EMPLOYEE HEALTH PRACTICES AND INTERESTS IN A HEALTH AND FITNESS CENTER AT THE WORKSITE

BY

ELICIA BAKER-ROGERS

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Research Advisor: Sally L Lusk, PhD, RN 8/23/89

Reader: Janice P. Lindsey 8/23/89

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Data for this project were analyzed, using the Michigan Interactive Data Analysis System (MIDAS) using the Michigan Terminal System (MTS) operating on The University of Michigan AMDAHL 5860 computer.

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EMPLOYEE HEALTH PRACTICES AND INTERESTS IN A HEALTH AND FITNESS CENTER AT THE WORKSITE

By

Elicia Baker-Rogers

The University of Michigan

Ann Arbor, Michigan

Abstract

This study involved a a mailed questionnaire to survey all employees (677) at one industrial setting. The conceptual framework utilized in the study is the Health Promotion Model (Pender, 1987), a model that provides a basis for explaining individual health actions.

The purpose of this study was to identify what employee health behaviors are related to decisions to participate in health promotion programs offered at the worksite. In spite of the limited response (n=136, 20%), the resulting data can be extremely useful in planning a Health and Fitness Center at the research setting.

The instrument consisted of four sections: 1) the Health-Promoting Lifestyle Profile (HPLP), 2) employee opinions concerning fitness center equipment, 3) employee health activities, and 4) demographics. Data were analyzed utilizing descriptive and inferential statistical methods.

Results of this study revealed that employees' reported participation in a regular exercise regimen were significantly and positively related to various health promotion behaviors; perceived health status; current level of interest in health and fitness; marital status; and significantly and negatively related to the influence of other persons. These findings are limited to the study setting but do provide some consistencies with relevant literature.

I. INTRODUCTION

A. The Study Problem

The numbers of worksite health promotion programs for employees at various businesses and industries have greatly increased over the past decade. The majority of reasons for their establishment include attracting and retaining employees, reducing health care costs, decreasing absenteeism, and increasing productivity (Tsai, Baun, & Bernacki, 1987).

Employers have become aware that employees who have healthier lifestyles are valuable resources and they are taking a more active role in protecting these resources. The driving force for this trend is a result of escalating health care costs, the national health policy shift from illness to prevention, and the increased competition faced by American markets in the international marketplace (Pender, Smith, & Vernof, 1987). The purpose of this study was to examine current employee health behaviors, demographics, and worksite fitness center preferences of employees at an industry in the planning phase of implementing a worksite employee fitness center. When a business or industry is considering establishing an employee worksite fitness center it is important that those involved in the planning process have data regarding what segments of the employee population are likely to participate in worksite fitness center activities, as well as what programs and equipment should be incorporated into the fitness center.

The most common worksite health promotion programs are hypertension control, physical fitness, nutrition education/ weight loss/ cholesterol reduction, stress management, and chemical dependency (Chen, 1988). Several studies have cited improvements in well-being in the preceding areas, as well as economic benefits attributable to the worksite wellness movement (Chen, 1988). However, more research still needs to be conducted regarding

why individuals are interested in joining worksite health promotion programs, what factors affect adherence to the programs, and how certain health behaviors are related to employee level of participation (Gray, 1983; Mirotznik, et al, 1985).

The Health Promotion Model, the conceptual framework for this study, is a model that explains why individuals engage in various health actions including exercise, nutritional patterns, development of social support systems, and coping mechanisms related to stress (Pender, 1987). Therefore, the Health Promotion Model is an appropriate conceptual framework to provide an avenue for the investigator to examine employee health practices and interest in a health and fitness center at one industrial setting.

B. Significance to Nursing

Nurses are of paramount importance in assisting persons to reach and maintain an optimum level of bio-psycho-social well-being.
Health promotion programs at the worksite have, and will continue to, expand. According to Rimer and Glass (1983), exercise fitness in general is big business, generating billions of dollars for related clothing, books, health clubs, home fitness equipment, records and tapes. The benefits of exercise and fitness have been well documented including increased heart efficiency, improved muscle strength, stamina, and adoption of further positive health behaviors (Walker & Evans, 1987).

The unique position nurses enjoy in various occupational settings allows them to interact with employees to assess overall employee health status, identify various health related problems, and also to provide long-term evaluation on recommended regimens. Consequently, nurses in occupational settings have been regarded as being more effective than personal physicians in providing programs which improve employee health and minimize health care

costs (Kirpatrick, 1985).

Documentation of employee problems in various businesses and industries can stimulate ideas for possible interventions and assist the nursing professional with projected outcomes. Also, accurate documentation can generate topics for additional research in worksite health promotion. The cumulative effects of assessment, documentation, interventions, and research regarding employee health problems will not only expand the body of scientific knowledge in this area, but will provide an avenue for nurses to continue to earn credibility in the corporate arena and influence important health care decisions when collaborating with management.

II. LITERATURE REVIEW

A. Rationale/Impetus for Worksite Health Promotion Programs

According to U.S. morbidity and mortality data, cardiovascular diseases and cancers are the major causes of death and disability in adults. The preventable nature of these leading causes of death has necessitated that health priorities be directed toward health promotion and disease prevention. Reducing the known risk factors associated with the diseases is part of a rational commitment to ensure and promote healthier lifestyles for the U.S. population (Richard, 1984).

The 1979 Surgeon General's Report on Health Promotion and Disease Prevention identified cigarette smoking; high blood pressure; obesity; diets high in saturated fat, cholesterol, and sodium and sugar; misuse of alcohol consumption; and stress as risk factors for cardiovascular disease (U.S. Department of Health Education & Welfare, 1979). Similarly, risk factors associated with the three most prevalent forms of cancer (lung, colon, and breast) are the same risk factors identified for cardiovascular disease (Erikson, 1988). In addition, cardiovascular diseases and cancers have been linked with work-related exposures which include chemicals, radiation, heat, noise, vibration, dusts, and mental stress (U.S. Department of Health Education and Welfare,1979).

Thus, in order to achieve the overall goal of healthier lifestyles for the American population there must be individual as well as corporate commitment and involvement in wellness and health promotion. According to Novelli and Ziska (1982), millions of Americans spend approximately one-third of their average day at the worksite, making this an environment conducive for health behavior change.

Two important documents, The Surgeons General's Report on Health

Promotion and Disease Prevention: Healthy People (U.S. Department of Health, Education, and Welfare (DHEW), 1987), and the First National Conference on Health Promotion Programs in Occupational Settings (Office of Health Promotion and Physical Fitness and Sports Medicine, (1979), are considered "the" reference works for various worksite health promotion programs including employee fitness, nutrition and weight control, smoking cessation, and hypertension control. These documents provided the impetus for other federal and non-federal interventions involving worksite wellness (Chen, 1988).

American employers concur about the rationale for providing worksite health promotion programs. According to Christenson & Kiefhaber (1988), improved employee health was the most frequently cited reason for offering a health promotion activity in the National Survey of Worksite Health Promotion Activities. Also in the national survey, a great majority of respondents indicated that the benefits of health activities outweighed or equaled the monetary cost.

B. Health Promotion Programs in Existence

In response to the national awareness of health promotion, both profit and non-profit businesses and organizations have established health promotion programs for employees and their families. These worksite health promotion programs generally consist of, but are not limited to, some combination of diagnostic, educational, and behavior modification activities.

According to Novelli and Ziska (1982), most worksite health promotion programs fit into one of the four following categories:

1. "One-shot activity" programs generally consist of isolated screening sessions with minimal or no education or counseling, referral, or follow-up.
2. "Fitness first" programs are enjoyable, highly visible and are not associated with illness or disease. Their focus is on

improving the physical well-being of persons by utilizing nutrition counseling, weight control, and cardiovascular fitness.

3. "Mixed-bag" programs incorporate a variety of health promotion programs, but lack cohesion or overall health promotion objectives.
4. "Comprehensive" programs encompass well-planned well-funded programs with short-term and long-term objectives, and include both cost and behavioral assessments.

Currently over 3,000 businesses and industries in the U.S. report having some type of worksite health promotion program. However, large companies, (over 1,000 employees) as compared to small and moderately-sized companies (fewer than 1,000 employees), are more likely to provide a health program (Smogor & Macrina, 1987).

The National Survey of Worksite Health Promotion collected data on 320 worksites with 50 to 99 employees and 1,038 worksites with 100 or more employees across the U.S. One of the major objectives of the survey was to determine the nature and extent of health promotion activities in worksites of 50 or more employees. The findings revealed that approximately 66% of the worksites with 50 or more employees had at least one health promotion activity. The activities that were most frequently cited were: smoking control (35.6%) with over three-fourths of these worksites having smoking policies; health risk assessment (29.5%) with one half of these offering hypertension screening and 15.3% offering physical fitness tests; back care (28.6%) with 91.5% of these worksites offering some form of back care information and 55.5% offering classes or workshops; stress management (26.6%); exercise/fitness (22.1%);

and off the job accident prevention (19.8%).

The health promotion activities in the national worksite survey that were cited least often were: weight control (14.7%); hypertension control (16.5%); and nutrition education (16.8%). Overall, worksites with fewer than 250 employees had more smoking cessation programs, while worksites with more than 750 employees offered more health risk assessment programs (Christenson & Kiefhaber, 1988).

Surveys of worksite health promotion programs have also been conducted in specific geographical locations. Fielding and Blesiow (1983), surveyed 424 California employers revealing that 78% offered one or more health promotion activities. The most frequently offered programs were accident prevention (64.9%) followed by CPR (52.8%), substance abuse (18.6%), mental health counseling (18%), stress management (13%), fitness (11.6%) hypertension screening (10%), and smoking cessation (8%).

In Colorado, Davis, Rosenberg, Iverson, Vernon, and Bauer (1984), surveyed 300 corporations with the objectives of developing a corporate profile of health promotion and disease prevention programs in the state as well as identifying obstacle and/or incentives to the further development of such programs. A company was considered to have a program if it provided health screening, information programs, or preventative health services on an ongoing basis. Only 94 of the 300 companies that were surveyed had a program. The remaining 206 did not, but expressed a desire to develop them.

Also, in San Antonio, Texas, a survey was conducted of 71 companies in the area to determine the number and nature of existing wellness programs and the characteristics of firms which do and do not offer such programs. Wellness program activities consisted of exercise classes, health risk appraisals, nutrition/weight control, physical fitness, and stress management. Twenty-four

firms (34%) of the 71 returning the questionnaire reported having some type of wellness program while 47 firms (66%) did not provide wellness programs. The twenty-four firms that reported having some type of wellness programs were involved in service producing or finance related activities. The 47 firms that did not provide wellness programs were involved in manufacturing or trade types of work (McGill, Hubbard and Shaffner, 1984).

Specific companies have been instrumental in fortifying the worksite health promotion movement. The Johnson and Johnson Company began its "Live for Life" program in 1979. This health promotion program is comprehensive and its current objectives are improved nutrition, weight control, fitness, smoking cessation, and stress management. The Campbell Soup Company began a screening effort which initiated the "Atherosclerosis Prevention Program" in February 1968, and yet another "Down with High Blood Pressure Program" in 1983. The Equitable Life Assurance Society has a stress management program for employees experiencing complications with stress related disorders where they visit the biofeedback lab over a period of several weeks. For Control Data Corporation's 57,000 employees, the "Staywell" program provides health risk assessments to employees and their families (Walker and Evans, 1987).

Several corporations in Michigan have committed to health promotion programs. The three leading automotive industries Ford, General Motors, and Chrysler offer a mixture of health facilities and equipment at various plants. These include aerobic classes, walking trails, treadmills and stationary bikes, and softball and basketball leagues. The Mazda Corporation opened a 90,000 square-foot fitness center which included a jogging track, rooms for aerobics, martial arts, and courts for basketball, volleyball and tennis. Also, the Kellogg company has opened a fully equipped fitness center for both white and blue

collar workers. The costs of the fitness programs range from $55,000 at Ford's Wayne Assembly Plant (shared by workers) to 1 million for Mazda's center, (cost absorbed by company) (The Detroit News,1988).

C. Organizational Resources

Businesses and industries may utilize a variety of organizational resources available for initiating and supplementing worksite health promotion. These resources generally fall into four categories: 1) publications; 2) consultive services; 3) programmatic services; and 4) audiovisual materials.

Organizations that provide these resources include: 1) federal agencies-Office of Disease Prevention and Health Promotion: National Health Information Center and Health Education Branch, National Heart, Lung and Blood Institute; 2) non-profit and voluntary health agencies - American Cancer Society, American Heart Association, American Hospital Association, American Lung Association, American Red Cross, March of Dimes Birth Defects Foundation, National Center for Health Education, YMCA of the USA, and YWCA National Board; and 3) profit organizations - American Institute for Preventive Medicine, The Center for Corporate Health Promotion, Inc., Great Performance, Inc., Johnson and Johnson Health Management, Inc., Krames Communication, Metropolitan Life, and Weight Watchers International (Chen and Cabot, 1988).

D. Documented Benefits

Documentation of various health and economic benefits has been reported by several companies. There was an average 14% reduction in total cholesterol for a 15-week intervention program for L.L. Bean employees eight months after its initiation (Chen, 1988). American Telephone and Telegraph (A.T. & T.) Communications reported their Total Life Concept health promotion program assisted in lowering the risk of heart attacks for employees. Over a ten year period, it is estimated that this reduction will save A.T. & T. 22.4 million in

medical costs (Vic Tanny Health Clubs, 1987).

The Mesa Petroleum company found that one year after beginning its corporate fitness center, participating employees used only 27 sick time hours a year where as non-participating employees averaged 44 hours of sick time annually. The company also estimated that reduced medical costs and absenteeism resulted in corporate savings of $200,000 in the programs first year (Vic Tanny Health Clubs, 1987).

E. Employee Intentions and Health Behaviors Related to Participation and Adherence.

Worksite health promotion programs have been implemented to benefit both the employer and employee. However, according to Matteson and Ivancevich (1988), many of these health promotional activities are implemented without clear objectives because specific employee health needs and objectives in relation to health promotion programs have not been identified by the organization.

In terms of recruitment and participation of employees in fitness programs, persons who are at a higher risk for cardiovascular heart disease (CHD) may be the least likely to enroll. Evidence reveals that only 20% of the target employee population will enroll in a worksite fitness center, and within 6 months 50% of the participants will cease participation in the program (Pate & Blair, 1983). However, employees who are still participating in programs after 6 months are likely to continue to remain active a year later (Dishman, Sallis, & Orenstein, 1985).

According to Conrad (1987), employees who display greater dissatisfaction with their health status are more willing to participate in health programs. Participants in health programs are generally younger (30-38 years), non-smokers, in better physical condition, have a lower preexisting rate of absenteeism, and are female (Conrad, 1987). Some persons engage in fitness programs for non-health reasons such as recreation, improvement in physical appearance (mostly women), or for self-discipline (mostly men) (Pate & Blair, 1983).

According to Blozis, Chen & Cooper (1988), there are more white collar or management/office employees experiencing the benefits of worksite health promotion programs. Blue collar or factory/production employees, as well as second and third shift workers have lower participation rates in worksite health promotion programs. The lower participation rate of blue-collar workers has major health and economic implications for employers because: 1) it has been documented that proportionately more minorities are employed in blue collar jobs and minorities are at a greater risk for cardiovascular disease and lung cancer, 2) lower socioeconomic status is associated with greater risks to health. Therefore it is imperative that businesses make special efforts to attract blue collar workers to fitness centers. They can encourage participation by addressing specific cultural beliefs, and allowing for creativity when planning worksite health promotion programs. These steps will aid in attracting and retaining blue collar employees to worksite health promotion programs which can increase the quality of the employees' lifestyle (Blozis, Chen & Cooper, 1988).

Other factors that affect employee attrition from worksite health promotion programs include: 1) exercise facility is overcrowded at usual exercise time, 2) facility is located too far from actual work environment, 3)

exercise program resulted in excessive alteration in participants' schedules, 4) as well as medical problems or injuries. However, camaraderie and social interaction as well as participants who like the exercise leader are factors that attract employees and influence their decisions to continue the program (Pate & Blair, 1983).

III. Conceptual Framework

The conceptual framework utilized as the basis for this study was the Health Promotion Model. The Health Promotion Model is intended as an explanation of why individuals engage in health actions (Pender, 1987).

The majority of research that has been conducted on understanding why and under what circumstances individuals partake in health behaviors has been done within the framework of the Health Belief Model (Rosenstock, 1974; Janz and Becker, 1984). This Model is a paradigm explaining factors that influence an individual's decision to seek preventive care, decreasing the individual's chance of encountering illness (Walker, Sechrist, Pender, 1987). In contrast, the Health Promotion Model focuses on health promoting behaviors, which are expressions of the human actualizing tendency. These behaviors are geared toward enhancing and maintaining individual levels of self-actualization, well-being, and personal fulfillment. Both health protecting (preventive) and health promoting behaviors can be identified as complementary components of a healthy life-style. However, health promoting lifestyle behaviors are performed by individuals who participate in such a lifestyle because they wish to interact with their environment in an enjoyable way rather than reacting to their environment to avoid illness and disease (Pender, 1987).

The Health Promotion Model originates from social learning theory and is categorized into cognitive-perceptual factors, modifying factors, and variables affecting individuals' participation in health promotion behaviors (See Figure 1).

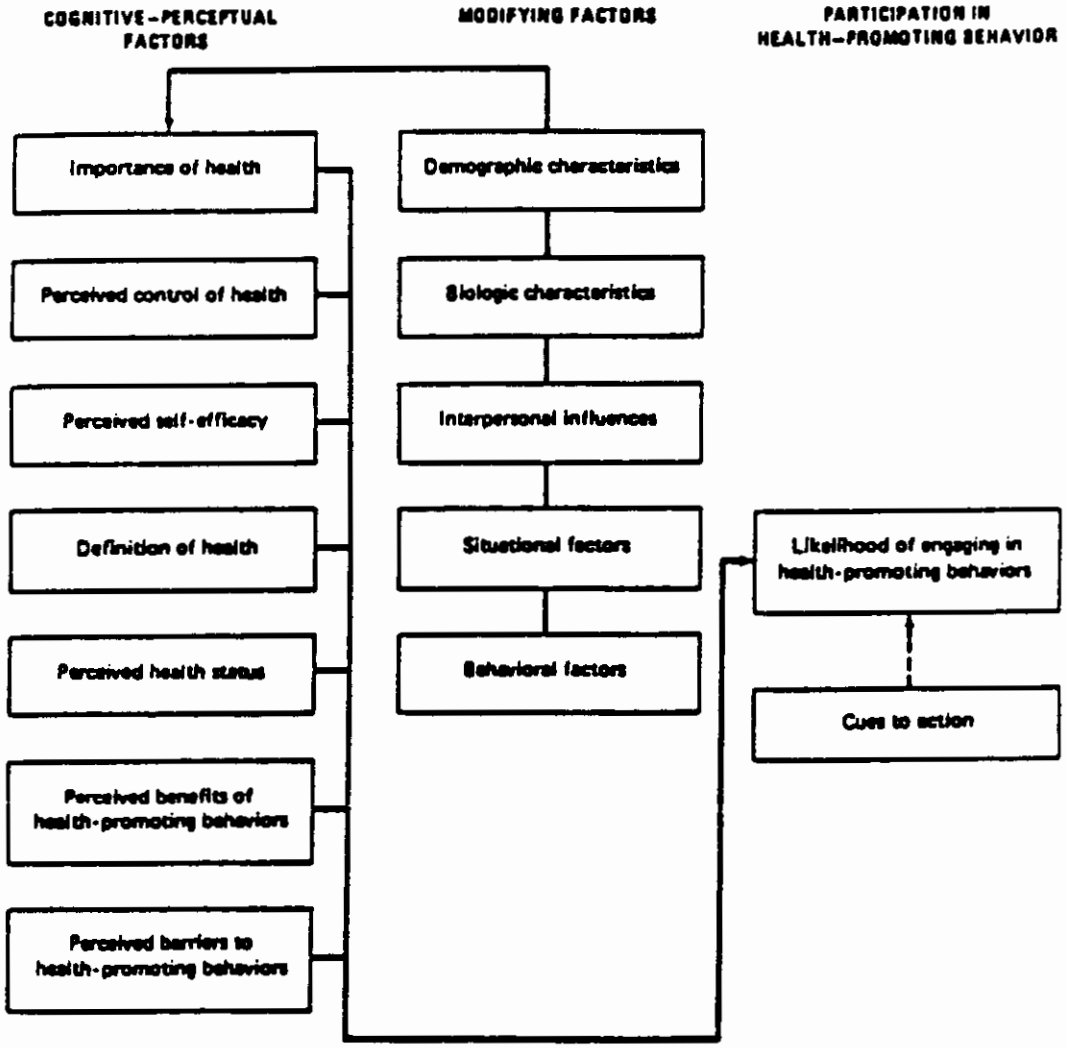

Figure 1. The Health Promotion Model. From Health Promotion in Nursing Practice (p.58) Second Edition, by N. J. Pender, 1987, Norwalk, Conneticut: Appleton & Lange

Cognitive-perceptual factors are identified in the model as primary motivational mechanisms that directly influence an individual's decision to engage in health-promoting behaviors. Modifying factors indirectly influence patterns of health behavior via the cognitive-perceptual mechanisms. Also, the Health Promotion Model proposes that participation in health-promoting behavior is dependent upon internal cues or external cues arising from the environment (Pender, 1987).

Pender (1987), has reviewed a variety of studies that addressed health promoting behaviors. Currently, the power of the Health Promotion Model is being tested in terms of explaining patterns of physical exercise and health-promoting life styles in the working adult, older adult, ambulatory cancer patient and cardiac rehabilitation client populations (Pender,1987).

IV. Research Questions and Operational Definitions

A. Research Questions

Two components of the Health Promotion Model, Cognitive-Perceptual Factors, and Modifying Factors were utilized in this study as a basis for examining employee health practices and interest in a health and fitness center at one industrial setting. Specific Cognitive-Perceptual Factors used in this study were Perceived Health Status and Perceived Benefits of health-promoting behaviors. Specific Modifying Factors used in this study were Demographic Factors and Interpersonal Factors. The research questions that guided the investigator in gathering data from the selected study sample are:

1) What health behaviors are related to employees' reported decision to participate in a regular exercise regimen?
2) How are Cognitive-Perceptual Factors, specifically Perceived Health Status and Perceived Benefits of Exercise, related to employees' reported participation in a regular exercise regimen?
3) What is the relationship between employees' current level of general interest in health and fitness and reported participation in a regular exercise regimen?
4) How are Modifying Factors, specifically Demographic Factors and Interpersonal Factors, related to employees' reported participation in a regular exercise regimen?
5) What is the relationship of employees' level of interest in a worksite employee health and fitness center at one industrial setting to their reported participation in a regular exercise regimen?

B. Operational Definitions

1) Health Behaviors: In this study, health behaviors refer to activities that are directed toward increasing or sustaining an individual's level of well-being, self-actualization, and personal fulfillment. These were assessed by the Health-Promoting Lifestyle Profile.

2) Regular Exercise Regimen: A regular exercise regimen is considered exercise for 20-30 minutes at least 3 times a week that results in individual's achieving at least 75% of their maximum heart rate. This was assessed by the responses to items 4,13,22,30, & 38 of the Exercise Subscale under the Lifestyle Profile section of the questionnaire, as well as items 6 & 8 under the Health Activities section of the questionnaire.

3) Cognitive-Perceptual Factors: Reasons that influence individuals engaging in health promotion behaviors. Specific factors included in this study were Perceived Health Status and Perceived Benefits of health-promoting behaviors in relation to exercise. In this study, Perceived Health Status refers to the opinion individuals' have regarding their current state of health. Perceived Health Status was assessed by the responses to items 2 through 5 under the Health Activities section of the questionnaire. In this study, Perceived Benefits of Exercise refers to the positive outcomes individuals' expect to experience from participating in a regular exercise regimen. Perceived Benefits of exercise was assessed by the responses to letters A,B,C,D, E, & G of item10 under the Health Activities section of the questionnaire.

4) Level of Interest in Health and Fitness: In this study, level of interest in health and fitness refers to the degree to which an individual desires to learn about health and fitness or

reports participation in a regular exercise regimen. This variable was measured by the responses to items 1 & 7 under the Health Activities Section of the questionnaire.

5) Modifying Factors: Factors that indirectly influence patterns of health behavior. Included in this study are:

1) Demographic Factors: Demographic factors refer to individual factors in the study including sex, age, marital status and education that assisted in delineating the study sample.

-Age - assessed in number of years

-Sex - assessed as male or female

-Marital Status - assessed as single, never married; married: divorced or separated: or widowed

-Education - assessed as highest level completed beginning with less than high school and ending with post-graduate

2) Interpersonal Factors: Influences on health promoting behaviors such as expectation of significant others and health professionals. Interpersonal factors were assessed by the responses to letters F,H,& I of item 10 under the Health Activities section of the questionnaire.

6) Level of Interest in a Worksite Employee Health and Fitness Center:

In this study, level of interest in a worksite Employee Health and Fitness Center refers to the degree to which employees provide feedback concerning various health and fitness equipment and programs prior to the actual

implementation of the fitness center. This was measured by items 1-17 under the Fitness Center portion of the questionnaire.

V. METHOD

A. Design

The study utilized a survey design by distributing mailed questionnaires to all employees in one industrial setting. The survey assisted the researcher in describing demographic characteristics and health and fitness opinions and behaviors of employees as they currently exist in one industrial setting.

B. Sample and Setting

The study employed a purposive, non-probability sampling approach. The sample consisting of all of the employees at one industrial setting, a total of 677. The sample included males and females and both salaried and hourly personnel. They were able to read and write English to complete the survey.

All employees were invited to participate because the Employee Health and Fitness Center would be a benefit provided for all personnel. Therefore, the more employees who provided feedback regarding demographics, health behaviors and fitness center opinions, the more valuable and generalizable the data will be in planning for the fitness center.

The setting was an enormous grocery warehouse located in Southeastern Michigan. The industry was formed from a division of another grocery company and has been in operation for two years. Consent to use this particular industry as the research setting was given by the company president (See Appendix D).

C. Instrument

The instrument in the study was entitled Health and Fitness Center Survey and consisted of four sections entitled: 1) Fitness Center, 2) Health Activities, 3) Lifestyle Profile and 4) Demographics. The section entitled Lifestyle Profile was the Health-Promoting Lifestyle Profile (HPLP), a tool developed by Walker, S., Sechrist, K. and Pender, N., (1987). The 48-item instrument was developed within the framework of the Health Promotion Model

to assist researchers with investigation of patterns of determinants of health promoting life-style. The six subscales of the HPLP assess self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress-management. These characteristics are important to understand when planning to implement a worksite employee fitness center, and therefore were the rationale for selecting the HPLP.

As reported by Walker et al (1987), the total HPLP instrument had an alpha reliability coefficient of .922 which demonstrates a high internal consistency. The alpha reliability coefficients for the six subscales range from .702 for stress management to .904 for self-actualization, all of which are considered acceptable in the early stages of research (Walker, et al, 1987).

In terms of test-retest reliability to establish stability, the HPLP was administered by the originators on two occasions to a sample of 63 adults with an interval of 2 weeks between testing. The test-retest of the total instrument produced a Pearson's r of .926. The Pearson's r for the subscales ranged from .808 to .905. Content validity was evaluated by nursing colleagues of the investigators (Walker, et al, 1987).

The other three sections of the overall Health and Fitness Survey instrument were developed by the researcher with the assistance of a seven member Employee Health and Fitness Center Task Force at the research setting and faculty from the School of Nursing at The University of Michigan. The task force provided additional feedback for possible questions to include in the questionnaire. These sections basically served as a needs assessment to ascertain: 1) employee interest in a fitness center and types of fitness equipment therein; 2) employee health activities; 3) and demographic data. Also it was a tool for gathering data that the industry did not currently possess concerning its employees.

D. Data Collection Procedures

Prior to conducting the actual research, the members of the Employee Health and Fitness Center Task Force thoroughly reviewed the consent form and questionnaire. This review assisted in identifying the time it would take for individuals to complete the questionnaire as well as identifying any problems with clarity or administration of the instrument.

The plans for distribution of the survey included mailing the questionnaire and cover letter/consent to the residences of all of the employees. This was done utilizing a computerized employee labeling system furnished by the company where the study was conducted. A stamped envelope was provided with the mailing of the questionnaire for the purpose of returning the completed questionnaire to the residence of the investigator.

A strategic objective of the research was to have three-fourths of all surveys completed at the end of the second week after administration. This target was not met, and a follow-up memo was distributed in the same manner as the questionnaire reminding employees to complete and return the questionnaire within the next week. The collected questionnaires were stored in a locked file cabinet at the investigator's residence until the data were analyzed. The questionnaires were destroyed once the study was completed.

E. Ethical Consideration

The subjects in this proposed study were protected according to the requirements of The University of Michigan. Prior to conducting this study, a research proposal was submitted by the investigator to The University of Michigan's School of Nursing Human Subjects Review Committee for approval. This was to ensure that the subjects would not experience any undue risks or discomforts as a result of participating in the study. The subjects were properly informed of the purpose of the study and that their participation in the study

was voluntary. Subjects were assured of complete anonymity and confidentiality.

VI. RESULTS

Conduct of the survey began with the mailing of 677 questionnaires to the residences of the employees at the study setting. During a period of four weeks after distribution, 136 (20% response rate) completed questionnaires were received at the investigator's residence and were suitable and utilized for data analysis. Information regarding the numbers of employees by job title was not available to ascertain response rates by job categories. However, at the time of the survey, unionized employees consisted of 66% of the workforce. Unionized employees represented 56% of the 136 respondents. Therefore, the respondents were fairly representative of the population in regard to being unionized or not.

The criterion of statistical significance was set at the .05 level. Descriptive and inferential statistical methods employed to answer the investigator's research questions included frequency distributions, Pearson Product-Moment Correlation (r), analysis of variance (ANOVA), Kruskal-Wallis, and two-sample t-tests.

A. Description of the Employees

The respondents at the study setting (n=136) were predominantly male (76.9%), were between 34 and 50 years of age (54.2%), married (77.9%) and had completed high school or its equivalent (43.4%). In terms of employment, (30.5%) of the respondents had been employed with the company for 1-3 years and (29.8%) had been employed 15 years or more. In addition, (22.7%) of the respondents were classified as truck drivers and also (22.7%) were classified as management from 8 current job classifications. (See Table 1)

Table 1

Demographic Characteristics of the Workers

Characteristic	N	Percent
GENDER		
Male	100	76.9
Female	30	23.1
	130	100.0
No Response	6	
AGE		
18-25	8	6.2
26-33	26	20.2
34-42	35	27.1
43-50	35	27.1
51-56	19	14.7
60 & over	6	4.7
	129	100.0
No Response	7	
MARITAL STATUS		
Single	12	9.2
Married	102	77.9
Divorced or Separated	16	12.2
Widowed	1	.8
	131	100.0
No Response	5	

Table 1 (continued)

Demographic Characteristics of the Workers

Characteristic	N	Percent
EDUCATION, HIGHEST LEVEL COMPLETED		
Grade School	0	0.0
Some high school	8	6.2
High school diploma or equivalent	56	43.4
Business or trade school	22	17.1
Associate or two-year degree	14	10.9
Bachelor's or four-year degree	23	17.8
Some graduate or professional school	4	3.1
Graduate or professional school	2	1.6
	129	100.0
No Response	7	
YEARS OF EMPLOYMENT WITH COMPANY		
1-3 years	40	30.5
4-6 years	22	16.8
7-10 years	16	12.2
11-14 years	14	10.7
15 years or more	39	29.8
	131	100.0
No Response	5	

Table 1 (continued)

Demographic Characteristics of the Workers

Characteristic	N	Percent
Job Classification		
Driver	30	22.7
Management	30	22.7
Administrative Support Personnel	26	19.7
Order Clerk	19	14.4
Tractor Operator	15	11.4
Garage Mechanic	6	4.5
Porter	4	3.0
Maintenance Mechanic	2	1.5
	132	100.0
No Response	4	

B. Reported Participation

The respondents' reported participation in a regular exercise regimen was assessed by two subscales. Each of the two subscales created by the combination of items on the questionnaire pertained to some form of physical activity. These subscales included: 1) the Exercise Subscale of the Health Promotion Lifestyle Profile (HPLP); and 2) Two items regarding physical activity developed by the researcher. The responses to the items on the subscales relating to reported participation in a regular exercise regimen ranged from a score of 1-4, (1=Never, 2=Sometimes, 3=Often, 4=Routinely). The descriptive measures for these 2 subscales (illustrated in Table 2) were analyzed using only those cases that contained non-missing data. The mean for each of the subscales was 2.00 and the standard deviation ranged from .71 to .83.

C. Additional Subscales of the Health-Promoting Lifestyle Profile

The questionnaire included the five other subscales of the Health-Promotion Lifestyle Profile: self-actualization, health responsibility, nutrition, interpersonal support, and stress management. The subscales were utilized to assess the respondents' reported participation in other health-promoting behaviors and were analyzed and compared with the respondents' reported participation in a regular exercise regimen. The five subscales were also combined to form one measure of the respondents' reported participation in health-promoting behaviors.

Table 2

Reported Participation in A Regular Exercise Regimen

Subscales	N	M	SD
Exercise (HPLP)	134	2.00	.71
Physical Activity	135	2.00	.83

Note. Response Range. 1=Never, 2=Sometimes, 3=Often, 4=Routinely

Table 3

Additional Subscales of the Health-Promoting Lifestyle Profile

Subscales	N	M	SD
Self-Actualization	133	3.06	.48
Health Responsibility	134	1.97	.52
Nutrition	134	2.50	.66
Interpersonal Support	133	2.88	.56
Stress Management	134	2.38	.52
All Five Combined	134	2.59	.38

Note. Response Range. 1=Never, 2=Sometimes, 3=Often, 4=Routinely

The means and standard deviations for these five subscales and the one composite subscale are reported in Table 3.

D. Cognitive-Perceptual Factors

The Perceived Health Status component of Cognitive-Perceptual Factors was assessed by four items regarding Perceived Health Status. Responses to Perceived Health Status ranged from 1=strongly disagree to 4=strongly agree. Responses to the Perceived Health Status items that were stated in terms of a poor or negative status of health were "flipped" so that the responses for these items would be read in the same direction for accurate analysis.

Perceived Benefits of exercise was measured by the respondents' responses to six items regarding Perceived Benefits of participating in a regular exercise regimen. Responses ranged from 1=not important to 4=very important.

The means and standard deviations for the two subscales were reported using only those cases that contained non-missing data. These descriptive measures are illustrated in Table 4.

Table 4

Cognitive Perceptual Factors

Subscales	N	M	SD
Perceived Health Status	135	2.72	.53
Perceived Benefits of Participating in a Regular Exercise Regimen	134	3.24	.59

Note. Response range for Perceived Health Status. 1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly Agree. Response range for Perceived Benefits of Participation in a Regular Exercise Regimen. 1=Not important, 2=Somewhat important, 3=important, 4=Very important.

E. Modifying Factors

Two factors were utilized in this study, Demographics Factors (presented in the first portion of the result section), and Interpersonal Factors. Interpersonal Factors consisted of three items that measured the respondents' reported response as to how the influences of others affect their participation in a regular exercise regimen. A subscale was created using these three items, and as with other subscales, descriptive measures were reported using only those cases that contained non-missing data. (See Table 5)

F. Level of Interest

In this study, level of interest was measured in two ways: 1) current level of interest in health and fitness generally, and 2) level of employee interest in having a health and fitness center at the study setting. A 2 item subscale was created by the investigator to measure general interest in health and fitness. The subscale consisted of items 1 and 7 under the Health Activities section of the questionnaire. A single item was also included to ascertain employees' interest in a health and fitness center at their worksite. Employees' interest in a worksite fitness center was also assessed by measuring the relationships between the two exercise subscales with item 1 (desire to have a worksite fitness center) of Section A of the questionnaire. In addition, items 2-17 of Section A of the questionnaire (preferences for fitness equipment and center scheduling) were correlated with the two exercise subscales, but there were no significant relationships found. The responses ranged from 1=strongly disagree to 4=strongly agree. Descriptive measures are also reported in Table 6.

Table 5

Modifying Factors

Subscale	N	M	SD
Interpersonal Factors	133	1.89	.72

Note. Responses range for Interpersonal Factors. 1=Not Important, 2=Somewhat Important, 3=Important, 4=Very Important

Table 6

Current Level of Interest

Subscale	N	M	SD
Interest in Health and Fitness	135	3.05	.56
Interest in Fitness Center at Study Setting	125	3.46	.68

Note. Response range for Current Level of Interest in Health and Fitness. 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

G. Interest in Worksite Health and Fitness Center

Frequencies revealed that 54.4% of the respondents strongly agreed to having a fitness center, 38.4% agreed, 5.6% disagreed, and 1.6% strongly disagreed. There were eleven missing cases out of the 136 cases for this item.

In terms of fitness equipment preferences, employees preferred exercise bikes (91.6%), nautilus, (91. 1%), freeweights (86.6%), row machines (86.1%), aerobics (83.6%), and hydrafit equipment (83.0%). The majority of respondents (73.8%) would be willing to pay a nominal fee every month to use a fitness center, and (80%) desire an attendant to be present during hours of operation. 71.4% of the employees surveyed felt that shower and locker facilities are important. Monday-Friday were the days of the week most preferred for the center to be open. Also, most employees would like the fitness center to be open at least 12 hours (48.19%), followed by 8 hours (19.4%), and then 24 hours (18.6%). The seasons that most employees would use a fitness center are Winter (84%), Fall (70.3%), Spring (65%), and Summer (43%) respectively. Forty-two percent of the employees indicated that it was important to have a health professional monitor their progress.

VII. RESULTS: DATA ANALYSIS RELATED TO THE RESEARCH QUESTIONS

A. Reported Participation

Research question number one asked: What health behaviors are related to employees' reported participation in a regular exercise regimen?

To answer this research question the two exercise subscales were correlated with the five subscales of the (HPLP) as well as with the one composite subscale created by the investigator. Pearson's Product-Moment correlation revealed that there were nine significant relationships between the two exercise subscales and the five HPLP subscales. The HPLP Exercise subscale and the following other HPLP subscales were significantly related: self-actualization; health responsibility; nutrition; stress management; and all scales combined. These results are illustrated in Table 7.

The Physical Activity subscale and the following HPLP subscales were significantly related: health responsibility; nutrition; stress management; and all scales combined (See Table 7). No significant correlations were found between the HPLP Exercise subscale and the Interpersonal Support subscale, and the Physical Activity subscale and the Self-actualization and Interpersonal Support subscales.

Table 7

Correlations Between Health Behaviors and Reported Participation in a Regular Exercise Regimen

HPLP Subscales	HPLP Exercise	Physical Activity
Self-Actualization	.19*	.11
Health Responsibility	.40**	.34**
Nutrition	.40**	.32**
Interpersonal Support	.11	.07
Stress Management	.29**	.26**
All Combined	.39**	.31**

* $p < .05$

** $p < .01$

B. Cognitive Perceptual Factors

Research question number two asked: How are Cognitive-Perceptual Factors, specifically Perceived Health Status & Perceived Benefits of Exercise, related to employees' reported participation in a regular exercise regimen?

To answer this research question the two exercise subscales were correlated with the Perceived Health Status and Perceived Benefits subscales. Pearson's Product-Moment correlation revealed that there were two significant relationships between the two exercise subscales and the Perceived Health Status subscale. The significant results are illustrated in Table 8. There were no significant correlations found between the HPLP Exercise subscale, the Physical Activity subscale, and the Perceived Benefits subscale.

Table 8

Correlations Between Cognitive-Perceptual Factors and Reported Participation in a Regular Exercise Regimen

Subscales	HPLP Exercise	Physical Activity
Perceived Health Status	.26**	.32**
Perceived Benefits of Participation in A Regular Exercise Regimen	.06	.08

** $p < .01$

C. Current Level of Interest

Research question number three asked: What is the relationship between employees' current level of general interest in health and fitness and reported participation in a regular exercise regimen?

To answer this research question the two exercise subscales were correlated with the current level of general interest subscale. Pearson's Product-Moment correlation revealed that there were two significant relationships between the two exercise subscales and the current level of interest subscale. Current level of general interest was significantly related to the HPLP Exercise subscale and Physical Activity subscale. These significant findings are illustrated in Table 9.

D. Modifying Factors

Research question number four asked: How are Modifying Factors, specifically Demographic Factors and Interpersonal Factors, related to employees' reported participation in a regular exercise regimen?

The two Modifying Factors utilized to answer this research question were: Demographic Factors and Interpersonal Factors. Demographic Factors encompassed the categories of sex, age, marital status, education, length of employment, and job classification. When analyzing the relationship of Demographic Factors a two-sample T-test was performed for the category of sex, and analysis of variance was performed for the other five demographic categories. There were no significant differences in reported participation by gender.

Table 9

Correlation Between Current Level of Interest and Reported Participation in a Regular Exercise Regimen

Subscale	HPLP Exercise	Physical Activity
Current Level of Interest in Health and Fitness	.48**	.47**

** $p < .01$

In analyzing the relationship between marital status and reported participation in a regular exercise regimen, there were significant differences between the means of reported exercise by the type of marital status with married persons reporting lower amounts of exercise.

Twelve percent of the variability in the HPLP Exercise subscale can be explained by marital status. These results are illustrated in Table 10. When using the Scheffe' Allowance for the marital strata, the means between single persons and married persons are significantly different (F-stat=9.36, $p<.01$), as well as the means between married persons and divorced, separated, or widowed persons (F-stat 9.26, $p<.01$). There was no significant difference between the means for single persons and divorced, separated, or widowed persons.

Table 10

Analysis of Variance of the HPLP Exercise Subscale By Strata of Marital Status

Marital Status	N	M	SD
Single	12	2.52	.78
Married	101	1.88	.65
Divorced, Separated, or Widowed	17	2.42	.78

Source	df	MS	F	P
Between	2	3.86	8.29	.01
Within	127	.47		
Total	129			

For the Physical Activity subscale the assumption regarding the equality of variances was violated and therefore the analysis of variance test could not be utilized to answer this component of the research question. However, the analog for the analysis of variance, the Kruskal-Wallis test, was performed and yielded significant results ($H=15.40$, $df=2$, $p<.01$) revealing that the means of the three marital strata were not equal.

There were no significant findings when analysis of variance was performed on the demographic characteristics of age, education, length of employment, and job classification in terms of reported participation in a regular exercise regimen as measured by the two exercise subscales.

Interpersonal Factors are influences on health promoting behaviors from significant others and health professionals. Interpersonal Factors was the other component of Modifying Factors used in this study. Pearson's Product-Moment correlation revealed that Interpersonal Factors were significantly and negatively related to reported participation in a regular exercise regimen. That is, as Interpersonal Factors were viewed as more important, less exercise was reported. These results are illustrated in Table 11.

Table 11

Correlation Between Interpersonal Factors and Reported Participation in a Regular Exercise Regimen

Subscales	HPLP Exercise	Physical Activity
Interpersonal Factors	-.18*	-.20*

* $P < .05$

E. Employee's Level of Interest in A Worksite Health & Fitness Center

Research question number five asked: What is the relationship between employees' level of interest in a worksite health and fitness center at one industrial setting and their reported participation in a regular exercise regimen?

To answer this question the two exercise subscales were correlated with the questionnaire item regarding whether the respondents would like to have a health and fitness center at the study setting as well as fifteen other items related to preferences for fitness equipment and fitness center operations. Pearson's Product Moment correlations were performed between the two exercise subscales and the items regarding employee interest in having a health and fitness center. No significant relationships were found.

VIII. DISCUSSION

A. Health Behaviors

This study revealed several significant positive relationships between health behaviors and reported participation in a regular exercise regimen. However, means of the three exercise subscales and of the health behavior subscales indicate that in general, employees at this particular study setting only "sometimes" engaged in a regular exercise regimen. They also engage in positive health behaviors only "sometimes to often". Thus, even though there were some moderate relationships between health behaviors and exercise, reported levels of each were lower than would be desired.

According to Pender (1987), health promoting behaviors are continuing activities that are an essential part of a person's lifestyle. Health behaviors that are not viewed as positive must be changed to enhance health and well-being. Therefore, this study reinforces that occupational health nurses and other health professionals must carefully assess individual's health behaviors when planning or coordinating a worksite fitness center in order to promote and obtain optimum participation.

B. Cognitive Perceptual Factors

Results for the two Cognitive-Perceptual Factors, showed significant relationships between Perceived Health Status and reported participation in a regular exercise regimen. The Perceived Health Status subscale indicated that the majority of respondents realized that they were not in the best of health (mean 2.80), and also participated minimally in a regular exercise regimen. These findings are consistent with current literature, as studies have revealed that persons are more likely to control their weight if they perceive themselves to be in good health (Pender, 1987).

There were no significant relationships between Perceived Benefits of exercise, the other Cognitive-Perceptual Factor, and participation in a regular exercise regimen. Respondents were aware of the positive benefits of exercise (mean 3.4), but did not frequently participate in regular exercise activities. These findings are inconsistent with the literature. Dishman, Sallis, & Orenstein (1985), reveal that people who expect personal health benefits from exercise are more likely to engage in more exercise.

C. Current Level of Interest in Health & Fitness

Results of this study indicate a moderate positive correlation for each of the exercise subscales measuring reported participation in a regular exercise regimen and respondents' current level of interest in health and fitness. The current level of interest in health and fitness subscale reflected a mean of (3.05), indicating that the respondents agreed that they were interested in health and fitness even though their reported level of participation was low. These findings seem somewhat contradictory, but one of the study limitations is that only two items, developed by the investigator, were used to measure current level of interest in health and fitness. Also, additional parameters could be given for defining both current level of interest in health and fitness and

participation in health and fitness. "Often" to some persons could mean "sometimes" to other persons.

Relevant literature reveals that individuals who intend to participate in exercise but remain sedentary often lack the self-regulatory skills necessary to engage in exercise habits (Dishman, et al, 1985). Therefore, when planning and implementing a worksite fitness center it is important for health professionals to realize that there are self-motivational factors that influence individuals' active participation in exercise and their reported level of interest in health and fitness is not necessarily indicative of participation thereof.

D. Modifying Factors

For the demographic category of Modifying Factors there were no significant findings for the demographic variables of sex, age, education, length of employment or job classification in relation to reported participation in a regular exercise regimen. According to Pender (1987), more research needs to be conducted to determine how much demographic characteristics influence health promoting behaviors. However, studies have revealed that women, highly-educated, and high-income persons are likely to be involved in preventive services (Pender, 1987).

The respondent's in this study were mostly male, married, between 34 and 50 years of age and had completed high school or its equivalent. Therefore, a study limitation is that these findings can not be generalized to other employee populations, and repeated studies in other settings may result in different findings.

Significant relationships were found between the demographic variable of marital status and participation in a regular exercise regimen. There was a difference between married persons and single persons in their level of reported participation in exercise, as well as between married persons and

divorced, separated, or widowed persons. These results could correspond with the societal phenomena whereby single persons (including divorced, separated, or widowed), attempt to keep themselves physically fit when seeking a "significant other". Also, married persons are frequently involved in family responsibilities which are often time consuming. Consequently, married persons may not be able to include exercise activities in their daily schedules as often as single persons.

The second category of Modifying Factors, Interpersonal Factors, revealed two weak negative correlations between the influence of others in regard to reported participation in a regular exercise regimen. These findings indicate that persons are not relying on the influence of others as to whether or not they participate in exercise. These findings are inconsistent with the literature where studies found that men will be more likely to engage in physical fitness with the support of their wives, and family support was a significant influence on exercise behavior, as well as instruction and guidance offered by health professionals (Pender, 1987).

E. Current Level of Interest in A Health and Fitness Center

Results of the study indicated that there were no significant relationships between the respondents' current level of interest in a health and fitness center and reported participation in a regular exercise regimen. Although the respondents indicate a strong interest in having the fitness center as well as various exercise equipment and classes, this has no bearing on how often they currently participate in a regular exercise regimen.

Also, as discussed in preceding portions of this section of the research report, there are several factors that influence active participation in exercise. A limitation of this study is that there were no items to measure how often the respondents thought they would participate in regular exercise if the health and

fitness center became operational. Although there is no guarantee that employees' participation in a worksite health and fitness center will be consistent, the literature suggests (Matteson & Ivancevich, 1988) that it is important to assess the employee's perceived need for such a program as well as current health habits and activities.

IX. STUDY LIMITATIONS

The generalizability of the findings were limited to the employees at one particular industry. The design of the study only allowed for data collection concerning the identified variables at one point in time. Therefore, the results of the study are not comparable to any changes in employee health behaviors or actual participation in a regular exercise regimen once the Employee Health and Fitness Center is in operation.

Also, the disadvantages of the method utilized in distributing the questionnaires were that some employees might have automatically disregarded a mailed questionnaire, and others failed to return the questionnaire in a timely manner. In addition, a personal interview or telephone interview might have resulted in more questionnaires that were acceptable for data analysis. However, the investigator believes that the benefits of administering the questionnaire outweighed the risks involved. For example, many persons like to remain discreet when giving information that concerns personal practices and other related information. Mailing completed questionnaires to a person who was not affiliated with the company could have had either a negative or positive effect on the response rate (20%). If the respondents considered the investigator's non-affiliation with the company as an intrusion, questionnaires may not have been completed and returned to the inveatigator. However, if the investigator were an employee of the study setting, the investigator may, or may not have achieved a greater response rate depending upon the employees' perceptions regarding the purpose of the atudy and how the data would be utilized.

In addition, a large proportion of the employees in this particular setting were unionized, approximately 450, and the union did not support the acquisition of information such as race, and level of income. Therefore, these items could not be included in the questionnaire. However, unionized employees represented 56% of the 136 respondents. At the time of data collection, unionized employees represented 66% of the workforce at the study setting. These percentages indicate that unionized employees were fairly well represented in the respondents.

Also, all sections of the questionnaire, excluding the Health-Promoting Lifestyle Profile, a validated tool, could not be adequately tested for reliability and validity as a result of time constraints. Therefore, the conclusions that can be drawn from the results of this study are limited.

X. SUMMARY

This study was intended to examine current employee health behaviors, demographics, and worksite fitness center preferences of employees at an industry in the planning phase of implementing a worksite employee health and fitness center. Two components of the Health Promotion Model (Pender,1987) were utilized to guide the investigator's study. These components were: 1) Cognitive-Perceptual Factors (perceived health status and perceived benefits), and 2) Modifying Factors (demographic factors and interpersonal influences). Conduct of this study has specific significance to the corporate arena because the number of worksite health promotion programs for employees at various businesses has greatly increased over the past decade. For the profession of nursing this study provided information that occupational health nurses can utilize to assist with the development of worksite fitness centers and the assessment of the overall health status of employees.

The results of the study indicate that employees' reported participation in a regular exercise regimen is related to various health promoting behaviors; perceived health status; current level of interest in health and fitness; marital status; and influence of other persons. These findings are limited to the study setting but do provide some consistencies with relevant literature. The results of this study will be very instrumental to management at the study setting in planning and coordinating a health and fitness center.

XI. FUTURE RECOMMENDATIONS

Additional research regarding this topic area needs to be conducted to support and expand upon the findings in this study. Some recommendations include:

1). Conduct a similiar study utilizing a personal interview approach to ascertain if a larger sample could be obtained in terms of completed questionnaires.

2). Conduct a similiar study with inclusion of demographic data pertaining to race and level of income.

3). On-going studies with the respondents after a health and fitness center has been established at the study setting to better define and monitor reported participation in a regular exercise regimen.

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Appendixes

Appendix A

Informed Consent

January, 1989

Consent Form

Dear Foodland Employee:

I am Elicia Baker-Rogers, and I am a graduate student in Occupational Health Nursing at the University of Michigan. I am conducting a survey, which is a research study, involving all of the employees at Foodland. I am not an employee of Foodland, but working in cooperation with the Foodland Employee Health and Fitness Center Task Force.

The purpose of the survey is to understand more about your health activities such as execise, nutrition, and how you cope with stress. The study will also provide a chance for you to express your interests and opinions about a proposed Health and Fitness Center at Foodland. Your participation in the survey is voluntary. You are free to answer only those questions you wish to answer. I would encourage you to participate as this information will be extremely useful in exploring the possiblity of having a Health and Fitness Center at your company.

Individual employee names are not required. Therefore, no one will be able to link your name with your responses on the questionnaire. Also, no one, not even other Foodland employees, will see any individual responses from the questionnaire. However, after all of the information from the questionnaire is grouped and analyzed, Foodland personnel will see the grouped information. The questionnaires will be stored at the researcher's residence until the data are analyzed. Your completion of this questionnaire indicates your voluntary consent to participate in this study. If you do not wish to participate, then do not fill out the questionnaire. Once the questionnaire has been filled out and sent in, it can not be traced, and therefore you will not be able to withdraw from the study. The questionnaire will take approximately 15-20 minutes to complete. There are no risks or discomforts expected as a result of this study.

If there are any questions regarding the survey, please feel free to contact me at 971-2646. A stamped envelope has been provided for the purpose of returning the completed questionnaire. Please mail the completed questionnaire before January 27, 1989. Do not take the completed questionnaire to Foodland. Highlights of the group responses to the Health and Fitness Center survey will be published in the Foodland Focus Newsletter upon analysis of the survey. Thank you for your time in completing this questionnaire.

Sincerely,

Elicia Baker-Rogers B.S.N., R.N.

Elicia Baker Rogers, B.S.N., R.N.

Appendix B

Health & Fitness Survey

Lifestyle Profile

This questionnaire contains statements about your present way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate how often you participate in each behavior by circling: N for NEVER, S for SOMETIMES, O for OFTEN , or R for ROUTINELY.

		N Never	S Sometimes	O Often	R Routinely
	Eat breakfast.	N	S	O	R
	Report any unusual signs or symptoms to a physician.	N	S	O	R
	Like myself.	N	S	O	R
	Perform stretching exercises at least 3 times per week.	N	S	O	R
	Choose foods without preservatives or other additives.	N	S	O	R
	Take some time for relaxation each day.	N	S	O	R
	Have my cholesterol level checked and know the result.	N	S	O	R
	Am enthusiastic and optimistic about life.	N	S	O	R
	Feel I am growing and changing personally in positive directions.	N	S	O	R
	Discuss personal problems and concerns with persons close to me.	N	S	O	R
	Am aware of the sources of stress in my life.	N	S	O	R
	Feel happy and content.	N	S	O	R
	Exercise vigorously for 20-30 minutes at least 3 times per week.	N	S	O	R
	Eat 3 regular meals a day.	N	S	O	R
	Read articles or books about promoting health.	N	S	O	R
	Am aware of my personal strengths and weaknesses.	N	S	O	R
	Work toward long-term goals in my life.	N	S	O	R
	Praise other people easily for their accomplishments.	N	S	O	R
	Read labels to identify the nutrients in packaged food.	N	S	O	R

		Never	Sometimes	Often	
0.	Question my physician or seek a second opinion when I do not agree with recommendations.	N	S	O	
1.	Look forward to the future.	N	S	O	
2.	Participate in supervised exercise programs or activities.	N	S	O	
3.	Am aware of what is important to me in life.	N	S	O	
4.	Enjoy touching and being touched by people close to me.	N	S	O	
5.	Maintain meaningful and fulfilling interpersonal relationships.	N	S	O	
6.	Include roughage/fiber (whole grains, raw fruits, raw vegetables) in my diet.	N	S	O	
7.	Practice relaxation or meditation for 15-20 minutes daily.	N	S	O	
8.	Discuss my health care concerns with qualified professionals	N	S	O	
9.	Respect my own accomplishments.	N	S	O	
0.	Check my pulse rate when exercising.	N	S	O	
1.	Spend time with close friends.	N	S	O	
2.	Attend educational programs on improving the environment in which we live.	N	S	O	
3.	Find each day interesting and challenging.	N	S	O	
4.	Plan or select meals to include the "basic four" food groups each day.	N	S	O	
5.	Consciously relax muscles before sleep.	N	S	O	
6.	Find my living environment pleasant and satisfying.	N	S	O	
7.	Engage in recreational physical activities (such as walking, swimming, soccer, bicycling).	N	S	O	
8.	Find it easy to express concern, love and warmth to others.	N	S	O	
9.	Concentrate on pleasant thoughts at bedtime.	N	S	O	
0.	Find constructive ways to express my feelings.	N	S	O	
1.	Seek information from health professionals about how to take good care of myself.	N	S	O	

		Never	Sometimes	Often	
13.	Observe my body at least monthly for physical changes/ danger signs.	N	S	O	
14.	Am realistic about the goals that I set.	N	S	O	
15.	Use specific methods to control my stress.	N	S	O	
16.	Attend educational programs on personal health care.	N	S	O	
17.	Touch and am touched by people I care about.	N	S	O	
18.	Believe that my life has purpose.	N	S	O	

I. Health Activities

This portion of the questionnaire contains statements about your present health activities and health status. Please respond to each item as accurately as possible and try not to skip any item. Please circle ONE response to the following items.

		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I am interested in health and fitness.	SD	D	A	SA
2.	I consider myself to be a healthy individual.	SD	D	A	SA
3.	I am underweight for my height.	SD	D	A	SA
4.	I am at the appropriate weight for my height.	SD	D	A	SA
5.	I am overweight for my height.	SD	D	A	SA
6.	Exercise is part of my daily routine.	SD	D	A	SA
7.	I make a conscious effort to choose healthy foods as part of my dietary intake.	SD	D	A	SA

8. I currently "work-out" at a Health Fitness Center or Club.

___never ___frequently ___sometimes ___always

9. Whether you "work-out" or not, briefly list what you consider to be the health benefits of "working-out" in the provided spaces below:

_____

_____

10. The following items are possible reasons for participating in a regular exercise regimen. Please circle ONE response for each item indicating how important or unimportant the reasons for participating are for you.

		Very Important	Important	Somewhat Important	Not Important
A.	To lose or maintain weight	VI	I	SI	NI
B.	To relieve stress	VI	I	SI	NI
C.	It will make me feel good	VI	I	SI	NI
D.	I want to be responsible for my own health and fitness	VI	I	SI	NI
E.	It will improve my physical appearance	VI	I	SI	NI
F.	My husband/wife; boyfriend/girlfriend says I should	VI	I	SI	NI
G.	I want to decrease my risk of having a heart attack and/or other diseases	VI	I	SI	NI
H.	Everybody else is doing it	VI	I	SI	NI
I.	My doctor says I should	VI	I	SI	NI

11. Circle any of the following health problems that you currently have.

1. High Blood Pressure
2. High or Low Blood Sugar
3. High Cholesterol Level
4. Back Problems
5. Asthma
6. Weak Joints/Ligaments
7. Urinary Problems (frequently, urgency, incontinence)

Others? (please list)

_____

_____

12. Do you smoke cigarettes?

1. No
2. Yes - If Yes,

How many years?____

Average number of packs per day _____

Demographics

Please circle the appropriate number for each statement.

1. Sex
   1. Male 2. Female

2. Age
   1. 18-25
   2. 26-33
   3. 34-42
   4. 43-50
   5. 51-59
   6. 60 & over

3. Marital Status

   1. single, never married
   2. married
   3. divorced or separated
   4. widowed

4. Education. Circle highest level completed.

   1. Grade School
   2. Some high school
   3. High school diploma or equivalent
   4. Business or trade school
   5. Associate or two-year degree
   6. Bachelor's or four-year degree
   7. Some graduate or professional school
   8. Graduate or professional school

5. How long have you been employed at Foodland? Please circle ONE response.

   1. 1-3 years
   2. 4-6 years
   3. 7-10 years
   4. 11-14 years
   5. 15 years or more

(OVER PLEASE)

6. Indicate which item best describes your job classification/area.

1. Administrative Support Personnel (ASP)
2. Driver
3. Garage Mechanic
4. Maintenance Mechanic
5. Management
6. Meat Checker
7. Porter
8. Order Clerk
9. Tractor Operator
10. Others? (please specify)_____

ank you for your time in completing this questionnaire. Please put the mpleted questionnaire in the stamped envelope provided and mail by January 27, 89.

Section B. Health-Promoting Lifestyle Profile
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Appendix C

Permission to use Survey

Northern Illinois University
DeKalb, Illinois 60115-2854

Health Promotion Research Program
Social Science Research Institute
Ambulatory Cancer Clients Project
Cardiac Rehabilitation Project
Corporate Project
Older Adults Project
(815) 753-9670

March 13, 1989

Elicia Baker-Rogers, B.S.N., R.N.
3078 Braeburn
Ann Arbor, MI 48108

Dear Ms. Baker-Rogers:

You have permission to use the 48-item Health-Promoting Lifestyle Profile in your study of employee health practices and interest in a health and fitness center at the worksite. I am puzzled by your statement in the abstract that you are using the Health Promotion Model as a framework, since you do not appear to be measuring any of the cognitive/perceptual factors proposed as determinants of behavior within the model.

You may have copies made from the form which I sent previously. Content should not be altered in any way and the copyright/permission statement at the end must be reproduced. If I understood your request correctly, you have already collected data using the Lifestyle Profile. I hope that these guidelines were followed.

I would appreciate receiving a complete report of your study for our files. We are particularly interested in information about scores (range, mean and standard deviation) on the Lifestyle Profile, reliability coefficients, correlations with other measured variables, and differences following interventions.

Best wishes with your study.

Sincerely,

Susan Noble Walker, Ed.D., R.N.
Associate Professor and
Co-Director, Health Promotion Research Program

Appendix D

Permission to use Foodland as Setting

FOODLAND DISTRIBUTORS
12701 MIDDLEBELT ROAD • P O BOX 2886 • LIVONIA, MICHIGAN 48151

August 12, 1988

Elicia Baker-Rogers, RN, BSN
3078 Braeburn
Ann Arbor, MI. 48108

Dear Ms. Rogers,

I was pleased to learn of your interest in using Foodland Distributors and its employees as participants in your research project.

I am approving the use of Foodland Distributors as the setting for your research study titled "Employee Health Practices and Interest in Health and Fitness Center At The Worksite".

I would like to review the questionnaire with you and Jude Kucmierz, our Safety/Loss Prevention Manager, before distribution to our employees.

Please contact Jude to set up an appointment for the three of us to meet and review your proposal.

Sincerely,

GREGORY F. GALLUS, President
Foodland Distributors

Appendix E

Permission to use Health Promotion Model

3078 Braeburn
Ann Arbor, MI 48108

August 15, 1989

Ms. Jean Wilson
Permissions Editor
Appleton & Lange
PO. Box 5630
Norwalk, Connecticut 06856

Dear Ms. Wilson:

Per our telephone conversation of August 15, 1989, this letter is to request permission to copy one page from a book copyrighted by Appleton & Lange.

I am completing my master's degree in Occupational Health Nursing at The University of Michigan, Ann Arbor, Michigan and I wish to include the page from the book in my master's research report. The following information applies to the book:

Health Promotion in Nursing Practice
Second Edition
Nola J. Pender, author
Copyright 1987 by Appleton & Lange
p. 58- Health Promotion Model

Your prompt response to this request will be greatly appreciated.

Sincerely,

Elicia Baker-Rogers

Elicia Baker-Rogers

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Verbal permission granted to reprint Penders' Health Model by Jean Wilson per telephone conversation on August 25, 1989.