

Editor: Eliza C. Tse, Ph.D.  
Department of Hospitality and Tourism Management  
Virginia Polytechnic Institute and State University  
Blacksburg, VA 24061-0429  
tel.: 540-231-8424  
fax: 540-231-8313  
[tseet@vt.edu](mailto:tseet@vt.edu)

### Health Awareness and Life-Style Practices of Foodservice Employees

Said M. Ladki, Ph.D.  
Tarek Mikdashi, Ph.D.  
Abdallah Dah, Ph.D.

All authors are faculty in the School of Business Administration at the Lebanese American University.

---

## Table of Contents

- [Abstract](#)
- [Introduction](#)
- [Literature Review](#)
- [Methodology](#)
- [Results and Discussion](#)
- [Conclusions, Implications and Recommendations](#)
- [Bibliography](#)

---

### Abstract

Full-time foodservice employees (425) responded to a questionnaire on perceived life-style activities. The majority of respondents seldom missed work, made time for leisure activities, and felt secure in their jobs ( $p < 0.05$ ). The more educated the employee, the greater the perception of being overweight ( $r = 0.798$ ;  $p < 0.05$ ). Skilled and technical employees consumed more coffee or colas in comparison to professional employees ( $p < 0.05$ ). To improve general health, 68% of the respondents expressed interest in participating in nutrition education and stress management classes rather than participating in physical fitness sessions.

*Key Words:* Wellness, Foodservice employees, Nutrition Education, Fitness, Benefit Packages.

### Introduction

The purpose of this study was to evaluate the effect of foodservice employees' perception of health awareness and the desire to improve general health by participating in nutrition education and fitness session programs. In today's society, various movements have arisen to reflect socioeconomic, religious, and cultural changes. Health awareness, a movement of the 1980s, has captured the minds and imaginations of the general public, as well as foodservice professionals. As a status symbol and national pass-time, fitness fever has swept the entire country, with formerly placid observers becoming avid participants in exercise programs and altering dietary habits.

Terms such as fitness, wellness, occupational health, environmental health, and health care have been used to identify the health awareness movement (Barick 1985). Generally, health awareness is defined as the pursuit of optimum health which is often referred to as "wellness." Rainwater (1984) reported that wellness has been identified as the positive forces within our lives in which the physical, mental, psychological, and social aspects are in harmony. Martini (1991) referred to wellness as a formalized approach to preventive health care that can positively affect employees' lifestyles (smoking, poor dietary habits, alcohol consumption, and lack of exercise) and reduce health care costs. Although wellness may be considered a state of health, Smith and Stenger (1985) clarified this statement by emphasizing that a person always has a state of health, in which wellness or illness predominates.

Medical experts at the U.S. Department of Health and Human Services (1990) reported that staying physically fit is as significant as being ailment free. In the 1990s, efforts have been initiated to lower

health care costs through public education. Physicians have been challenged to identify the relationship of unhealthy life-styles to diseases, and to recommend changes for their patients and the public. Similarly, societal interest in health promotion has increased, and individuals are becoming more interested in taking responsibility for their own health. A spokesperson for the Center for Disease Control (1991) stated, "... because of the increased health awareness, the incidence of certain disease states has declined."

The continuous increase in health care costs has induced corporate America to develop health awareness strategies. Such strategies are aimed at increasing employees' health consciousness while reducing employers' medical expenses. The workplace offers special advantages as a location for risk-reduction and health promotion programs. The workplace is a bounded community in which there are daily interactions and standardized forms of communication (Gregg, Foote, Erfurt and Heirich 1990). A workplace health awareness program can address environmental changes that can improve health (smokefree work environment), screen the entire target population for specified health risks (blood pressure, sugar level, and cholesterol), and offer intervention strategies (exercise, diet, and nutrition education).

According to Kenkel (1992), foodservice executives have highlighted three reasons for introducing workplace wellness programs: 1) to improve employees' health, 2) to contain medical costs, and 3) to lift employees' morale. Surveyed executives represented companies such as Hardee's Food Systems Inc. (Schachner 1991), ARA Services Inc (Ozunja, 1992), Hershey Foods Corp. (Overman and Thornburg 1992), and PepsiCo (Kenkel 1992). Chen (1989) and Bertera (1990) stated that the implementation of a workplace wellness program resulted in a significant drop in employees' health claims, in an improved employee health and work environment, in a decline in employee absenteeism, and in an undisclosed amount of financial savings.

However, the health care policies of these organizations reflect provisions for employees, since management perceives a need for good employee health in relation to cost containment, fringe benefits, public relations, or other factors. Little effort has been expended to determine how foodservice employees perceive themselves in relation to health habits and awareness. Tailoring a wellness program for this group is a challenge. Most existing wellness programs are designed for occupations where employees are not involved with food. Foodservice employees are constantly tempted by food, and the development of a successful wellness program for such employees requires an assessment of the needs and interests of such individuals. Therefore, the objectives of this study are 1) to describe the present health, nutritional and fitness status of foodservice professionals and, 2) to examine the desire of these employees to participate in health education and fitness programs.

### **Literature Review**

During the last few decades there has been continuing research interest in the impact of a person's vocation on personal health and well-being (Heirich, Cameron, Erfurt, Foote and Gregg 1989). The continuing increase in corporate health care cost have resulted in an increase interest in finding ways for preventing or reducing diseases. Gregg et al. (1990) believed that worksite health maintenance program is one of the most effective method for risk-reduction and health promotion programs. The worksite is believed to be a center where daily interaction and standardized forms of communication could take place.

Nutrition and fitness are inseparable in the media today. Whether interested in health maintenance (prevention, wellness) or therapy (weight reduction, cardiac rehabilitation), today's employers and employees are becoming more aware of the close relationship between diet and exercise (Lindeman, Rosing, Wallace 1991). A corporate sponsored wellness program is aimed at reducing the adverse economic and health effects of today's major medical problems, e.g., long-term disability. Consequently, offered health programs are designed to help reduce employees risk of heart disease, cancer, stroke, and injuries all of which can be prevented or significantly delayed (Anonymous 1985).

Corporate America has drastically shifted its focus from health care problem solving to more broad based prevention-oriented leadership and services approach. To meet this challenge the following initiatives have been established:

1. Comprehensive low-cost worksite wellness services for all employees.
2. Work related injury prevention program, communicable disease control program and immunization services program.
3. Smoking cessation and drug abuse awareness activities.

4. A cancer prevention program that applies basic public health principles and practices to reduce cancer incidence and improve the outcome of medical intervention, a program initially directed at cervical cancer detection and education.

This integrated approach was reflected in the Allentown, Pennsylvania foodservice establishment incentive program (Gurian 1987). Conducted under the auspices of the Allentown Bureau of Health, this initiative gives restaurants, bars, grocery stores and supermarkets a series of financial incentives (rebates) on their annual city operational fees. The rationale for providing a rebate for foodservice establishments is to help protect the public and employees health. For example, a rebate for establishing a nonsmoking section was developed. The objective was to help increase the availability of such areas in restaurants and bars. Similarly, a rebate was offered for foodservice establishments with 10 percent of their employees certified in CPR and antichocking procedure. The objective was to have one person certified in CPR and antichocking procedures on duty in each operating shift.

This collaborative corporate and public integrated prevention program have benefited the local community as well as foodservice operators. Institutions that participated in the program had their annual operational fees reduced. This program provides a tangible employee/consumer orientation and a well defined fiscal incentive, which enables foodservice establishments to voluntarily help promote the health of its employees and the public.

A foodservice employer who adopted a worksite wellness program stated that not only can a worksite program address environmental changes that may improve health, but also, at the worksite one can screen virtually the entire target population for specified health risks, and address interventions toward those people identified (Kenkel 1992). Thus, making it possible to measure how many of those with specified risks participate in risk-reduction programs, as well as to assess progress over time in reduction of risks and ultimately health changes as measured through company-paid health care costs.

Published research on worksite wellness programs has largely focused on the impact of wellness program on participants, rather than on the impact of the total employee population at risk (Leviton 1987). Little attention has been paid to methods of involving a large proportion of people with targeted risks in risk reduction programs. Programs with low participation of the at risk population, even if they are highly successful for participants, will have little impact on overall health risk levels (Kenkel 1992).

Some program descriptions do report participation rates, many of which are quite low (Lowe, Windsor and Post 1987). Reports of high rates of participation are found for worksites with small numbers of employees, in which participation is easier to obtain, and for programs that did not target specific high risk groups (Spilman, Goetz, Schultz, Bellingham and Johnson, 1986). Similarly, competitions among program participants have shown mixed success in achieving high participation rate for targeted risk reduction programs (Brownell and Fleix 1987).

Follow-up monitoring and counseling have received some attention in the research literature as a means of achieving health risk reduction in at risk individuals. Erfurt, Foote, Heirich and Gregg (1990) believed that most of the studies have been focused on hypertension control, but there is evidence for the efficacy of follow-up with obese and substance abuse employees. Two studies have shown improvements as a result of follow-up which were later lost after follow-up contact ceased (Wilber and Barrow 1969; Erfurt and Foote 1990). Few studies that examine counseling and employees program participation as a method for inducing or engaging people with health risks into risk reduction activities were found. Therefore, instead of evaluating the effect of a program on participants, this study will describe the present health, nutritional and fitness status of foodservice professionals and, examine the desire of these employees to participate in health education and fitness programs.

### **Method**

Full-time employees (n = 425) of a foodservice corporate chain were surveyed. Surveyed employees represented facilities in three mid-Atlantic states. Facilities ranged from 80 to 150 seats. Mid-size facilities (15) averaging 65 seats, and large facilities (15) averaging 128 seats were selected to provide balanced representation and to ensure that the size of the facility did not influence health awareness.

The most important criterion in selecting this sample was the ability to increase validity of collected data, rather than to ensure that the sample was representative of a population. Such criterion required the utilization of a stratified random sampling technique. In a stratified random sample, the population is first broken down into groups, and a random sample is selected from each group (Touliatos and

Compton, 1988). This study's sample was broken down into three groups: skilled employees (those with limited or normal classroom training i.e., dishwashers and janitors), technical employees (those with associate degrees or specific formal training i.e., line cooks and wait-staff), and professionals (management).

After reviewing the USDA Dietary Guidelines (1990) and the related health and fitness literature, a 40-item questionnaire was developed. The questionnaire was designed to be answered quickly with a check mark in a box proceeding the question. The questionnaire content validity was evaluated by a review panel. The panel (three registered dietitians and three foodservice professionals) evaluated the extent to which items reflected participants knowledge of health awareness issues. The questionnaire was pilot tested among foodservice management students at a large mid-Atlantic university. Results of the pilot test determined the questionnaire reliability. The Cronbach coefficient alpha ranged from .741 to .932 with a median of .847 for internal consistency. The panel's suggestions and the pilot test recommendations were incorporated into the revised final instrument.

The questionnaire was divided into four sections. In the first and second sections, 30 items examined related life-style issues (stress levels, job security, leisure activities, and frequencies of smoking and consuming fruits, vegetables, fibers, coffee, cola, salt, alcoholic beverages). In the third section, 6 items evaluated employees participation in exercise and fitness activities, and measured future intention and participation in health education and physical fitness sessions. In the fourth section, 4 items described employees demographics (TABLE 1).

Table 1  
Sample questions of employees perceived health habits

General Health Information
When was the last time you had your blood pressure checked? <ul style="list-style-type: none"> <li>• last week</li> <li>• last month</li> <li>• 6 months ago</li> <li>• a year ago</li> </ul>
Do you make time for leisure activities? <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>
Diet and Nutrition
Do you feel that you are overweight? <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>
How many cups of coffee do you drink each day? <ul style="list-style-type: none"> <li>• 1 to 3 cups</li> <li>• 4 to 6 cups</li> <li>• more than 7 cups</li> <li>do not drink coffee</li> </ul>
Do you salt your food at the table? <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>
How are most of the foods you eat cooked <ul style="list-style-type: none"> <li>• baked</li> <li>• boiled</li> </ul>

<ul style="list-style-type: none"> <li>• fried</li> <li>• broiled or grilled</li> </ul>
<p>Do you usually eat a diet that is high in fiber, such as raw fruits, raw vegetables, cereals, bread, dried beans?</p> <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>
<p>How often do you eat raw fruits or vegetables?</p> <ul style="list-style-type: none"> <li>• less than 3 times a week</li> <li>• 4-6 times a week</li> <li>• 7 or more times a week</li> </ul>
<p>How often do you eat cereals, breads, or dried peas/beans?</p> <ul style="list-style-type: none"> <li>• less than 3 times a week</li> <li>• 4-6 times a week</li> <li>• 7 or more times a week</li> </ul>
<p>Do you drink milk or eat cheese, yogurt, or other milk products each day?</p> <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>
<p>Exercise, Fitness and Improving you health</p>
<p>Do you feel that you get enough exercise?</p> <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>
<p>Would you like to attend class sessions such as nutrition, weight control, physical fitness, and/or others?</p> <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> </ul>

Questionnaires (760) were distributed with the bi-monthly payroll. During scheduled breaks, employees were encouraged to complete the questionnaire and return it to their manager. In turn, restaurant managers returned all answered questionnaires to the researcher.

The dependent variable in this study is employees participation in nutrition education and fitness session programs. The independent variables are employees perception of health awareness and the desire to improve health. Frequency counts and percentages were computed on all items on the survey. Mean scores among participants' grouping were tested for significance using the three-way-ANOVA. The t-test was also used to measure differences between participants' demographics and groupings; the critical significance level was set at 0.05. The stepwise regression analysis was employed to accurately determine the issues that affect employees participation in nutrition education and fitness session programs. Other analysis like respondents grouping, demographics, and nutrition and fitness items on the survey were also administered.

### Results

The study's overall response rate was 56% (n = 425). Of the 425 respondents, 63 percent were female and 54 percent were married. Respondents' groupings were represented as follow: 62 percent (n=264) skilled employees, 24 percent (n=102) technical, and 14 percent (n=59) professional. Twenty-one percent of the respondents were between the ages of 18 and 25 years, 32 percent were between the ages of 26 and 35 years, 24 percent were between the ages of 36 and 45 years, 19 percent were between the

ages of 46 and 55 years, and the remaining 4 percent were 56 years or older. Seven percent of the respondents completed graduate school, 24 percent completed college education, 21 percent completed junior college or technical education, and remaining 48 percent reported that high school was their highest educational level (TABLE 2). The t-test reveals no significant differences between the respondents' gender with regard to health issues and life-style practices. Significant differences between the mean of participants age and educational levels with regard to health issues and life-style practices were found.

Table 2  
Respondents Demographics

Frequency	n	%
<b>Respondent's Groupings</b>		
Skilled Employees	264	62
Technical	102	24
Professional	59	14
<b>Age</b>		
18-25	55	21
26-35	84	32
36-45	64	24
46-55	51	19
56 and older	10	4
<b>Gender</b>		
Female	166	63
Male	98	37
<b>Marital Status</b>		
Single	71	27
Married	143	54
Divorced	29	11
Seperated	21	8
<b>Education</b>		
High School	127	48
Technical school/Junior college	55	21
College	64	24
Graduate School	18	7

Responses for the first three sections of the survey are summarized by employee classification in Table 3. Eighty-two percent of the participants indicated not having blood pressure checks within the last one or more years. The stepwise regression analysis revealed that as the level of education and age increased, so did the percentage of participants having their blood pressure monitored ( $r = 0.876$ ;  $p = 0.05$ ). Very few employees reported missing work more than two days during the past year because of colds, sore throats, flu, or similar illnesses.

Table 3  
Perceived health habits of full-time foodservice employees.

Topic	Classification of Employee							
	Skilled (no.=264)		Technical (no.=102)		Professional (no.=59)		Total (no.=425)	
	no.	%	no.	%	no.	%	no.	%
<b>General Information</b>								
blood pressure checked with in past 10 months	218	82	78	76	53	89	349	82



missed work 3 or more days annually	65	24	18	17	7	11	90	21
smoker	97	36	41	40	11	18	149	35
increased smoking/eating during stress	128	48	48	47	43	87	219	52
made time for leisure	183	69	73	71	43	72	299	70
felt job security	195	73	54	52	46	78	295	69
<b>Diet and Nutrition</b>								
felt overweight	162	61	62	60	47	79	271	63
felt underweight	32	12	9	9	3	5	46	10
skipped meals	84	31	69	67	37	62	190	45
daily drank 2 coffee or more	98	37	34	33	24	40	156	37
daily drank 2 or more sodas	126	47	28	27	8	13	162	38
daily drank 2 or more beer/alcoholic beverages	34	12	7	7	7	11	48	11
salted food at table	162	61	56	54	29	49	247	58
consumed mostly fried foods	158	59	48	47	17	29	223	52
consumed sweets daily	129	48	36	35	21	35	186	43
consumed high fiber diet	87	32	67	65	43	72	197	46
daily consumed raw fruit/vegetable	73	27	21	20	29	49	123	29
daily consumed grain products/legumes	135	51	34	33	27	45	196	46
daily consumed milk products	184	69	68	66	34	57	286	67
<b>Exercises/Fitness and Interest in Improving Health</b>								
received enough exercise	109	41	32	31	5	8	146	34
involved in regular exercise	68	25	17	16	23	38	108	25
would attend physical fitness sessions	179	67	64	62	47	80	290	68
would attend class sessions on health topics	115	43	71	69	24	40	210	49

In this study, 40 percent of the technical and 18 percent of the professional employees smoked. Approximately 48 percent of the respondents indicated that work-related stress or pressure caused them to smoke or eat more often; the higher the educational level, the greater the number of positive responses ( $r = 0.936$ ;  $p = .05$ ). Employees in this study, 70 percent, included time for leisure activities, and more than two-thirds, 69 percent, felt secure in their jobs. However, despite these two lower stress indicators, 49 percent of the participants reported interest in attending stress management and nutrition education classes.

Respondents were asked questions related to weight, skipping meals, and consumption of caffeinated/alcoholic beverages, dairy products, fruits, vegetables, sweets, and salt. The more educated the employee, the greater the perception of being overweight ( $r = 0.798$ ;  $p = 0.05$ ). In all three groupings, the percentage exceeded half the employees, increasing from 61 percent to 60 percent, to 79 percent. Conversely, only 12 percent of the skilled and 9 percent of the technical employees believed that they were underweight.

This study revealed differences in caffeine consumption among employee groupings. Approximately 70 percent of the skilled and technical employees indicated a consumption in excess of two cups of coffee per day. And about 74 percent of the same groups indicated consumption of two or more colas per day in comparison with 13 percent of the professional employees. Very few employees, 11 percent, reported the consumption of two or more beers or other alcoholic beverages daily.

A high percentage of the skilled and technical employees, 69 percent and 66 percent respectively, consumed some milk products daily, mostly in the form of cheese and whole milk. Slightly more than half of the professional employees, 57 percent, consumed milk products daily, primarily in the form of cheese, ice cream, and other dairy products. Most employees believed that they adequately consumed fruits, vegetables, and fiber. However, employees' consumption of these food products was below the

National Recommended Daily Allowances (RDA's). Only 43 percent of the employees consumed sweets daily, however, the consumption of sweets among employee groups was almost evenly distributed. More than half of the employees, 52 percent, consumed fried foods, and about 58 percent of them used salt to season their food before consumption.

In the section on self-evaluation of exercise practices, participants responded to questions related to interest in participating in exercise activities, improving health through physical fitness sessions, and attending fitness and health related classes. Only 25 percent of all respondents participated in a regular exercise program. Professional employees were the least sport-active group, 8 percent, as compared to technical, 31 percent, and the skilled group 41 percent. On improving health through physical fitness sessions, participants favored class topics such as: stress reduction, nutrition education, weight reduction, and physical exercise. Overall, 68 percent of the participants expressed interest in attending physical fitness sessions, as compared to 68 percent who expressed interest in participating in nutrition education and stress management classes. Interest in nutrition education and stress reduction instruction increased with the education level, from 48 percent for skilled employees to 87 percent for professionals. Results of the t-test indicated that 41 percent of the technical and professional employees desired class sessions on exercise, while only 13 percent of the skilled employees were interested in exercise (0.05). Although the perception of being overweight increased with the education level, interest in education toward weight reduction decreased from 61 percent for skilled employees to 34 percent for professional employees.

### **Discussion and Conclusion**

This study concluded that the social aspect of the work environment (diet, exercise, smoking, working, worrying, and other daily living habits of employees and their families) impact participants life-styles. Findings suggest that foodservice employees who perceive good health as important, exercised routinely, monitored food consumption, and included time for leisure activities. Such higher health awareness lowered employees job related stress and generated a more productive employees and work environment.

Since diet was suggested to be a major component of employee health awareness, it is important for foodservice organizations to be well informed on employees' actual needs as well as perceived needs. Results indicated that foodservice employees were more interested in nutrition education and wellness related issues rather than participating in regular exercises and fitness sessions. Therefore, it would be more effective for these organizations to utilize their nutrition expertise and educate their employees on proper nutrition and health management rather than providing comprehensive fitness and exercise benefit packages.

Foodservice organizations that offer wellness programs should utilize their nutritional expertise to educate their employees and improve their life-styles. Such organizations need to emphasize that proper nutrition and dietary intake reduce diabetes, cancer, and high-blood pressure among persons who incorporate fiber in their diet. A wellness program that incorporate nutrition education sessions will increase employees mental attitude, productivity, job performance and decrease tension. When developing nutrition educational tools, employees' perception of health habits is invaluable. Restaurant organizations must keep in mind that employees' perceived attitudes toward wellness must be addressed before real needs are approached and realized i.e., perceived eating habits of an employee may be better than actual eating habits. As this study shows, some employees practiced poor dietary habits such as over-consumption of salt, colas, fried foods, and low consumption of fruits, vegetables, and fiber, while perceiving themselves as practitioners of good dietary habits. Such findings suggest that these foodservice employees had poor knowledge of nutrition and poor dietary choices contrary to achieving good health. Since more than two-third of the employees participating in this study were interested in class sessions on stress reduction and nutrition education, restaurant managers need to offer a wellness program incorporating these topics as well as exercise and fitness sessions.

When formal classes do not exist, astute restaurant managers interested in improving the health and well-being of other employees should utilize various means for meeting educational needs. For example, the use of bulletin boards and newsletters enables one to reach a maximum number of employees. Bulletin boards and pamphlets, acting as reminders, can educate while simultaneously discouraging such practices as smoking and poor food choices.

Overall, researchers have reported positive relationships among health awareness programs and 1) lower medical expenses (Gregg et al. 1990); 2) lower work-related stress (Leviton 1987), and 3) increased productivity (Spilman et al. 1986). Although manufacturing and service industries have



incorporated wellness programs to influence employees life-styles and work environment, foodservice organizations have not followed. If empowered, health conscious and nutritionally educated restaurant managers should be able to provide information that ensures the employees' ability to accurately assess their life-styles toward better health practices. Improved health awareness can have a positive impact on the health and well-being of employees and the foodservice industry.

Findings of this study contribute to wellness related foodservice literature. The current state of low nutrition knowledge and poor health practices among restaurant employees needs to be changed. The offering of employer sponsored nutrition education and exercise classes can contribute to a reduced employers' health care expenses, reduced absenteeism, and to an improved employee work environment and productivity.

### References

- Anonymous (1985). The costs and benefits of prevention. *Journal of Public Health Policy*, 285.
- Barick, B. L. (1985). Occupational health programs: The ounce of prevention paying off. *Occupational Health Safety*, 54 (9), 38-43.
- Bertera, R, L. (1990). Planning and implementing health promotion in the workplace: A case study of the Du Pont Company experience. *Health Education Quarterly*, 17 (3), 307-327.
- Brownell, K. D. Felix, M. R. J. (1987). Competitions to facilitate health promotion: Review and conceptual analysis. *American Journal of Health Promotion*, Summer, 28-36.
- Center for Disease Control (1991). Changing U.S. life style and declining vascular mortality-a retrospective study. Center for Disease Control.
- Chen, M, S. (1989). The most important influences in worksite health promotion: Conclusion of the panel discussion. *Health Education*, 20 (7), 51-52.
- Erfurt, J. C., Foote, A. (1990). A maintenance of blood pressure treatment and control after discontinuation of worksite follow-up. *Journal of Occupational Medicine*, 32, 513-520.
- Erfurt, J. C., Foote, A., Heirich, M. A., Gregg, W. (1990). Improving participation in worksite wellness programs: Comparing health education classes, a menu approach, and follow-up counseling. *American Journal of Health Promotion*, 4, 270-278.
- Gregg, W., Foote, A., Erfurt, J., Heirich, M. (1990). Worksite follow-up and engagement strategies for initiating health risk behavior changes. *Health Education Quarterly*, 17 (4), 455-478.
- Gurian, G. L. (1987). Promoting the community's health through a food service establishment incentive program. *American Journal of Preventive Medicine*, 3 (1), 42-44.
- Heirich, M. A., Cameron, V., Erfurt, J. C., Foote, A., Gregg, W. (1989). Establishing communication networks for health promotion in industrial settings. *American Journal of Health Promotion*, 4, 108-117.
- Kenkel, P. J. (1992). Companies sweeten wellness plans. *Modern Healthcare*, 22 (47), 49.
- Leviton, L. C. (1987). The yield from worksite cardiovascular risk reduction. *Journal of Occupational Medicine*, 29, 931-936.
- Lindeman, A., Rosing, L., Wallace, P. (1991). Nutrition activities in university based fitness programs. *Journal of the American Dietetic Association*, 9 (2), 218-220.
- Lowe, J. B., Windsor, R. A., Post, K. L. (1987). Effective of impersonal versus interpersonal methods to recruit employees into a worksite quit smoking program. *Addictive Behaviors*, 12, 281-284.
- Martini, G, R. (1991). Wellness programs: Preventive medicine to reduce health care costs. *School Business Affairs*, 57 (6), 8-11.
- Overman, S., Thornburg, L. (1992). Beating the odds. *Human Resources Magazine*, 37 (3), 42-47.

- Ozujna, C. C. (1992). Food service vendors focus on health. *Office*, 116 (6), 36-37.
- Parson, S. R. (1984). Effect of high fiber breakfast on glucose metabolism in non-insulin dependent diabetics. *American Journal of Clinical Nutrition*, 40 (1), 66-71 .
- Rainwater, A., Christiansen, K. (1984). Wellness/quality of life program in a long-term care facility. *Journal of Long-Term Caring Administration*, 12 (4), 13-18.
- Schachner, M. (1991). Hardee's serves up new flex benefits plan. *Business Insurance*, 25 (31), 6.
- Smith, M. N., Stenger, F. (1985). Holistic health promotion in the occupational health setting. *Occupational Health Nursing*, 33 (6), 291-293.
- Spilman, M., Goetz, A., Schultz, J., Bellingham, R., Johnson, D. (1986). Effects of a corporate health promotion program. *Journal of Occupational Medicine*, 28, 285-289.
- Touliatos, J., and Compton, N. H. (1988). *Research Methods in Human Ecology/Home Economics*. Iowa State Press, Ames Iowa, pp.58-60.
- United States Department of Agriculture (1990). *Nutrition and Your Health: Dietary Guidelines for Americans*. U.S. Department of Agriculture, U.S. Department of Health and Human Services, 1990.
- U.S. Department of Health and Human Services/U.S. Department of Agriculture (1990). *Nutrition and Your Health: Dietary Guidelines for Americans*. Third Edition. Washington, DC: U.S. Department of Health and Human Services/US Department of Agriculture.
- Wilber, J. A. and Barrow, J. G. (1969). Reducing elevated blood pressure. Experience found in a community. *Minnesota Medicine*, 52, 1303-1305.

by ASL