the individual in charge becomes the main focus in initially getting the program underway. According to the President's Council on Physical Fitness (1986) other features that need to be kept in mind when planning include: a convenient location and accessible hours; periodic testing and assessment as well as attendance and/or progress reports. Individualized and group programs, along with incentives which include non-monetary rewards such as employee recognition with certificates or plaques; pins and T-shirts to cash prizes can be used to attract new participants and motivate those already participating. Not to diminish the other features, the main objective of a successful program is one that offers enjoyment for all those who participate. Including all of

these items in a worksite wellness program helps to create a positive worksite environment with happy, healthy employees.

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APPENDIXES

APPENDIX A

CORRESPONDENCE AND PRELIMINARY STUDY QUESTIONNAIRE

Oklahoma State University

Department of Food, Nutrition and Institution Administration

425 HOME ECONOMICS WEST
STILLWATER, OKLAHOMA 74078
(405) 624-5039

July 23, 1986

Dear College of Home Economics Staff Member:

I am a Master's degree student in Food, Nutrition and Institution Administration, currently working on a research proposal for my thesis.

I would appreciate a minute of your time to complete the following 2 page questionnaire on the subject of wellness/ health habits. You have been chosen as part of my pilot study. The information received from this survey will be held confidential and will not identify you or the department where you work.

In order to help me obtain the most accurate and complete data I would appreciate your answer to the following questions:

1. How long (minutes) did it take you to complete the questionnaire?

2. Which style do you prefer? (Mark your answer with an X)
   ____ 2 page
   ____ 1 page (see last page of attachment)

3. Are the questions clear and easy to understand?

4. Do you have any suggestions for improving this questionnaire?

Attached is an interoffice envelope already addressed with my return address, as I am also employed in the Contracts and Grants office. If you could complete the questionnaire and answer the questions on this page and return this to me by August 6, 1986 it would be appreciated. Thank you for your cooperation and assistance in this project.

Sincerely,

Gale A. Eckhart

Gale A. Eckhart
Graduate Teaching Asst.
FNIA

Attachments

CENTENNIAL
DECADE
1980 • 1990

OKLAHOMA STATE UNIVERSITY

Department of Food, Nutrition and Institution Administration

HEALTHSTYLE SURVEY

PART I: PERSONAL HEALTH HABITS

Directions: Please mark your answer with an (X) in the space provided.

	Almost Always	Sometimes	Almost Never
If you <u>never</u> smoke, go to question (3).			
1. I avoid smoking cigarettes.	___	___	___
2. I smoke only low tar and nicotine cigarettes or I smoke a pipe or cigars.	___	___	___
3. I avoid drinking alcoholic beverages or I drink no more than 1 or 2 drinks a day.	___	___	___
4. I avoid using alcohol or other drugs (especially illegal drugs) as a way of handling stressful situations or the problems in my life.	___	___	___
5. I am careful not to drink alcohol when taking certain medicines (for example medicine for sleeping, pain, colds, and allergies), or when pregnant.	___	___	___
6. I read and follow the label directions when using prescribed and over-the-counter drugs.	___	___	___
7. 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.	___	___	___
8. 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).	___	___	___
9. I limit the amount of salt I eat by cooking with only small amounts, not adding salt at the table, and avoiding salty snacks.	___	___	___
10. I avoid eating too much sugar (especially frequent snacks of sticky candy or soft drinks).	___	___	___
11. I maintain a desired weight, avoiding overweight and underweight.	___	___	___
12. I do vigorous exercises for 15-30 minutes at least 3 times a week (examples include running, swimming, brisk walking).	___	___	___
13. I do exercises that enhance my muscle tone for 15-30 minutes at least 3 times a week (examples include yoga and calisthenics).	___	___	___
14. 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).	___	___	___
15. I have a job or do other work that I enjoy.	___	___	___
16. I find it easy to relax and express my feelings freely.	___	___	___
17. I recognize early, and prepare for, events or situations likely to be stressful for me.	___	___	___
18. I have close friends, relatives, or others whom I can talk to about personal matters and call on for help when needed.	___	___	___
19. I participate in group activities (such as church and community organizations or hobbies that I enjoy.	___	___	___
20. I wear a seat belt while riding in a car.	___	___	___
21. I avoid driving while under the influence of alcohol and other drugs.	___	___	___
22. I obey traffic rules and the speed limit when driving.	___	___	___
23. I am careful when using potentially harmful products or substances (such as household cleaners, poisons, and electrical devices).	___	___	___
24. I avoid smoking in bed.	___	___	___

TURN TO NEXT PAGE

PART II: GENERAL INFORMATION

Directions: Please mark your answer with an (X) in the space provided. A few questions ask for a response.

1. What is your age group?
   ____(a) 22-29 ____(b) 30-37 ____(c) 38-45 ____(d)46-53
   ____(e) 54-61 ____(f) 62-69 ____(g) 70+

2. What is your sex? ____Male ____Female

3. What is your academic rank?
   ____ Instructor ____ Assistant Professor ____Associate Professor
   ____ Professor ____ Other, please specify _____

4. What college are you currently working in?
   ____ Agriculture ____Arts & Sciences ____ Business Administration
   ____ Education ____Engineering, Architecture & Technology
   ____ Home Economics ____Veterinary Medicine

5. Do you eat breakfast? ____ Almost Always ____ Sometimes ____ Never

6. Have you ever had a special diet recommended for you by a dietitian?
   ____ Yes, if so please check ___ Diabetic ___ Low Calorie ___Other
   ____ No ___ Low Fat ___ Low Salt

7. How many meals a week do you eat away from home?
   ____0-5 ____6-10 ____11-15 ____16-20 ____21+

8. Do you belong to a fitness/exercise center? (eg. YMCA, Nautilus) ____ Yes ____ No

9. If you answered yes to question 8, how many times a week do you participate?
   ____ None ____ 1-3 ____ 4-6 ____ 7-9 ____10+

10. If you do not smoke, are you a former smoker? ____ Yes ____ No

11. Have you had a routine health exam during the past two years? ____ Yes ____ No

12. Do you take any medications? ____ Yes ____ No
    If so, what kind? ____ Allergy ____ Diabetic Oral Agents ____ Cardiovascular ___ Other

13. Have you ever had a cardiovascular evaluation? ____ Yes ____ No

14. How many hours of sleep do you get a night? ___ 0-6 hours ___ 7-8 hours ___ 9+ hours

PART III: ATTITUDINAL

Directions: Please mark your answer with an (X) in the space provided.

1. Rank order 1-3 your area of preference for a wellness program.
   ____ Fitness/Exercise ____ Smoking Cessation
   ____ Nutrition Awareness ____ Weight Control
   ____ Stress Management ____ Alcohol/Drug Misuse
   ____ Safety ____ Other _____

2. Besides advice from your physician, rank order the top (3) places where you would go if you had a health problem.
   ____ Television ____ Newspaper, Magazines
   ____ Health Food Stores ____ Relatives, Friends
   ____ Dentist ____ Dietitian
   ____ Pharmacist ____ Teacher
   ____ Insurance Agent ____ Other, please specify _____

3. If a wellness program is offered, what incentives should be offered to enhance employee participation and prevent dropouts.
   ____ None needed ____ Extra days off for not being sick
   ____ Bonus pay ____ Company recognition
   ____ Fee Support ____ Role Models
   ____ Group Support ____ Other, please specify _____

4. When on the first floor of a several story building, do you:
   ____ Walk the stairs ____ Take the elevator

5. At what time would it be most convenient for you to participate in a wellness program?
   ____ Early morning (6-7:30 am) ____ Lunchtime (11-1 pm) ____ Early Evening (5-7 pm)

APPENDIX B

CORRESPONDENCE AND RESEARCH INSTRUMENT

Oklahoma State University

Department of Food, Nutrition and Institution Administration

425 HOME ECONOMICS WEST
STILLWATER, OKLAHOMA 74078
(405) 624-5039

September 3, 1986

Dear Faculty Member:

In a report of the Faculty Council at Oklahoma State University in May, 1986, a recommendation was made that includes the implementation of a comprehensive wellness program for faculty and staff engaged at least three quarters time at Oklahoma State University. This research is being conducted as a result of this recommendation. Endorsement has been obtained from Dr. James H. Boggs, Vice President of Academic Affairs.

In an effort to reduce health care costs and increase productivity among employees, businesses are organizing and implementing wellness programs for their employees. The first step in a wellness program is the assessment of the individuals involved. The attached healthstyle survey, will evaluate current status and potential health risks. This study is a joint effort of the Food, Nutrition and Institution Administration; and the Health, Physical Education and Leisure Services departments at Oklahoma State University.

This survey will require about 10 minutes of your time and may foster valuable information for the planning stages of OSU's wellness program. Please complete the attached questionnaire, fold, staple and return to us in campus mail by September 16, 1986. The survey is preaddressed to facilitate its return. The information received from this survey will be held confidential. A summary of results will be made available to interested faculty at a later date.

Thank you for your participation and cooperation.

Sincerely,

Gale A. Eckhart
Graduate Teaching Assistant

Lea L. Ebro, Ph.D.
Major Advisor

Attachment

CENTENNIAL DECADE 1980 • 1990

OKLAHOMA STATE UNIVERSITY

Department of Food, Nutrition and Institution Administration

HEALTHSTYLE SURVEY

PART I: PERSONAL HEALTH HABITS

Directions: Please mark your answer with an (X) in the space provided.

	Almost Always	Sometimes	Almost Never
If you never smoke, go to question (3).			
1. I avoid smoking cigarettes.	___	___	___
2. I smoke only low tar and nicotine cigarettes or I smoke a pipe or cigars.	___	___	___
3. I avoid drinking alcoholic beverages or I drink no more than 1 or 2 drinks a day.	___	___	___
4. I avoid using alcohol or other drugs (especially illegal drugs) as a way of handling stressful situations or the problems in my life.	___	___	___
5. I am careful not to drink alcohol when taking certain medicines (for example medicine for sleeping, pain, colds, and allergies), or when pregnant.	___	___	___
6. I read and follow the label directions when using prescribed and over-the-counter drugs.	___	___	___
7. 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.	___	___	___
8. 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).	___	___	___
9. I limit the amount of salt I eat by cooking with only small amounts, not adding salt at the table, and avoiding salty snacks.	___	___	___
10. I avoid eating too much sugar (especially frequent snacks of sticky candy or soft drinks).	___	___	___
11. I maintain a desired weight, avoiding overweight and underweight.	___	___	___
12. I do vigorous exercises for 15-30 minutes at least 3 times a week (examples include running, swimming, brisk walking).	___	___	___
13. I do exercises that enhance my muscle tone for 15-30 minutes at least 3 times a week (examples include yoga and calisthenics).	___	___	___
14. 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).	___	___	___
15. I have a job or do other work that I enjoy.	___	___	___
16. I find it easy to relax and express my feelings freely.	___	___	___
17. I recognize early, and prepare for, events or situations likely to be stressful for me.	___	___	___
18. I have close friends, relatives, or others whom I can talk to about personal matters and call on for help when needed.	___	___	___
19. I participate in group activities (such as church and community organizations or hobbies that I enjoy.	___	___	___
20. I wear a seat belt while riding in a car.	___	___	___
21. I avoid driving while under the influence of alcohol and other drugs.	___	___	___
22. I obey traffic rules and the speed limit when driving.	___	___	___
23. I am careful when using potentially harmful products or substances (such as household cleaners, poisons, and electrical devices).	___	___	___
24. I avoid smoking in bed.	___	___	___

TURN TO NEXT PAGE

PART II: GENERAL INFORMATION

Directions: Please mark your answer with an (X) in the space provided. A few questions ask for a response.

1. What is your Age _____ Height _____
   Weight _____ Sex _____

2. What is your academic rank?
   ____Instructor ____Assistant Professor ____Associate Professor
   ____Professor Other, please specify _____

3. What college are you currently working in?
   ____Agriculture ____Arts & Sciences ____Business Administration
   ____Education ____Engineering, Architecture & Technology
   ____Home Economics ____Veterinary Medicine

4. Do you eat 3 meals a day? ____Yes ____No

5. Do you eat breakfast? ____Almost Always ____Sometimes ____Never

6. Have you ever had a special diet recommended for you by a dietitian?
   ____Yes, if so please check ____Diabetic ____Low Calorie ____Other
   ____No ____Low Fat ____Low Salt

7. How many meals a week do you eat away from home?
   ____0-5 ____6-10 ____11-15 ____16-20 ____21+

8. Do you belong to a fitness/exercise center? (eg. YMCA, Nautilus, Colvin PEC) ____Yes ____No

9. If you answered yes to question 8, how many times a week do you participate?
   ____None ____1-3 ____4-6 ____7-9 ____10+

10. When on the first floor of a several story building, do you:
    ____Walk the stairs ____Take the elevator

11. If you do not smoke, are you a former smoker? ____Yes ____No

12. Have you had a routine physical examination during the past two years? ____Yes ____No

13. Are you currently being treated for a health problem? ____Yes ____No

14. Do you take any medications? ____Yes ____No
    If so, what kind? ____Allergy ____Diabetic Oral Agents ____Cardiovascular ____Other

15. Have you ever had a cardiovascular evaluation? ____Yes ____No

16. How many hours of sleep do you get a night? ____1-6 hours ____7-8 hours ____9+ hours

PART III: INTEREST AND PARTICIPATION IN WELLNESS PROGRAM

1. Are you interested in a wellness program?
   ____Yes ____No

2. Would you participate in a wellness program?
   ____Yes ____No

3. At what time would it be most convenient for you to participate in a wellness program?
   ____Early morning (6-7:30 am) ____Lunchtime (11-1pm)
   ____Early evening (5-7pm) ____Other, specify _____

4. Rank order the top (5), with (1) as first choice, as your preference for a wellness program.
   ____Fitness/Exercise ____Smoking Cessation
   ____Nutrition Awareness ____Weight Control
   ____Stress Management ____Alcohol/Drug Misuse
   ____Safety (Personal and On-the-Job) ____Other, please specify_____

5. Besides advice from your physician, rank order the top (5) places/people where you would obtain health information.
   ____Television ____Newspaper, Magazines
   ____Health Food Stores ____Relatives, Friends
   ____Dentist ____Dietitian
   ____Pharmacist ____Teacher
   ____Insurance Agent ____Other, please specify_____

6. What incentives would attract you to participate in a wellness program?
   ____None needed ____Extra days off for not being sick
   ____Bonus pay ____Company recognition (Non-monetary rewards)
   ____University Shared Expense ____Role Models
   ____Group Support ____Other, please specify_____

THANK YOU FOR PARTICIPATING. PLEASE FOLD, STAPLE AND RETURN IN CAMPUS MAIL.

APPENDIX C

PEARSON CORRELATION TABLE

CORRELATION BETWEEN EACH SUB-SCALE AND AGE, ALSO WITH WEIGHT

VARIABLE	N	MEAN	STD DEV	SUM	MINIMUM	MAXIMUM
AGE	483	43.39337474	9.30458090	20959.00000000	21.00000000	67.00000000
WT	478	168.30753138	30.68647818	80451.00000000	98.00000000	285.00000000
SMOKING	100	2.50000000	1.07778298	250.00000000	0.00000000	4.00000000
ALCDRUG	483	9.06832298	1.83824365	4380.00000000	1.00000000	10.00000000
EATING	484	7.31404959	2.44452507	3540.00000000	0.00000000	10.00000000
EXERFIT	484	5.71280992	2.87959933	2765.00000000	0.00000000	10.00000000
STRESS	484	7.42975207	2.03214925	3596.00000000	0.00000000	10.00000000
SAFETY	484	8.55578512	1.46561260	4141.00000000	2.00000000	10.00000000

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0 / NUMBER OF OBSERVATIONS

	AGE	WT
SMOKING	0.21915	-0.15169
	0.0293	0.1359
	99	98
ALCDRUG	-0.05872	-0.09160
	0.1981	0.0455
	482	477
EATING	0.20980	-0.11887
	0.0001	0.0093
	483	478
EXERFIT	-0.04889	-0.20220
	0.2836	0.0001
	483	478
STRESS	0.12338	0.01412
	0.0066	0.7581
	483	478
SAFETY	-0.04595	-0.15515
	0.3136	0.0007
	483	478

APPENDIX D

CHI-SQUARE TABLES

COMPONENTS OF HYPOTHESIS #1

TABLE OF SMOKING BY RELWT

SMOKING RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
EXCL	12	228	144	384
	2.48	47.11	29.75	79.34
POOR	3	51	46	100
	0.62	10.54	9.50	20.66
TOTAL	15	279	190	484
	3.10	57.64	39.26	100.00

STATISTICS FOR TABLE OF SMOKING BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	2.430	0.297

COMPONENTS OF HYPOTHESIS #1

TABLE OF SMOKING BY SEX

SMOKING SEX

FREQUENCY / PERCENT	F	M	TOTAL
EXCL	96	282	378
	20.17	59.24	79.41
POOR	21	77	98
	4.41	16.18	20.59
TOTAL	117	359	476
	24.58	75.42	100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF SMOKING BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	0.661	0.416

COMPONENTS OF HYPOTHESIS #1

TABLE OF SMOKING BY GI2

SMOKING GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
EXCL	33	117	114	113	7	384
	6.82	24.17	23.55	23.35	1.45	79.34
POOR	4	22	35	34	5	100
	0.83	4.55	7.23	7.02	1.03	20.66
TOTAL	37	139	149	147	12	484
	7.64	28.72	30.79	30.37	2.48	100.00

STATISTICS FOR TABLE OF SMOKING BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	8.675	0.070

COMPONENTS OF HYPOTHESIS #1

TABLE OF ALCDRUG BY RELWT

ALCDRUG RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
EXCL	10	226	143	379
	2.07	46.79	29.61	78.47
GOOD	4	42	34	80
	0.83	8.70	7.04	16.56
POOR	1	10	13	24
	0.21	2.07	2.69	4.97
TOTAL	15	278	190	483
	3.11	57.56	39.34	100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF ALCDRUG BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	4.763	0.313

COMPONENTS OF HYPOTHESIS #1

TABLE OF ALCDRUG BY GI2

ALCDRUG GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
EXCL	32	110	111	115	11	379
	6.63	22.77	22.98	23.81	2.28	78.47
GOOD	4	23	29	23	1	80
	0.83	4.76	6.00	4.76	0.21	16.56
POOR	1	6	9	8	0	24
	0.21	1.24	1.86	1.66	0.00	4.97
TOTAL	37	139	149	146	12	483
	7.66	28.78	30.85	30.23	2.48	100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF ALCDRUG BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	4.441	0.815

COMPONENTS OF HYPOTHESIS #1

TABLE OF ALCDRUG BY SEX

ALCDRUG SEX

FREQUENCY / PERCENT	F	M	TOTAL
EXCL	98	276	374
	20.63	58.11	78.74
GOOD	16	61	77
	3.37	12.84	16.21
POOR	3	21	24
	0.63	4.42	5.05
TOTAL	117	358	475
	24.63	75.37	100.00

FREQUENCY MISSING = 9

STATISTICS FOR TABLE OF ALCDRUG BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	3.016	0.221

COMPONENTS OF HYPOTHESIS #1

TABLE OF EATING BY RELWT

EATING RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
EXCL	5	118	74	197
	1.03	24.38	15.29	40.70
GOOD	9	97	62	168
	1.86	20.04	12.81	34.71
POOR	1	64	54	119
	0.21	13.22	11.16	24.59
TOTAL	15	279	190	484
	3.10	57.64	39.26	100.00

STATISTICS FOR TABLE OF EATING BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	6.922	0.140

COMPONENTS OF HYPOTHESIS #1

TABLE OF EATING BY SEX

EATING SEX

FREQUENCY / PERCENT	F	M	TOTAL
EXCL	57	139	196
	11.97	29.20	41.18
GOOD	42	123	165
	8.82	25.84	34.66
POOR	18	97	115
	3.78	20.38	24.16
TOTAL	117	359	476
	24.58	75.42	100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF EATING BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	7.155	0.028

COMPONENTS OF HYPOTHESIS #1

TABLE OF EATING BY GI2

EATING GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
EXCL	17	45	57	71	7	197
	3.51	9.30	11.78	14.67	1.45	40.70
GOOD	14	52	59	39	4	168
	2.89	10.74	12.19	8.06	0.83	34.71
POOR	6	42	33	37	1	119
	1.24	8.68	6.82	7.64	0.21	24.59
TOTAL	37	139	149	147	12	484
	7.64	28.72	30.79	30.37	2.48	100.00

STATISTICS FOR TABLE OF EATING BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	14.616	0.067

COMPONENTS OF HYPOTHESIS #1

TABLE OF EXERFIT BY RELWT

EXERFIT RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
EXCL	5	73	20	98
	1.03	15.08	4.13	20.25
GOOD	4	104	54	162
	0.83	21.49	11.16	33.47
POOR	6	102	116	224
	1.24	21.07	23.97	46.28
TOTAL	15	279	190	484
	3.10	57.64	39.26	100.00

STATISTICS FOR TABLE OF EXERFIT BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	32.607	0.000

COMPONENTS OF HYPOTHESIS #1

TABLE OF EXERFIT BY SEX

EXERFIT SEX

FREQUENCY / PERCENT	F	M	TOTAL
EXCL	28 5.88	69 14.50	97 20.38
GOOD	28 5.88	131 27.52	159 33.40
POOR	61 12.82	159 33.40	220 46.22
TOTAL	117 24.58	359 75.42	476 100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF EXERFIT BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	6.303	0.043

COMPONENTS OF HYPOTHESIS #1

TABLE OF EXERFIT BY GI2

EXERFIT GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
EXCL	9 1.86	29 5.99	33 6.82	22 4.55	5 1.03	98 20.25
GOOD	9 1.86	42 8.68	46 9.50	62 12.81	3 0.62	162 33.47
POOR	19 3.93	68 14.05	70 14.46	63 13.02	4 0.83	224 46.28
TOTAL	37 7.64	139 28.72	149 30.79	147 30.37	12 2.48	484 100.00

STATISTICS FOR TABLE OF EXERFIT BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	11.829	0.159

COMPONENTS OF HYPOTHESIS #1

TABLE OF STRESS BY RELWT

STRESS RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
EXCL	3	98	67	168
	0.62	20.25	13.84	34.71
GOOD	8	129	91	228
	1.65	26.65	18.80	47.11
POOR	4	52	32	88
	0.83	10.74	6.61	18.18
TOTAL	15	279	190	484
	3.10	57.64	39.26	100.00

STATISTICS FOR TABLE OF STRESS BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	1.972	0.741

COMPONENTS OF HYPOTHESIS #1

TABLE OF STRESS BY SEX

STRESS SEX

FREQUENCY / PERCENT	F	M	TOTAL
EXCL	49	117	166
	10.29	24.58	34.87
GOOD	54	172	226
	11.34	36.13	47.48
POOR	14	70	84
	2.94	14.71	17.65
TOTAL	117	359	476
	24.58	75.42	100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF STRESS BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	5.078	0.079

COMPONENTS OF HYPOTHESIS #1

TABLE OF STRESS BY GI2

STRESS GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
EXCL	16	42	53	53	4	168
	3.31	8.68	10.95	10.95	0.83	34.71
GOOD	17	70	68	66	7	228
	3.51	14.46	14.05	13.64	1.45	47.11
POOR	4	27	28	28	1	88
	0.83	5.58	5.79	5.79	0.21	18.18
TOTAL	37	139	149	147	12	484
	7.64	28.72	30.79	30.37	2.48	100.00

STATISTICS FOR TABLE OF STRESS BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	4.519	0.808

COMPONENTS OF HYPOTHESIS #1

TABLE OF SAFETY BY RELWT

SAFETY RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
EXCL	12	170	100	282
	2.48	35.12	20.66	58.26
GOOD	3	104	76	183
	0.62	21.49	15.70	37.81
POOR	0	5	14	19
	0.00	1.03	2.89	3.93
TOTAL	15	279	190	484
	3.10	57.64	39.26	100.00

STATISTICS FOR TABLE OF SAFETY BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	13.673	0.008

COMPONENTS OF HYPOTHESIS #1

TABLE OF SAFETY BY SEX

SAFETY / SEX FREQUENCY PERCENT	F	M	TOTAL
EXCL	77 16.18	198 41.60	275 57.77
GOOD	37 7.77	145 30.46	182 38.24
POOR	3 0.63	16 3.36	19 3.99
TOTAL	117 24.58	359 75.42	476 100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF SAFETY BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	4.301	0.116

COMPONENTS OF HYPOTHESIS #1

TABLE OF SAFETY BY GI2

SAFETY / GI2(RANK) FREQUENCY PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
EXCL	25 5.17	78 16.12	81 16.74	91 18.80	7 1.45	282 58.26
GOOD	10 2.07	54 11.16	62 12.81	52 10.74	5 1.03	183 37.81
POOR	2 0.41	7 1.45	6 1.24	4 0.83	0 0.00	19 3.93
TOTAL	37 7.64	139 28.72	149 30.79	147 30.37	12 2.48	484 100.00

STATISTICS FOR TABLE OF SAFETY BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	5.069	0.750

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI7 BY RELWT

GI7(MEALS AWAY) RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
0-5	11	176	108	295
	2.28	36.44	22.36	61.08
6-10	3	92	70	165
	0.62	19.05	14.49	34.16
11-15	1	10	7	18
	0.21	2.07	1.45	3.73
16-20	0	0	4	4
	0.00	0.00	0.83	0.83
21,+	0	0	1	1
	0.00	0.00	0.21	0.21
TOTAL	15	278	190	483
	3.11	57.56	39.34	100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF GI7 BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	10.599	0.225

COMPONENTS OF HYPOTHESIS #2

TABLE OF SMOKE BY RELWT

SMOKE RELWT

FREQUENCY / PERCENT	BELO	DESR	HIGH	TOTAL
CURR	3	51	46	100
	0.62	10.54	9.50	20.66
FRMR	2	65	52	119
	0.41	13.43	10.74	24.59
NEVR	10	163	92	265
	2.07	33.68	19.01	54.75
TOTAL	15	279	190	484
	3.10	57.64	39.26	100.00

STATISTICS FOR TABLE OF SMOKE BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	5.953	0.203

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI5 BY SEX

GI5(BREAKFAST FREQ) SEX

FREQUENCY PERCENT	F	M	TOTAL
AA	73	247	320
	15.34	51.89	67.23
FR	36	89	125
	7.56	18.70	26.26
NV	8	23	31
	1.68	4.83	6.51
TOTAL	117	359	476
	24.58	75.42	100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF GI5 BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	1.765	0.414

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI15 BY RELWT

GI15(CARDIO EVALUATION) RELWT

FREQUENCY PERCENT	BELO	DESR	HIGH	TOTAL
NO	8	148	85	241
	1.66	30.71	17.63	50.00
YES	7	129	105	241
	1.45	26.76	21.78	50.00
TOTAL	15	277	190	482
	3.11	57.47	39.42	100.00

FREQUENCY MISSING = 2

STATISTICS FOR TABLE OF GI15 BY RELWT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	3.475	0.176

COMPONENTS OF HYPOTHESIS #2

TABLE OF SMOKE BY SEX

SMOKE SEX

FREQUENCY / PERCENT	F	M	TOTAL
CURR	21 4.41	77 16.18	98 20.59
FRMR	19 3.99	98 20.59	117 24.58
NEVR	77 16.18	184 38.66	261 54.83
TOTAL	117 24.58	359 75.42	476 100.00

FREQUENCY MISSING = 8

STATISTICS FOR TABLE OF SMOKE BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	8.326	0.016

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI7 BY SEX

GI7(MEALS AWAY) SEX

FREQUENCY / PERCENT	F	M	TOTAL
0-5	68 14.32	223 46.95	291 61.26
6-10	40 8.42	121 25.47	161 33.89
11-15	7 1.47	11 2.32	18 3.79
16-20	1 0.21	3 0.63	4 0.84
21,+	1 0.21	0 0.00	1 0.21
TOTAL	117 24.63	358 75.37	475 100.00

FREQUENCY MISSING = 9

STATISTICS FOR TABLE OF GI7 BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	5.285	0.259

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI15 BY SEX

GI15(CARDIO EVALUATION)
SEX

FREQUENCY PERCENT	F	M	TOTAL
NO	75 15.79	161 33.89	236 49.68
YES	42 8.84	197 41.47	239 50.32
TOTAL	117 24.63	358 75.37	475 100.00

FREQUENCY MISSING = 9

STATISTICS FOR TABLE OF GI15 BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	12.909	0.000

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI12 BY SEX

GI12(ROUTINE PHYSICAL)
SEX

FREQUENCY PERCENT	F	M	TOTAL
NO	34 7.16	156 32.84	190 40.00
YES	83 17.47	202 42.53	285 60.00
TOTAL	117 24.63	358 75.37	475 100.00

FREQUENCY MISSING = 9

STATISTICS FOR TABLE OF GI12 BY SEX

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	7.742	0.005

COMPONENTS OF HYPOTHESIS #2

TABLE OF SMOKE BY GI2

SMOKE GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
CURR	4	22	35	34	5	100
	0.83	4.55	7.23	7.02	1.03	20.66
FRMR	6	34	32	46	1	119
	1.24	7.02	6.61	9.50	0.21	24.59
NEVR	27	83	82	67	6	265
	5.58	17.15	16.94	13.84	1.24	54.75
TOTAL	37	139	149	147	12	484
	7.64	28.72	30.79	30.37	2.48	100.00

STATISTICS FOR TABLE OF SMOKE BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	17.681	0.024

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI7 BY GI2

GI7(MEALS AWAY) GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
0-5	20	82	95	88	10	295
	4.14	16.98	19.67	18.22	2.07	61.08
6-10	15	46	48	54	2	165
	3.11	9.52	9.94	11.18	0.41	34.16
11-15	1	8	4	5	0	18
	0.21	1.66	0.83	1.04	0.00	3.73
16-20	1	2	1	0	0	4
	0.21	0.41	0.21	0.00	0.00	0.83
21,+	0	1	0	0	0	1
	0.00	0.21	0.00	0.00	0.00	0.21
TOTAL	37	139	148	147	12	483
	7.66	28.78	30.64	30.43	2.48	100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF GI7 BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	16	12.191	0.731

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI5 BY GI2

GI5(BREAKFAST FREQ) * GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
AA	23	88	96	110	9	326
	4.75	18.18	19.83	22.73	1.86	67.36
FR	12	41	40	31	2	126
	2.48	8.47	8.26	6.40	0.41	26.03
NV	2	10	13	6	1	32
	0.41	2.07	2.69	1.24	0.21	6.61
TOTAL	37	139	149	147	12	484
	7.64	28.72	30.79	30.37	2.48	100.00

STATISTICS FOR TABLE OF GI5 BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	7.680	0.465

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI12 BY GI2

GI12(ROUTINE PHYSICAL) GI2(RANK)

FREQUENCY / PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
NO	14	67	63	45	4	193
	2.90	13.87	13.04	9.32	0.83	39.96
YES	23	72	86	101	8	290
	4.76	14.91	17.81	20.91	1.66	60.04
TOTAL	37	139	149	146	12	483
	7.66	28.78	30.85	30.23	2.48	100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF GI12 BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	9.641	0.047

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI15 BY GI2

GI15(CARDIO EVALUATION) GI2(RANK)

FREQUENCY PERCENT	1INST	2ASST	3ASSO	4PROF	5OTHR	TOTAL
NO	22	94	71	48	6	241
	4.56	19.50	14.73	9.96	1.24	50.00
YES	15	45	76	99	6	241
	3.11	9.34	15.77	20.54	1.24	50.00
TOTAL	37	139	147	147	12	482
	7.68	28.84	30.50	30.50	2.49	100.00

FREQUENCY MISSING = 2

STATISTICS FOR TABLE OF GI15 BY GI2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	36.462	0.000

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI5 BY AGE

GI5(BREAKFAST FREQ) AGE

FREQUENCY PERCENT	21-30	31-40	41-50	51-60	61&UP	TOTAL
AA	21	100	110	79	15	325
	4.35	20.70	22.77	16.36	3.11	67.29
FR	12	52	45	14	3	126
	2.48	10.77	9.32	2.90	0.62	26.09
NV	2	18	9	3	0	32
	0.41	3.73	1.86	0.62	0.00	6.63
TOTAL	35	170	164	96	18	483
	7.25	35.20	33.95	19.88	3.73	100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF GI5 BY AGE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	21.169	0.007

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI7 BY AGE

GI7(MEALS AWAY) AGE

FREQUENCY / PERCENT	21-30	31-40	41-50	51-60	61&UP	TOTAL
0-5	23 4.77	98 20.33	100 20.75	61 12.66	13 2.70	295 61.20
6-10	10 2.07	63 13.07	55 11.41	31 6.43	5 1.04	164 34.02
11-15	1 0.21	5 1.04	8 1.66	4 0.83	0 0.00	18 3.73
16-20	1 0.21	2 0.41	1 0.21	0 0.00	0 0.00	4 0.83
21,+	0 0.00	1 0.21	0 0.00	0 0.00	0 0.00	1 0.21
TOTAL	35 7.26	169 35.06	164 34.02	96 19.92	18 3.73	482 100.00

FREQUENCY MISSING = 2

STATISTICS FOR TABLE OF GI7 BY AGE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	16	8.501	0.933

COMPONENTS OF HYPOTHESIS #2

TABLE OF SMOKE BY AGE

SMOKE AGE

FREQUENCY / PERCENT	21-30	31-40	41-50	51-60	61&UP	TOTAL
CURR	4 0.83	34 7.04	38 7.87	20 4.14	3 0.62	99 20.50
FRMR	3 0.62	30 6.21	45 9.32	33 6.83	8 1.66	119 24.64
NEVR	28 5.80	106 21.95	81 16.77	43 8.90	7 1.45	265 54.87
TOTAL	35 7.25	170 35.20	164 33.95	96 19.88	18 3.73	483 100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF SMOKE BY AGE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	25.529	0.001

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI15 BY AGE

GI15(CARDIO EVALUATION) AGE

FREQUENCY / PERCENT	21-30	31-40	41-50	51-60	61&UP	TOTAL
NO	30	105	73	29	4	241
	6.24	21.83	15.18	6.03	0.83	50.10
YES	5	65	90	66	14	240
	1.04	13.51	18.71	13.72	2.91	49.90
TOTAL	35	170	163	95	18	481
	7.28	35.34	33.89	19.75	3.74	100.00

FREQUENCY MISSING = 3

STATISTICS FOR TABLE OF GI15 BY AGE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	49.006	0.000

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI12 BY AGE

GI12(ROUTINE PHYSICAL) AGE

FREQUENCY / PERCENT	21-30	31-40	41-50	51-60	61&UP	TOTAL
NO	16	91	58	27	1	193
	3.32	18.88	12.03	5.60	0.21	40.04
YES	19	79	105	69	17	289
	3.94	16.39	21.78	14.32	3.53	59.96
TOTAL	35	170	163	96	18	482
	7.26	35.27	33.82	19.92	3.73	100.00

FREQUENCY MISSING = 2

STATISTICS FOR TABLE OF GI12 BY AGE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	29.295	0.000

COMPONENTS OF HYPOTHESES #3

TABLE OF GI8 BY EXERFIT

GI8(FIT CENTER) EXERFIT

FREQUENCY PERCENT	EXCL	GOOD	POOR	TOTAL
NO	48 9.94	110 22.77	189 39.13	347 71.84
YES	50 10.35	51 10.56	35 7.25	136 28.16
TOTAL	98 20.29	161 33.33	224 46.38	483 100.00

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF GI8 BY EXERFIT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	43.701	0.000

COMPONENTS OF HYPOTHESES #4

TABLE OF GI15 BY EXERFIT

GI15(CARDIO EVALUATION) EXERFIT

FREQUENCY PERCENT	EXCL	GOOD	POOR	TOTAL
NO	49 10.17	74 15.35	118 24.48	241 50.00
YES	47 9.75	88 18.26	106 21.99	241 50.00
TOTAL	96 19.92	162 33.61	224 46.47	482 100.00

FREQUENCY MISSING = 2

STATISTICS FOR TABLE OF GI15 BY EXERFIT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	1.894	0.388

HYPOTHESIS #5

TABLE OF GI6 BY EATING

GI6(SPECIAL DIET) EATING

FREQUENCY / PERCENT	EXCL	GOOD	POOR	TOTAL
NO	155	146	104	405
	32.16	30.29	21.58	84.02
YES	41	22	14	77
	8.51	4.56	2.90	15.98
TOTAL	196	168	118	482
	40.66	34.85	24.48	100.00

FREQUENCY MISSING = 2

STATISTICS FOR TABLE OF GI6 BY EATING

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	2	6.092	0.048

COMPONENTS OF HYPOTHESIS #1 (COLL)

TABLE OF SMOKING BY COLL

SMOKING COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
EXCL	95 20.13	121 25.64	31 6.57	26 5.51	42 8.90	23 4.87	6 1.27	29 6.14	373 79.03
POOR	18 3.81	39 8.26	6 1.27	11 2.33	11 2.33	3 0.64	2 0.42	9 1.91	99 20.97
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF SMOKING BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	7	6.713	0.459

COMPONENTS OF HYPOTHESIS #1 (COLL)

TABLE OF ALCDRUG BY COLL

ALCDRUG COLL

FREQUENCY / PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
EXCL	87 18.47	121 25.69	30 6.37	31 6.58	43 9.13	22 4.67	6 1.27	30 6.37	370 78.56
GOOD	21 4.46	30 6.37	7 1.49	4 0.85	5 1.06	4 0.85	2 0.42	4 0.85	77 16.35
POOR	5 1.06	8 1.70	0 0.00	2 0.42	5 1.06	0 0.00	0 0.00	4 0.85	24 5.10
TOTAL	113 23.99	159 33.76	37 7.86	37 7.86	53 11.25	26 5.52	8 1.70	38 8.07	471 100.00

FREQUENCY MISSING = 13

STATISTICS FOR TABLE OF ALCDRUG BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	12.904	0.534

WARNING: 33% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5. CHI-SQUARE MAY NOT BE A VALID TEST.

COMPONENTS OF HYPOTHESIS #1 (COLL)

TABLE OF EATING BY COLL

EATING COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
EXCL	47 9.96	76 16.10	10 2.12	13 2.75	18 3.81	13 2.75	5 1.06	12 2.54	194 41.10
GOOD	40 8.47	48 10.17	13 2.75	13 2.75	16 3.39	9 1.91	2 0.42	22 4.66	163 34.53
POOR	26 5.51	36 7.63	14 2.97	11 2.33	19 4.03	4 0.85	1 0.21	4 0.85	115 24.36
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF EATING BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	24.768	0.037

COMPONENTS OF HYPOTHESIS #1 (COLL)

TABLE OF EXERFIT BY COLL

EXERFIT COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
EXCL	20 4.24	44 9.32	3 0.64	8 1.69	8 1.69	7 1.48	0 0.00	7 1.48	97 20.55
GOOD	48 10.17	45 9.53	18 3.81	8 1.69	16 3.39	8 1.69	3 0.64	12 2.54	158 33.47
POOR	45 9.53	71 15.04	16 3.39	21 4.45	29 6.14	11 2.33	5 1.06	19 4.03	217 45.97
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF EXERFIT BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	22.115	0.076

COMPONENTS OF HYPOTHESIS #1 (COLL)

TABLE OF STRESS BY COLL

STRESS COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
EXCL	40 8.47	56 11.86	6 1.27	18 3.81	19 4.03	11 2.33	3 0.64	12 2.54	165 34.96
GOOD	54 11.44	75 15.89	25 5.30	13 2.75	23 4.87	15 3.18	5 1.06	12 2.54	222 47.03
POOR	19 4.03	29 6.14	6 1.27	6 1.27	11 2.33	0 0.00	0 0.00	14 2.97	85 18.01
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF STRESS BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	27.872	0.015

COMPONENTS OF HYPOTHESIS #1 (COLL)

TABLE OF SAFETY BY COLL

SAFETY COLL

FREQUENCY / PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
EXCL	72 15.25	84 17.80	19 4.03	23 4.87	30 6.36	21 4.45	6 1.27	20 4.24	275 58.26
GOOD	39 8.26	70 14.83	15 3.18	12 2.54	23 4.87	5 1.06	2 0.42	13 2.75	179 37.92
POOR	2 0.42	6 1.27	3 0.64	2 0.42	0 0.00	0 0.00	0 0.00	5 1.06	18 3.81
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF SAFETY BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	25.503	0.030

WARNING: 37% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5. CHI-SQUARE MAY NOT BE A VALID TEST.

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI5 BY COLL

GI5(BREAKFAST FREQ) COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
AA	89 18.86	102 21.61	24 5.08	26 5.51	34 7.20	17 3.60	5 1.06	21 4.45	318 67.37
FR	19 4.03	42 8.90	12 2.54	9 1.91	14 2.97	9 1.91	3 0.64	15 3.18	123 26.06
NV	5 1.06	16 3.39	1 0.21	2 0.42	5 1.06	0 0.00	0 0.00	2 0.42	31 6.57
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF GI5 BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	19.179	0.158

WARNING: 29% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5. CHI-SQUARE MAY NOT BE A VALID TEST.

COMPONENTS OF HYPOTHESIS #2

TABLE OF SMOKE BY COLL

SMOKE COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
CURR	18 3.81	39 8.26	6 1.27	11 2.33	11 2.33	3 0.64	2 0.42	9 1.91	99 20.97
FRMR	26 5.51	39 8.26	14 2.97	11 2.33	12 2.54	4 0.85	1 0.21	9 1.91	116 24.58
NEVR	69 14.62	82 17.37	17 3.60	15 3.18	30 6.36	19 4.03	5 1.06	20 4.24	257 54.45
TOTAL	113 23.94	160 33.90	37 7.84	37 7.84	53 11.23	26 5.51	8 1.69	38 8.05	472 100.00

FREQUENCY MISSING = 12

STATISTICS FOR TABLE OF SMOKE BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	14	14.764	0.394

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI7 BY COLL

GI7(MEALS AWAY) COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
0-5	62 13.16	97 20.59	14 2.97	25 5.31	33 7.01	18 3.82	6 1.27	32 6.79	287 60.93
6-10	50 10.62	52 11.04	20 4.25	10 2.12	17 3.61	5 1.06	2 0.42	5 1.06	161 34.18
11-15	1 0.21	6 1.27	3 0.64	1 0.21	3 0.64	3 0.64	0 0.00	1 0.21	18 3.82
16-20	0 0.00	3 0.64	0 0.00	1 0.21	0 0.00	0 0.00	0 0.00	0 0.00	4 0.85
21,+	0 0.00	1 0.21	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	1 0.21
TOTAL	113 23.99	159 33.76	37 7.86	37 7.86	53 11.25	26 5.52	8 1.70	38 8.07	471 100.00

FREQUENCY MISSING = 13

STATISTICS FOR TABLE OF GI7 BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	28	40.524	0.059

WARNING: 62% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5. CHI-SQUARE MAY NOT BE A VALID TEST.

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI12 BY COLL

GI12(ROUTINE PHYSICAL) COLL

FREQUENCY / PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
NO	52	52	16	15	19	8	5	21	188
	11.04	11.04	3.40	3.18	4.03	1.70	1.06	4.46	39.92
YES	60	108	21	22	34	18	3	17	283
	12.74	22.93	4.46	4.67	7.22	3.82	0.64	3.61	60.08
TOTAL	112	160	37	37	53	26	8	38	471
	23.78	33.97	7.86	7.86	11.25	5.52	1.70	8.07	100.00

FREQUENCY MISSING = 13

STATISTICS FOR TABLE OF GI12 BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	7	12.532	0.084

COMPONENTS OF HYPOTHESIS #2

TABLE OF GI15 BY COLL

GI15(CARDIO EVALUATION) COLL

FREQUENCY PERCENT	AG	AS	BU	ED	EN	HE	OT	VM	TOTAL
NO	63 13.40	78 16.60	15 3.19	14 2.98	21 4.47	15 3.19	5 1.06	23 4.89	234 49.79
YES	50 10.64	80 17.02	22 4.68	23 4.89	32 6.81	11 2.34	3 0.64	15 3.19	236 50.21
TOTAL	113 24.04	158 33.62	37 7.87	37 7.87	53 11.28	26 5.53	8 1.70	38 8.09	470 100.00

FREQUENCY MISSING = 14

STATISTICS FOR TABLE OF GI15 BY COLL

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	7	10.109	0.182

VITA

Gale Anne Eckhart

Candidate for the Degree of

Master of Science

Thesis: NEEDS ASSESSMENT OF UNIVERSITY FACULTY FOR A WELLNESS PROGRAM

Major Field: Home Economics - Food, Nutrition and Institution Administration

Biographical:

Personal Data: Born in Quonset Point, Rhode Island, April 29, 1956, the daughter of Donna and Frank Eckhart.

Education: Graduated from Williamsville North High School, Williamsville, New York, June, 1974; received Bachelor of Science in Home Economics from Oklahoma Christian College, Oklahoma City, OK in April 1978; attended Central State University, Edmond, OK, August, 1979 to December, 1981; attended Abilene Christian University, Abilene, TX, June, 1982 to December, 1984; completed requirements for the Master of Science degree at Oklahoma State University in May, 1987.

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