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Worksite Health Promotion in America: The Impact of Organizational Context on Corporate Wellness Programming.

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WORKSITE HEALTH PROMOTION IN AMERICA: THE IMPACT OF ORGANIZATIONAL CONTEXT ON CORPORATE WELLNESS PROGRAMMING

A Dissertation

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by
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DEDICATION

To my parents,

Neller Ree Heintze Wells and Carl Kirkland Wells, Jr.,

for the love and inspiration they provided me.

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ABSTRACT

The purpose of this study is to examine the factors associated with corporate wellness programming in contemporary U.S. business organizations. First, I construct an ideal-type of wellness program components in order to profile varying arrays (i.e., number and types) of health and fitness activities across corporations. Then, I detail the extent of health promotion programming in business organizations and in major corporations, using the National Survey of Worksite Health Promotion Activities and the Worksite Health Promotion Program Survey of Fortune 500 companies.

The central research task of this study is to explore the factors that account for the diversity observed across corporate wellness programs. This diversity is viewed, in part, as a function of the organization's context, that is, the organizational environment, organizational structure and corporate culture. Logistic regression analysis is incorporated to assess the relative importance of the organizational context variables on corporate wellness programming.

Major findings include organizational size as an important structural variable; larger companies are more likely than others to have a wellness program and a larger array of health promotion activities. Establishments located in the West are more likely to have a wellness program than are establishments located in the South. Many of the factors considered to be indicative of a "healthy company" and a healthy work climate (e.g., medical professionals in the workplace, managerial concern for and implementation of health care cost containment strategies, and an Employee Assistance Program) are consistently associated with the presence and array of worksite health promotion activities. The degree of corporate profitability and the type of industry in which the organization is embedded do not significantly influence corporate wellness programming.

In sum, many organizational contextual factors are found to be significantly related to the array of worksite health promotion activities and organizational support for those activities. Separate influences are noted for organizational environment, organizational structure and healthy company characteristics, with the later being, by far, the most significant set of influences on the array of worksite health promotion activities.

CHAPTER ONE:

INTRODUCTION

Worksite health promotion has been defined as a combination of educational, organizational, and environmental activities that are designed to support behaviors conducive to the health of employees and their families (Parkinson et al. 1982:13). Since the mid-1970s, an increasing number of U.S. corporations have introduced health promotion programs into the workplace (Conrad 1988). These efforts range from providing an occasional worksite health-related activity to the incorporation of elaborate **corporate wellness programs**, that emphasize both health and fitness. According to Conrad (1988:485), a growing number of worksites have adopted comprehensive wellness programs, that may include:

> health risk assessments, hypertension screening, aerobic exercise and fitness, nutrition and weight control, stress management, smoking cessation, healthy back, cancer risk screening and reduction, drug and alcohol abuse prevention, accident prevention, self-care and health information.

Although corporate wellness programs vary in scope, or the degree to which they include some or all of these features, the general orientation appears consistent: to encourage changes in workers' behaviors or lifestyles in order to prevent disease and promote health (Conrad 1988:485). Corporate sponsorship of health promotion is predicated, at least in part, on the assumption that employees with healthy lifestyles are less likely than others to utilize corporate health care plans. This assumption stems from growing empirical evidence of the relationship between an individual's lifestyle and health status - the healthier the lifestyle, the better the health status (Bellec and Breslow 1972; Hollander and Lengermann 1988:492).

Since worksite health promotion has become a reality in business organizations across the country, it has the potential to influence the health outcomes of many working Americans and their families. Wellness

programming also has the potential to influence corporate profitability, via increased employee productivity and decreased health care expenditures. Thus, the expansion of worksite health promotion programming is linked to corporate concerns for a number of different ends.

SOCIOLOGICAL RELEVANCE

Health promotion in the workplace is a sociologically relevant topic given that wellness programming involves major social institutions, including the economy, the family and the medical care system. Within these institutions, various social groups participate in and are influenced by worksite health promotion programming.

In contemporary society, employed adults spend approximately one-third of their lives (or half of their waking hours) in an occupational setting. Given the amount of time spent there, the workplace is increasingly recognized as a location well-suited to organized interventions that may improve the health status of employees (Everly and Feldman 1985; Conrad 1988:485). Also, as more women enter the labor force,[1] the viability of the workplace as an appropriate setting for health promotion increases (Kizer 1987). Since women utilize the medical care system more than men do, efforts to promote health and prevent illness may prove particularly fruitful for this segment of the working population.

Worksite health promotion is often included in the array of employment benefits offered to workers (e.g., life insurance, health insurance, pension programs, and profit sharing [Kizer 1987:35]). This, in turn, has the potential to influence lifestyle choices and the quality of life experienced by employees. Since some wellness program activities are designed to directly involve the employee's family members as well, there is the potential to influence the well-being of the entire family.

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[1] The Bureau of Labor Statistics predicted that the number of working women with children (traditionally, a group with lower labor force participation rates) will exceed 70 percent in the 1990s (Kizer 1987:36).

Corporate-sponsored health and wellness activities in the workplace are transforming the ways in which some medical care services are being accessed. For example, many worksite wellness program activities (e.g., the health screenings and exams that employers provide as part of a comprehensive wellness program) are purchased through local hospitals and medical clinics. Also, a variety of health care professionals work and provide services in the corporate arena.

In an edition of Social Science and Medicine devoted to "Worksite Health Promotion", Conrad (1988:487) states that research in this area "has the potential to contribute sociological knowledge of organizations, preventable health behavior, social change and social control". However, this potential has not yet been realized. By the mid-1980s, health promotion programs seemed to be as firmly rooted in the workplace as in other sites (U.S. Department of Health and Human Services 1987). And yet until recently, little research on health promotion in the worksite has been conducted or published.

Walsh (1988:569) asserts that sociological analysis of worksite health promotion has been relatively rare. Generally, research in the area is bifurcated: one larger branch is utilitarian in focus, looking for practical insights to better organize health promotion efforts, and the other branch is more critical, predominantly addressing issues of hidden agendas, unintended consequences and social control (Walsh 1988). She suggests "the posing of answerable - and fundamental - questions" in this new field of sociological research (Walsh 1988:569).

Since this is a relatively new area for sociological analysis, theoretical frameworks from which to explain and predict regularities in worksite health promotion programming have not been firmly established. Researchers need to assess how and to what extent health promotion programs are being institutionalized in work settings (Hollander & Lengermann 1988). In order to accomplish this task, new ground must be broken, and conceptual links forged between theories of organizational

structure and corporate culture, and the presence of worksite health promotion programs.

STATEMENT OF THE PROBLEM

The focus of this study is health promotion in the workplace. ***The sociological problem is to examine the contextual factors - both societal and organizational - that are associated with corporate wellness programming in contemporary U.S. business organizations.*** One assumption underlying the study is that the national (and international) context in which major U.S. corporations operate generally encourages corporate involvement in worksite health promotion. A second assumption is that organizational factors are also associated with the diffusion of wellness programs. For example, organizational actors act on rational beliefs about the costs/benefits of worksite health promotion and make strategic choices that influence the adoption or expansion of corporate wellness programs.

Research questions

There are three levels of analysis that could be appropriate in this endeavor: the macro- or societal level, the meso- or organizational level, and the micro- or interpersonal level. The salient research question at the macro-level is: what social elements or forces have influenced the emergence of worksite health promotion in the United States? Although this question is not the primary focus of this dissertation, a brief socio-historical account of worksite health promotion is included in the literature review in order to situate the phenomenon in its larger context.

This study concentrates at the meso- or organizational level of analysis. First, I explore: what is the nature and extent of corporate wellness programs in U.S. companies? Secondary data sources are used to provide descriptive statistics on the presence and extent of worksite health promotion programs. I then construct an ideal-type of wellness program components in order to more fully operationalize the concept and

to profile varying arrays (i.e., number and types) of health and fitness activities across corporations. This allows me to describe the nature of corporate wellness programs and to examine their diversity.

The central empirical question of this study is: what factors account for the diversity in corporate wellness programs? I focus on structural, and to a lesser extent, cultural factors that influence corporate wellness programming at the organizational level. Toward this end, I test associations between **organizational context** and the presence of corporate wellness programs. The diversity in corporate wellness programming is viewed here, in part, as a function of the organization's macro (e.g., environmental and institutional factors) and meso (e.g., organizational structure and corporate culture) contexts. Empirical considerations of worksite health promotion at the micro- or interpersonal-level generally lie outside the scope of this study. Again, the primary foci are the organizational factors associated with the presence of and diversity of health promotion activities in the workplace.

Organization of the dissertation

A review of the literature relevant to worksite health promotion is presented in Chapter Two; the review includes studies from medical sociology, health education, and the sociology of complex organizations. Also included in this chapter is a conceptual model of factors in the organizational context that may influence worksite health promotion programming. The chapter ends with an ideal-type of corporate wellness program components.

Chapter Three details the research methodology and sources of data. Also included there are empirical models of the determinants of worksite health promotion programming. Chapter Four presents results from tests of an empirical model of factors in the organizational context related to worksite health promotion programming in U.S. businesses. Chapter Five provides an analysis of corporate wellness programs in Fortune 500

companies. Chapter Six summarizes the major findings of the study and their implications, and suggests areas for further investigation.

CHAPTER TWO:

LITERATURE REVIEW

Since worksite health promotion cuts across various areas of substantive concern, literature from several disciplines is reviewed below. These include medical sociology, health education, and the sociology of complex organizations. This chapter is divided into four sections. The first includes a review of the medical sociology literature salient to worksite health promotion. The second presents a socio-historical profile of worksite health promotion in U.S. businesses. The third section reviews organizational theory in sociology and presents a conceptual model of organizational context that will be used to predict variations in corporate wellness programming. In the last section, the construction of an ideal-type of wellness program components is detailed.

MEDICAL SOCIOLOGY

As an academic discipline, sociology is generally concerned with patterns of human behavior and the social causes and consequences of that behavior. Medical sociology, as an important substantive area within the general field, is particularly concerned with the social causes and consequences of health and illness (Cockerham 1989).

One basic premise in medical sociology is that there is a significant relationship between social factors and the levels of physical (and mental) health of specific social groups. For example, variations in health outcomes, as well as in perceptions of health, have been observed between people of different social classes (e.g., Hollingshead and Redlich 1958), races or ethnicities (e.g., Suchman 1965a), ages (e.g., Wan and Soifer 1974) and genders (e.g., Verbrugge 1985).

The dominant paradigm in the U.S. medical care system has been labelled the biomedical interventionist model (Morgan, Calnan and Manning 1985:14). This model emphasizes a single-etiology theory of disease (germ), as well as interventionist therapies (e.g., medication, surgery).

Nonetheless, Morgan, Calnan and Manning (1985) note the shift from an earlier emphasis on "scientific" medicine with "magic bullets" (Dubos 1959) toward a multi-causal paradigm of illness etiology that stresses both the prevention of disease and the promotion of health. Generally, these authors suggest that the biomedical interventionist model provides a less convincing explanatory framework for sickness and disease than does a social model that emphasizes the political, economic, and environmental causes.

Conrad and Kern (1986:2) note a concurrent shift in the medical sociology literature, whereby the discipline's initial preoccupation with physicians has been replaced with a more general concern about health and illness in our society. This broadened conceptualization (often referred to as the sociology of health and illness) encourages us to examine the social organization of the medical care system. Two related topics are particularly relevant to health promotion in the workplace: the ways in which health and illness are socially defined, and the ways in which medical care is organized in society.

The social construction of health and illness

The ways in which we conceptualize health and illness have changed over time and it is important to acknowledge the role that changing definitions play in how we construct and interpret this aspect of reality. Brief introductions to health and illness constructions are presented below.

Health constructions. Traditionally, health has been defined as the absence of malady. Dubos (1959) challenges this myopic image of health as a "mirage". In contrast to this image, the World Health Organization recommends a definition of health as "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity" (Everly and Feldman 1985:6). This definition is now widely accepted.

According to Parsons (1958), health is defined with reference to an individual's participation in the social system (in the case of worksite health promotion, the corporation), and is the state of "optimum capacity" for the effective performance of roles within that context. For most people, however, health is generally viewed as the capacity to carry out behaviors deemed necessary (and desirable) to oneself and to significant others in the daily realm.

Illness constructions. Malady is not a unidimensional concept; analytical distinctions have been made for three interrelated concepts: illness, sickness, and disease (Robertson 1991). Illness is a subjective experience; it is an individually-perceived state of existence that alters a person's capacity to engage in her/his daily set of routines. Sickness occurs when personal claims of illness are legitimated by others (see Parson's [1951] "sick role"); thus, sickness is a social phenomenon. Disease is a more "objective" phenomenon, characterized by the altered functioning of the body. Further, disease is the "social property" of a particular occupational group - officially, only physicians are allowed to determine the presence or absence of disease.

Medical sociologists initially focused on illness behavior and its consequences for the maintenance of social systems. Since illness behavior is normatively defined, and sickness is a negotiated order, deviance and conformity have been of particular interest. Typically, illness has been perceived as a form of deviant behavior (e.g., Parsons 1958); conversely, health has been viewed as conforming behavior (Twaddle 1974). Recent concerns in the sociology of health and illness include the social implications of viewing health as conforming behavior. For example, to the extent that "wellness" becomes normative in the workplace, deviations from this standard may become labeled, and consequently, subject to organizational control (Kotarba 1983).

Social constructions of health and "wellness" also influence the ways in which medical care is organized in society. This is perhaps best

seen in the distinction between the "sick care" and "health care" components America's medical system.

The social organization of medical care

It has been said that the United States has one of the best medical systems that money can buy; certainly, our system and its medical professional are among the best in the world (Conrad and Kern 1990). Even so, "social scientists, thoughtful political leaders, leaders of labor and industry and members of the medical profession itself" appear to be in consensus that a current medical care crisis exists in this country (Conrad and Kern 1990:3). One defining element is the fact that medical costs have risen exponentially and costs are continuing to rise (Conrad and Kern 1990). Another critical element is that the traditional medical system has been organized to deliver "sick care" rather than "health care" (Conrad and Kern 1990:3). A distinction between these two types of care follows.

Traditional medical care. The traditional medical care system (i.e., "sick care") includes the "professional services, training academies, and technological resources" that are committed to the treatment and management of disease (Shepard 1990:353). This system is largely comprised of hospitals, physicians, nurses and patients, and primarily deals with individuals "who are sick or who think that they may be sick" (Sidel and Sidel 1983).

Historically, the "sick care" component has had a relatively minor influence on national health outcomes. McKeown's (1979) study of the decline in mortality in England suggests the role that medical intervention played in contributing to the decline in mortality in the past century has been overemphasized; instead, the main determinants were improvements in nutrition, better sanitation and a decrease in family size. McKinlay and McKinlay's (1976) findings on the decline of mortality in the United States also suggest that direct medical intervention had a relatively limited impact. Wildavsky (1977) argues

that physicians, medicine and medical technology affect only ten percent of the usual indices of health, whereas the rest is determined by individual lifestyles, social conditions and the physical environment.

Health care. The "health care" component of the medical system is generally concerned with the promotion of health and the prevention of illness (Conrad and Kern 1990). Proponents of health promotion and illness prevention suggest that a restructuring of the medical system is necessary in order to concentrate on the measures that most affect health outcomes (Taylor 1986). Programs of health promotion at work have contributed to changes in the delivery of health services.

Summary

At the interface of health and sociology is a concern for the social causes and consequences of health and illness. The medical sociology literature points to contemporary definitions of health and illness, and to the impact our conceptualizations may have on the ways in which health care is organized. A sociological assessment of worksite health promotion suggests that business corporations have become more central to the social organization of "health care" delivery in contemporary post-industrial society.

In order to more fully assess the current extent of health promotion at work, it is necessary to explore its historical foundations. In the next section, I present a brief socio-historical profile of worksite health promotion.

HEALTH PROMOTION AT WORK

Worksite health promotion in America emerged as a result of certain social conditions and historical antecedents. According to Shain et al. (1986:14), the history of worksite health promotion is also a history of employer-employee relationships; it is rooted in a paternalistic tradition traceable to the earliest days of employment relations. Thus, it is important to explore some of the consequences - for individuals as

well as corporations - associated with worksite health promotion programming.

This section is divided into two parts. The first part includes a brief socio-historical profile of worksite health promotion programs and addresses some of the factors concerning why health promotion has been incorporated into the workplace. In the second part, a discussion of the potential consequences, both advantages as well as disadvantages, of worksite health promotion is provided.

Part A:
Socio-historical profile of worksite health promotion

In the following review, many of the social conditions under which worksite health promotion emerged are discussed. First, two movements in worksite health promotion are identified. Ideological rationales for the development and expansion of worksite health promotion are then described.

Movements in worksite health promotion

Since WWII, two major movements in worksite health promotion have occurred (House and Cottington 1986:392). First was the "**occupational safety and health movement**" that peaked toward the end of the 1960s, with the Coal Mine Health and Safety Act of 1969 and the Occupational Safety and Health Act (OSHA) in 1970. Second is the "**workplace health promotion movement**," which is marked by the emergence of innovative solutions to health care cost containment, including health maintenance organizations (HMOs), preferred provider organizations (PPOs), and employee assistance programs (EAPs) (House & Cottington 1986). The following discussion suggests that corporate wellness programs may be added to this list of health care cost containment strategies.

Ideological rationales

Ideology refers to the body of ideas and beliefs that reflect the social needs and aspirations of an individual, group, class or culture (American Heritage Dictionary). Ideological rationales generally serve

to explain why we are engaged in a particular behavior or to legitimate a particular enterprise (Mannheim 1936). Anderson (1985) identifies three justifications for the practice of worksite health promotion in the United States - religion, nationalism, and capitalism. These rationales provide an indication of why we are engaged in health promotion activities in the workplace.

A few words of explanation seem warranted. First, although these rationales are associated with a specific enterprise, such as worksite health promotion, they also provide "legitimation and support for everything from health food stores to corporate fitness centers to the modern hospital to what make physicians behave as they do" (Anderson 1985:18). Thus, these rationales operate at the broadest level of concern. Second, although they are listed separately and considered analytically distinct, the justifications for health promotion in the workplace are interwoven.

Religion. Many of the values Americans live by have been shaped by the Judeo-Christian heritage. According to this heritage, individual life "...is defined in the first instance as a gift, directly or indirectly, from God" (Parsons, Fox and Lidz 1973:5). Thus, there is a great value of individual life and in trying to preserve it. This religious heritage is also associated with stewardship and civic duty, and as such, provides a significant rationale for health promotion in general (and for more recent efforts to promote health in the workplace).

Nationalism. The concept of nationalism has been defined as "a people's commitment to a common destiny based on recognition of a common past and a vision of shared future" (Stoessinger, 1981). The link between nationalism and health is the belief that a strong nation requires healthy, active citizens. For example:

America can only be as strong and healthy as its people, and, as in all things, the only lasting change that takes place comes when each of us

does his part to make our country the good and decent place we want it to be.[1]

This link between nationalism and health promotion, however, was not evident in the United States until the twentieth century. Certain American values and beliefs, such as the ideology of individualism and the right to privacy, "strongly retarded the expression of nationalism in health promotion" throughout the nineteenth century (Anderson 1985:23). During that time, health promotion was generally considered an appropriate activity for individual and voluntary associations.

Since World Wars I and II, U.S. presidents have made explicit connections between health promotion and 1) the economic well-being of the nation and 2) national defense (Anderson 1985:24). More currently, nationalism provides a rationale that legitimates the role our government plays in health research, education, and legislation.[2]

Capitalism. Anderson (1985:27) suggests that U.S. businesses began to play a role in the maintenance of employee health only after it became an issue through the political process. For example, trade unions pushed for health insurance as a compensatory benefit, and later for employee safety and health issues. Thus, such benefits were gained for employees via negotiations at the collective bargaining table with labor unions and through the enforcement of government regulations.

Although worksite health promotion costs money, corporate decisions not to engage in health promotion may prove even more expensive. Health care service providers and professionals are now "selling" health promotion in terms of corporate profit. They do so, in part, by engaging quantifiable health status indicators and cost-benefit analyses of health promotion programs, and are thus enlisting "one of the most powerful

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[1] President Ronald Reagan in a White House Video Teleconference, March, 1984 (Kizer 1987:introduction).

[2] Examples include: Public Law 94-317 (which provides for federal research and education of health promotion), and the Health Information and Health Promotion Act of 1976.

ideological rationales in the society" - the capitalist profit motive (Anderson 1985:30).

In sum, the interplay of values associated with religion, nationalism and capitalism has significantly contributed to the emergence of worksite health promotion in the United States. I now turn to a discussion of several other socio-cultural factors that have contributed to the expansion of corporate wellness programs.

Socio-contextual influences

Conrad (1988:485) suggests three socio-contextual reasons for the expansion of wellness programs in the United States: the containment of corporate health costs, the presence of a lifestyle-risk factor paradigm in medicine, and a new social consciousness about wellness. The following discussion of corporate health care cost containment clearly cverlaps, and provides an extension of, Anderson's (1985) capitalism rationale.

Corporate cost containment. Health care expenditures account for nearly 13% of the country's GNP and medical costs continue to rise. Given the lack of national health insurance, corporations (and individuals) pay a large portion of this. Since business and industry cover nearly 30% of national health care expenditures - primarily in the form of medical insurance - cost containment has emerged as a key element in the management of corporate health care expenses (Conrad 1988).[3]

Corporations have taken a multi-faceted approach to cost containment, including:

> ...more cost-sharing (of deductibles and premiums) with employees, second opinions for many elective surgical procedures, incentives for outpatient surgery, encouragement of 'alternative' health providers ...and worksite health promotion (Conrad 1988:486).

Thus, health promotion in the workplace is one of many strategies that corporate managers may use to control increasing health care costs.

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[3] If the current administration's proposals for national health insurance are supported, an even larger percent of health care expenditures may fall on U.S. businesses in the future.

Corporate managers generally assume that the "enthusiastic" cost-containment claims of wellness program advocates are true, such as increased employee productivity and reduced absenteeism (Conrad 1988:486). Since there is some evidence that wellness programs provide a relatively low-cost benefit (Conrad 1988), this may, in fact, be an effective strategy in the management of corporate health care costs. However, Hollander and Lengermann (1988) note that most Fortune 500 companies report only limited cost-benefit analysis being conducted of corporate wellness programs and that the issue of cost containment remains largely unsettled. Further, these researchers (Hollander and Lengermann 1988:500) suggest that wellness programs may be:

> primarily for purposes of increasing morale, image and control over employees, rather than for the more complex, long term purposes of improving health and lowering costs.

In sum, the corporate drive to contain upward spiraling health care costs has encouraged the incorporation of worksite health promotion programs. This appears to be the case even though the evidence of cost-savings is not conclusive.

Lifestyle-risk factor paradigm. Interest in individual health behaviors has increased with the recognition that the leading cause of death in the U.S. population has shifted from communicable to chronic diseases. The major premise of the lifestyle-risk paradigm is that individual behaviors (i.e., lifestyles) are causally related to the development of chronic diseases. This paradigm is based on epidemiological studies that connect cigarette smoking to the development of lung cancer (U.S. Department of Health, Education and Welfare 1964) and that link cholesterol, smoking, and hypertension to the rise of heart disease (Kennel and Gordon 1968). Although there are numerous critiques of the

lifestyle-risk factor paradigm,[4] strong support for this perspective remains within the medical community and society at-large.

In sum, the "lifestyle-risk factor paradigm" in medicine has contributed to the rise of worksite health promotion (Conrad 1988:486). This perspective suggests that an individual is largely responsible for his/her own health status. The notion of individual responsibility is consistent with aspects of Anderson's (1985) religious rationale; i.e., that we have a responsibility to take care of the gift of life from God. Second, there is a bias in most health promotion programs in the workplace towards changing individual lifestyles to decrease corporate health care expenditures. Thus, there is an explicit alliance between the lifestyle-risk factor paradigm and Anderson's (1985) capitalism rationale. Last, the government has also endorsed this paradigm through policy statements and influential documents (e.g., the U.S. Surgeon General's [1979] Report Healthy People). Thus, there also appears to be some interplay between the lifestyle-risk factor paradigm and Anderson's (1985) nationalism rationale.

The crest of cultural wellness. Current levels of interest in health and wellness also stem from changes in social values (Conrad 1988). According to Conrad (1988:486), "worksite health promotion is riding the crest of cultural wellness." Cultural wellness is a concept exemplified by middle class America's positive evaluation of health clubs, natural foods and holistic health care practices. Thus, an increased "consciousness about wellness" provides a context for increased interest (and participation) in worksite wellness programs.

In this effort to develop a more complete understanding of the origins and expansion of worksite health promotion programming, I have detailed some of its social and historical antecedents. In sum,

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[4] This perspective has been criticized for overstating the responsibility that an individual has over health and for blaming the victim for illness (Crawford 1979). Further, this perspective shifts attention from the work environment (and any effects of unhealthy working conditions) to the individual (Conrad 1988:487; Kotarba 1983:286).

Anderson's (1985) ideological rationales for the emergence of worksite health promotion were reviewed: religion, nationalism and capitalism. These macro-level social forces influence the broadest national context in which major American corporations operate. Other socio-contextual influences were also identified (Conrad 1988) and include an interest in corporate cost-containment, increased saliency of the lifestyle-risk factor paradigm and an increased social consciousness about wellness. These influences operate to reinforce the ideological rationales and encourage both corporate involvement and individual participation in worksite health promotion.

Given the historical foundations for the emergence of worksite health promotion, and the social conditions that generally encourage wellness programming in the workplace, it is not surprising that we now observe a substantial number of companies with wellness programs. Next, I provide a brief profile on the extent of corporate wellness programming in U.S. business organizations.

The extent of corporate wellness programming

By the mid-1980s, there was a substantial trend toward the adoption of health promotion programs among major U.S. corporations. In 1984, Forouzesh and Ratzker found that 30% of the Fortune 500 companies responding to their questionnaire offered worksite health promotion programs to their employees. Just a few years later, results of Hollander and Lengermann's (1988) study indicate that 66% of Fortune 500 companies now have worksite health promotion programs. Further, one-third of those companies without wellness programs have plans to incorporate health promotion activities in the near future.

In 1987, the Office of Disease Prevention and Health Promotion published a summary of the National Survey of Worksite Health Promotion Activities (conducted in 1985) of U.S. business organizations with more than 50 employees. Even though this population of businesses was broader than the Fortune 500 study, its overall findings are similar: almost 66%

of the worksites surveyed had some form of worksite health promotion programming (U.S. Department of Health and Human Services 1987).

Hollander and Lengermann (1989) later examined the extent of worksite health promotion programs in midsize New Jersey manufacturing firms. They found that 35% of the companies responding to their survey have worksite health promotion programs and that 44% of these companies have plans to expand their program offerings.

Together, these studies provide an indication of the extent of health promotion programming across U.S. business organizations in the middle 1980s. Three observations warrant mention. First, between one-third and two-thirds of the companies surveyed offer worksite health promotion activities. Second, many companies - large and small - have incorporated comprehensive corporate wellness programs. Third, many companies currently have plans to begin (or to expand) health promotion activities in the workplace. Next, the potential consequences - for individuals as well as for organizations - associated with wellness program implementation in U.S. businesses are discussed.

Part B:
Potential consequences of worksite health promotion

The following discussion is organized according to Walsh's (1988) distinction between the utilitarian and the critical branches of the health education literature. A review of the utilitarian branch generally highlights the potential advantages of wellness program implementation; a review of the critical branch identifies some negative consequences that wellness programs may have for employees.

The utilitarian branch

There are reasons the workplace is considered an ideal site for health promotion efforts; one is the large amount of time workers spend in an occupational setting. Since a majority of the workforce is relatively stable and most people tend to remain with the same employer

for extended periods of time (Sloan et al. 1987:34), the long-term goals of health promotion may be well-served in this type of setting.

Potential advantages of worksite health promotion have been noted for employees, for employers and for the society as a whole (Hollander, Lengermann and DeMuth 1985). Advantages for employees include the potential for improved health status, reduced health-related costs, reduced transportation costs and reduced time waiting for health care. Some advantages for employees are assumed to be interrelated with those for employers, for example, increased employee morale and reduced health insurance costs. Advantages more specific to management and owners include the potential for reduced disability and death benefits, reduced on-the-job accidents, reduced turnover rates, reduced absenteeism and greater employee productivity.

To the degree that these interrelated goals are met, health promotion in an occupational setting has the potential to positively influence the "health" (e.g., profitability) of the organization (Rosen 1986; Santa-Barbara 1987). Further, there are also potential advantages for society, including reduced national health care expenditures and a generally improved quality of life (Hollander and Lengermann 1988).

The critical branch

Notwithstanding the potential advantages of worksite health promotion programs, a critical branch in the literature tends to highlight the negative implications of wellness program implementation, especially for non-managerial employees. A central topic in this critique is the increased control of workers.

Hollander and Lengermann (1988:492) note that widespread implementation of wellness programs may lead to

> ...shifts in the parameters between what is defined as organizationally relevant behaviors versus what is defined as private behaviors, thus legitimating new areas of lifestyle being subjected to organizational control.

Thus, wellness programs designed to improve the health statuses of employees may also alter patterns of control within the workplace

(Kotarba 1983). Since organizations tend to define health behavior in terms of work performance, an increasing range of employee health characteristics may become "monitored and manipulated" for "the good of the organization" (Kotarba 1983:277).

The two orientations just discussed - utilitarian and critical - differ in their assessments of the benefits and liabilities of health promotion activities. These orientations may be subsumed under a larger paradigm in sociology: consensus versus conflict. I briefly turn to a question of consequences related to worksite health promotion: whose interests are most served by this social arrangement, capitalists or workers? According to Shain et al. (1986), the answer has historically been in favor of employer interests.

Consensus versus conflict

From a consensus (or corporate-liberal) viewpoint, workers and capitalists are not necessarily locked into irreconcilable conflict (Feagin 1982:12). A modern version of this approach (i.e., social engineering) tends to view social problems as "fixable" (Feagin 1982:15). Worksite wellness programs appear to reflect social engineering assumptions, as corporate managers posit that benefits incur to all participants and that both corporate and worker interests are represented.

The conflict (or critical) perspective tends to focus on the hierarchies of dominant and subordinate groups at work. For example, Feagin (1982:264) points to an "inherent conflict" between capitalist interests for profit and the health interests of workers:

> most corporate capitalists and their managers would not support an environmentally oriented, publicly controlled health research and health care system that regularly examined home and work environments for unsafe chemical additives, unsafe working conditions, and serious air and water pollution in the community.

With regard to the question of who benefits most from the current arrangement, no definitive answers are forthcoming, although it seems

reasonable to suggest that capitalists, managers and workers may be served by instituting worksite health promotion programs.

Next, I turn to a review of the sociological theories of organizational structure and corporate culture. I then incorporate elements of existing theories into a model that posits associations between an organization's context and the presence of worksite health promotion programs.

ORGANIZATION THEORY

The immediate context for corporate wellness programs is the business organization. It is therefore essential to explore the occupational settings within which wellness programs are embedded, as well as the environments in which business organizations operate. Although there are no established theories for the relationship between organizational context and the presence of corporate wellness programs, existing perspectives can help identify organizational correlates of worksite health promotion.

This review is organized into four parts; first I explore organizations and their environments, with particular attention to institutional environments. The second part includes perspectives on organizational structure, and a review of the structural variables found to be associated with worksite health promotion and other employee benefits. The third part presents corporate culture as a variable in organizational studies. In the last part, elements from these perspectives are assimilated into a conceptual model of the organizational determinants of corporate wellness programming.

Part A:
Organizations and their environments

Every organization is dependent to some degree on its environment. According to Scott (1987:19), each organization is situated in a specific physical, technological, cultural and social environment to which it must adapt; this environment has legal, political, economic, demographic, and

ecological conditions as well (Hall 1987). It is important to explore the environments within which organizations operate in order to examine factors that are associated with organizational structure.

Organizational studies in sociology began in the late 1940s; Scott (1983) notes 3 stages through which this area has since progressed: first, there was a period of establishing the independence of organizations as a viable unit of analysis and as independent entities capable of meaningful and autonomous action. Research conducted in the second period (early 1960s until mid-1970s) emphasized the technical interdependence of organizations and their environments. The third (and current) stage in organizational studies emphasizes the social and cultural interdependence of organizations and their environments (Scott 1983:156). The shift from organizational independence to interdependency illustrates the realization that organizations participate in larger social networks as well as larger cultural systems.[5]

Historically, the dominant perspectives in organization theory have emphasized links between the technological requirements of work and organizational structure. Increasingly, institutional environments are recognized as playing a determining role for organizational structure and behavior (Scott 1983:14).[6]

Institutional environments

The institutional perspective highlights societal values and industry-wide norms to which organizations conform (Meyer & Scott 1983). A review of this perspective helps to illustrate why many business organizations have incorporated worksite health promotion programs into the organizational structure. There are two components of institutional

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[5] Also, these involve an exchange of normative elements - such as legitimacy and meaning - as well as the exchange of commodities.

[6] Scott (1987:134) suggests that "both technological and institutional environments shape organizational forms and influence organizational behavior."

environments - rational myths and the process of legitimacy - that are salient to this explanation.

Rational myths. Institutional environments are the rules and belief systems (as well as the relational networks) that arise in the broader societal context (Scott 1983:14). These rules and beliefs give rise to "rational myths" - widely shared and relatively unchallenged constructs that are promulgated by individuals or groups in positions of power. Professional groups (e.g., corporate managers) are important carriers of rational myths.

Rational myths become part of the ideologies that define what functions are appropriate to a business (e.g., sales, production, advertising and accounting departments). As institutional environments define new domains of rationalized activity (e.g., worksite health promotion), formal organizations expand or transform to incorporate rational myths as structural elements (e.g., health promotion programs) (Meyer & Rowan 1977).

DiMaggio and Powell (1983:147) suggest that individual efforts to deal rationally with the institutional environment "often lead, in the aggregate, to homogeneity in structure, culture, and output". Thus, organizations are both structured by their institutional environments and tend to become isomorphic with them (Meyer & Scott 1983; DiMaggio & Powell 1987). Structural isomorphism helps to explain the diffusion of corporate wellness programs across many U.S. businesses.

Legitimacy. Organizational structures are influenced by the "prevailing rationalized concepts" of work (and of health). Many of the

> positions, policies, programs and procedures" of modern organizations are reinforced by public opinion, by knowledge legitimated through the education system and by the definitions of negligence used by the courts (Meyer & Rowan 1977:343).

Organizations that incorporate "rational myths" as structural elements increase both their legitimacy and their survival prospects (Meyer & Rowan 1977).

Institutional environments produce rational myths that are associated with the adoption of organizational innovations. If an innovation directly (and positively) influences an organization's reputation, then it is more likely to diffuse quickly, to be retained, and to increase the likelihood of continued organizational survival (Zucker 1987). One of the consequences of implementing worksite health promotion programs appears to be an increase in the corporation's image or reputation (Conrad 1988; Roman and Blum 1988).

Technical evaluation of innovations is often costly; to the degree that these innovations reflect "rational myths" and are legitimated in the institutional environment, formal evaluations are often avoided (Zucker 1987). Given that there has been little empirical study of their cost-effectiveness, wellness programs may have become legitimate organizational structures independent of the efficacy of such programs (Hollander and Lengermann 1988).

Summary

Institutional environments provide the conceptual framework, albeit at a high level of abstraction, for an understanding of the diffusion of worksite health promotion. ***Worksite health promotion programs can be viewed, in part, as institutionalized techniques that help establish or legitimate a business organization as modern, rational, and responsible.***

Other perspectives in the sociology of complex organizations also make contributions to this study. Next, I review theories of organizational structure.

Part B:
Organizational structure

Most studies on organizational diversity and change suggest that organizations adapt to their environments by changing their structure or form (Aldrich and Marsden 1988:365). One goal of the following review is to identify environmental factors that influence the structuring of business organizations.

Hall (1987) suggests a framework from which to study the various determinants of organizational structure. According to this framework, two major categories of environmental factors affect structure: 1) the design or choices made about how the organization is to be structured, and 2) the context in which organizations operate.

Organizational design

According to Hall (1987), two critical factors associated with organizational design include the institutional environment and the strategic choices of managers. As mentioned in the discussion of institutional environments, the structures that organizations assume are influenced by other organizations, through a process of "institutional isomorphism" (Meyer & Rowan 1977; DiMaggio & Powell 1983). The conduit appears to be strategic choices that are made by corporate managers in the effort to manipulate or adapt to the environment (Child 1972).

Whether explicit or implicit, all corporate managers have a managerial philosophy and this lays the foundation for organizational design (Hodge & Anthony 1991:51). Managerial philosophies are influenced by prevailing rational myths in the institutional environment. These beliefs are then translated into managerial actions.

According to the strategic choice approach (Hodge & Anthony 1991:11), "choices (decisions) are made with respect to what the organization should or should not do in dealing with the environment." This approach emphasizes the "key long-term managerial actions taken to enhance an organization's position...among competitors" (Hodge & Anthony 1991:42). For example, employers often try to attract the most talented people to join their organization. Corporate wellness programs may be viewed as an instituted strategy designed in part to attract and maintain professional employees in a competitive market.

In sum, the rational myths held by corporate managers influence organizational design decisions. The strategic choice perspective provides the necessary conceptual link between institutional environments

and managerial choices that elicit structural changes within organizations. Next, I turn to a discussion of organizational context.

Organizational context

The second category in Hall's (1987) typology of factors that affect organizational structure is the organizational context. In order to synthesize the vast literature relating to organizational context, I developed the following figure.

	STRUCTURAL	CULTURAL
MACRO ENVIRONMENT	b) environmental systems	a) institutional environment
MESO ENVIRONMENT	c) corporate structure	d) corporate culture

Figure 2.1. The organizational context.

Organizational context can be conceptualized as consisting of two dimensions: macro- versus meso- environments and structural versus cultural elements. The macro environment is generally comprised of elements external to the organization, including: a) the institutional environment and b) environmental systems. Institutional environments primarily consist of socio-cultural elements; environmental systems, on the other hand, are primarily structural. The meso environment of organizations refers to features internal to an organization. For analytical purposes, this includes: c) elements of corporate structure and d) corporate culture.

I have already discussed cultural elements of the organization's macro context that may account for the diversity in corporate wellness programs (e.g., institution environments). To supplement that discussion, I next briefly address structural elements in the macro environment.

The macro context: environmental systems. Hodge & Anthony's (1991:57) term "environmental systems' is included here as a broad

category of primarily structural elements in the macro environment. Modern organizations are, in part, shaped by these environmental systems. However, most of these influences lie outside the scope of this study (e.g., the political system, the physical environment and the level of technology).

The economy is an example of an environmental system relevant to this analysis. According to the dual economy literature, industries are differentiated into core and peripheral sectors (see Gordon, 1972). Core sector industries "exhibit higher levels of capital intensity, unionization, larger assets, high profit margins, product diversification and market concentration" (Beck et al. 1978:709); on the other hand, industries in the periphery sector are characterized by seasonal and other variations in product supply and demand and low assets." Further, the core is characterized by "job ladders, on-the-job training, and a differentiated wage structure," that is, an internal labor market, whereas the periphery is characterized by "low-skill jobs and employment instability" (Tolbert et al., 1980:1096).

With regard to worksite health promotion, I expect to find variation by industrial sectors: core firms should prove more likely than those in the periphery to incorporate wellness programming. This is because core firms face greater institutional pressures to provide general employee benefits, and tend to have more resources with which to do so. Further, given the presence of internal labor markets, core firms have a larger interest in providing benefits as an incentive to employees (and potential employees).

The meso context: corporate structure. The focus of this study is health promotion in the workplace. In order to more fully delineate the units of analysis, I draw from Kalleberg and Berg's (1987) discussion of business organizations. Accordingly, business organizations are

> work systems directed toward the production, distribution and consumption of goods and services. Their purposes include the creation of wealth, the manufacturing of goods and/or the provision of services (Kalleberg and Berg 1987:32).

Further, business organizations are social systems; they have structures and cultures (Kalleberg and Berg 1987:43). In the remainder of this section, I detail correlates of organizational structure.

Peter Blau (and associates) has been a major proponent of size as an important determinant of organizational structure (Hall 1987); generally, his studies indicate that increasing size is related to increasing differentiation (complexity). Also influential in this genre has been Pugh and his associates - the "Aston group" (Hall 1987:103). Most of their studies conclude that increased size is related to increased structuring of activities.

With regard to business organizations, an important distinction is made between the firm and the establishment. The firm is the basic corporate group (i.e., the organization); further, there may be many establishments within a firm (Kalleberg and Berg 1987:90). Large firms are more likely than smaller ones to have multi-establishment plants.

Organizational size is a major predictor of a number of features of internal structure (Baron and Bielby 1980); these relations may vary, however, by type of technology and environmental conditions (Kalleberg and Berg 1987:96). In general, larger firms can better manipulate and control environmental elements to achieve economies of scale and to earn higher profits. Further, larger firms tend to occupy more favorable market positions and provide employees higher wages and more benefits (Lester 1967).

Internal labor markets have four major features: job classification and definition; allocation or deployment; wage and compensation rules; and employment security (Osterman 1987). Next, I review a study that has explored an aspect of internal labor markets, i.e., employment security. This study sheds some light on the determinants of the determinants of employee benefits.

Sheets and Ting (1988) explored the efficacy of four theories to explain the determinants of employee termination benefits. The transac-

tion-cost perspective (Williamson 1981) suggests that employers will create internal labor markets and promote long-term employment relations through training, promotion opportunities, and fringe benefit plans. The firm-power perspective argues that the greater the firm's power (i.e., organizational size and market concentration [Baron and Bielby 1984]), the more likely employee benefits will be offered. This is because powerful firms have the necessary resources, including the technical expertise, for establishing internal labor markets (Pfeffer and Cohen 1984). The political perspective highlights the importance of unions in the negotiation of employee benefits, and suggests that firms continually modify internal labor markets in response to employee groups organized for collective action (Baron, Davis-Blake and Bielby 1986). Last, the institutional perspective suggests that firms develop internal labor markets in the effort to compete for institutional legitimacy in their environments (Meyer and Rowan 1977; Zucker 1983).

Sheets and Ting (1988) synthesized aspects of these perspectives to make the following hypotheses: employee benefits are more likely to be found in firms that: a) provide formal training programs on a regular basis, b) have a high concentration of managerial and professional employees, c) are in highly concentrated industries, d) are large, e) have a union presence, f) are in highly regulated industries (such as transportation, communications, utilities [Averitt 1968]) and g) have a strong market presence from the government. They found that firm size, percent union, employee training, and industry sales concentration were most strongly related to employee benefits (Sheets and Ting 1988:619).

In sum, previous research points to organizational structure variables that may be associated with the presence of employee benefits. In particular, organizational size has been shown to influence a number of features of internal structure. Given that wellness programs are structural innovations in contemporary business organizations, it is reasonable to expect that organizational size will influence the presence

and array of these programs. Next, I present findings on this association.

Previous research in worksite health promotion has consistently found a positive association between the size of a business organization and the presence of wellness programs. This relationship holds true for programs in the United States (e.g., Fielding and Breslow 1983; Davis et al. 1984; Hollander & Lengermann 1988) as well as in Canada (e.g., Danielson & Danielson 1980).

Hollander and Lengermann's (1988:497) findings suggest that organizational size is positively correlated with: 1) the company's sharing costs (and time to participate in wellness activities) with employees, 2) the use of health professionals and educators, 3) greater employee participation in program activities, and 4) greater utilization of needs assessment, program evaluation, and cost savings analysis. Clearly, size is a significant factor in the structuring of wellness programs.

There are various ways that a cultural perspective may inform us about organizations (see Smircich 1983). Next, I identify aspects of corporate culture that may also be salient to worksite health promotion.

Part C:
Culture and organizational analysis

Culture may be incorporated in organizational analysis as "either an independent or dependent, external or internal, organizational variable" (Smircich 1983:340). In comparative management research, the relationship between the larger culture and organizational structure (e.g., institutional environments) has been examined (Smircich 1983). In this genre, culture is viewed as an external, independent variable imported into the organization through its membership. In corporate culture research, culture is defined as the shared key values or social ideals and the beliefs that organizational members hold; thus, culture may be viewed as a variable internal to the organization (Smircich 1983).

Most researchers emphasize the homogeneity of corporate cultures; however, there are probably multiple subcultures within larger organizations (Gregory 1983). One way to measure corporate culture is to examine the beliefs and perceptions of corporate managers.

The language surrounding corporate culture tends to be "optimistic" and critics suggest it is little more than "an ideology cultivated by management for the purpose of control and legitimation of activity" (Smircich 1983:346). Even so, corporate culture is a factor influencing strategic management decisions and organizational outcomes (Hodge and Anthony 1991). Further, managers must account for corporate culture when engaging in strategic choices about employee health and concerns about productivity and profit (Hodges & Anthony 1991:465).

Healthy companies

Rosen (1986) makes a distinction between healthy corporations and their unhealthy counterparts. Accordingly, a "healthy company" links issues of individual health with corporate profitability. Further, a healthy company takes an integrated view of health and the organization, and focuses on impacts of: 1) the employee's lifestyle on his/her health, 2) the work environment on the employee's health, 3) employee health on corporate profitability and 4) the larger social environment on employee health and organizational profits (Rosen 1986:17).

Rosen (1986:9) identifies four major "health and productivity" structures or divisions within healthy companies: 1) health benefits, 2) occupational safety and health, 3) prevention and wellness and 4) human resource development. Each division potentially contributes toward promoting individual health and organizational profitability. Thus, one measure of a healthy company is the presence of one or more of these structures.

Healthy companies create a necessary link between health-promoting organizational structures and a corporate culture that also promotes employee health. Corporations produce a "healthy corporate culture" by

creating a "work climate that promotes health and productivity through human resource policies and programs" (Rosen 1986:34). Rosen (1986:34) further suggests that "the most healthy corporate culture" is created when individual efforts at health promotion are combined with organizational efforts that reduce stressful work conditions.[7]

Although Rosen (1986) makes an analytical distinction between health and productivity structures and a healthy work climate (or corporate culture), there are some difficulties with his operational definitions.[8] Nonetheless, I find his overall argument compelling (i.e., that one may distinguish between "healthy companies" and their counterparts) and I include the construct of a healthy company in the conceptual model of worksite health promotion programming.

Summary

The previous sections (Parts A-C) provide an overview of organizational theories that help to illuminate worksite health promotion programs. Organizational context has been the focus of this discussion; the macro-cultural (institutional environments), the meso-structural (corporate structure) and the meso-cultural (corporate culture) are central to my interpretation of organizational context. Generally, I suggest that factors in the macro context have contributed to the diffusion of worksite health promotion across U.S. corporations; factors in the meso context may help account for variations in the presence and structuring of corporate wellness programs. Next, I present a conceptual model of these factors.

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[7] Thus, one measure of a healthy corporate culture is the degree to which worksite health promotion programs include specific organizational efforts or changes that reduce stressful and/or dangerous working conditions.

[8] For example, although he considers "policies and programs" cultural, these clearly have structural elements. Further, there are cultural elements, such as managers' perceptions and beliefs, that cut across what he identifies as "health and productivity" structures.

Part D:
Conceptual model of corporate wellness programming

Numerous variables in an organization's context are expected to be associated with worksite health promotion. Figure 2.2 presents a conceptual model of the factors considered most important.

Organizational environment

There are two environmental factors expected to be associated with corporate wellness programming: region and industry. Region of the country should not pose a significant influence on the presence of corporate wellness programming, if the rational myths surrounding worksite health promotion are nation-wide. The institutional environment

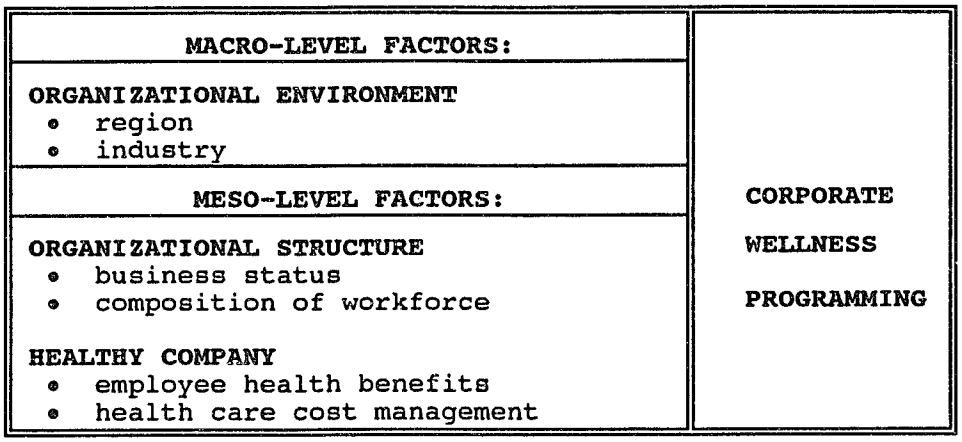

Figure 2.2. Conceptual model of factors in the organizational context associated with corporate wellness programming.

literature, however, suggests that there are industry-wide norms that may influence an organization's adoption of structural innovations. For example, Sheet and Ting's (1988) analysis suggests that highly regulated industries may be more influenced by industrial norms. Highly regulated industries, by definition, involve government oversight and may be especially sensitive to prevailing cultural norms. Also, the dual economy literature suggests that the industrial sector (core versus periphery) is a salient distinction. This leads to the following proposition:

PROPOSITION 1: Organizational environment factors will be directly related to and affect corporate wellness programming.

The associated hypotheses are:

H1.a: Companies in core industries are more likely to have worksite health promotion activities than are companies in the periphery.

H1.b: Companies in highly regulated industries are more likely to have worksite health promotion activities than are companies in other types of industries.

Organizational structure

There are organizational structure indices expected to be associated with corporate wellness programming. The general proposition is:

PROPOSITION 2: Organizational structure factors will be directly related to and affect corporate wellness programming.

Two aspects of organizational structure include the status of a business and the composition of its workforce.

The two indices of business status are organizational size and profitability. Size is consistently an important structural variable in the organizational literature. The number of employees is a relatively simple measure of the size of a business organization. Further, this is the most commonly used measure in the research literature (Hodge & Anthony 1991:361).

Although size appears to be a relatively simple variable, Kimberly (1976) demonstrates that size actually has four components: 1) the physical capacity of the organization, 2) the personnel available to the organization, 3) organizational inputs or outputs, and 4) the discretionary resources (wealth or net assets) available to an organization. He suggests that the conceptual dimensions among these four aspects of size should be analyzed separately, even though they may be intercorrelated in some cases.

Given that size is a multi-dimensional concept, three indicators of size are included in the conceptual model: the number of employees, which represents the personnel available to the organization; the volume

of annual sales, which represents organizational outputs; and the total assets or net worth of the company, which represents the discretionary resources available to an organization. The indicators of size and profitability inform the following hypotheses:

H2.a: The larger the company's number of employees, the more likely the company has worksite health promotion activities.

H2.b: The higher the company's annual sales, the more likely the company has worksite health promotion activities.

H2.c: The larger the company's total assets, the more likely the company has worksite health promotion activities.

H2.d: The higher the company's profitability, the more likely a company has worksite health promotion activities.

One of the primary rationales for providing employee benefits, such as a corporate wellness program, is that they serve to attract and maintain valuable employees. There are indices that may be associated with maintaining a stable workforce, including a higher percent of full-time employees and employees over 30, and a lower annual turnover rate.

Sheets and Ting (1988) found that the composition of the workforce is associated with employee benefits. For example, they found that companies with a union presence are more likely to offer employee benefits. The percent of employees in a union is correlated with a higher percent of male and blue-collar workers. Their findings inform the following exploratory hypotheses:

H2.e: The higher the percent of full-time employees, the more likely a company has worksite health promotion activities.

H2.f: The higher the percent of male employees, the more likely a company has worksite health promotion activities.

H2.g: The lower the percent of employees under thirty years of age, the more likely a company has worksite health promotion activities.

H2.h: The higher the percent of blue-collar workers, the more likely a company has worksite health promotion activities.

H2.i: The higher the percent of union members, the more likely a company has worksite health promotion activities.

H2.j: The lower the company's turnover rate, the more likely a company has worksite health promotion activities.

Healthy company

The previous discussion on healthy companies and healthy work climates (Rosen 1986) suggests indices that may distinguish a healthy company from its unhealthy counterparts. It may be reasonable to argue that worksite health promotion programs are themselves an index of healthy companies (e.g., under the Rosen's [1986] category of prevention and wellness). Nonetheless, I suggest that the other analytically distinct components of a healthy company are expected to influence the presence of worksite health promotion activities. Following the logic of previous research, I consider components of a healthy company exogenous variables in this conceptual model.[7]

I have organized the indices of a healthy company into two groups: employee health benefits and health care cost management. The associated proposition is:

> **PROPOSITION 3: Elements of a healthy company and a healthy work climate will be directly related to and affect corporate wellness programming.**

With regard to corporate health benefits, employees may be assisted in the areas of physical health (e.g., with health insurance) and emotional or mental health (e.g. with an EAP). Further, the organization may promote a more healthy work climate by providing employees a degree of discretion and autonomy (e.g., with flextime) and greater access to medical personnel (e.g., in the workplace). The following hypotheses are associated with employee health benefits:

> **H3.a: Companies with employee health benefits are more likely than other companies to have worksite health promotion activities.**
>
> **H3.b: Companies with an Employee Assistance Program are more likely than other companies to have worksite health promotion activities.**
>
> **H3.c: Companies that offer employee flextime are more likely than other companies to offer worksite health promotion activities.**

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[7] Further, given limitations of the data, the focus of this study is not on the causal ordering among predictor variables.

H3.d: Companies employing medical personnel are more likely than other companies to have worksite health promotion activities.

The previous discussion on ideological rationales (Anderson 1985) and socio-contextual influences (Conrad 1988) established that most corporations attempt to contain upward spiraling employee health care costs. The following hypotheses are associated with corporate health care cost management efforts:

H3.e: Companies with a benefits director are more likely than other companies to have worksite health promotion activities.

H3.f: Companies with managers who are concerned about health care cost containment are more likely than other companies to have worksite health promotion activities.

H3.g: Companies with health care cost containment strategies are more likely than other companies to have worksite health promotion activities.

In sum, the above mentioned propositions and hypotheses state that factors in the organizational context are expected to be significantly related to corporate wellness programming. Separate influences are expected for the organizational environment, organizational structure and healthy company factors.

Corporate wellness programming

One of the salient aspects of corporate wellness programming is the reasons managers provide for offering health promotion activities in the workplace. From the previous discussions concerning institutional environments, organizational design and strategic choice, the following general proposition and hypotheses related to managerial reasons are drawn:

PROPOSITION 4: Corporate managers explain their worksite health promotion activities in terms of the perceived benefits of those activities.

According to the utilitarian literature, there are potential advantages primarily for employees; this assertion is reflected in the following hypotheses:

H4.a: Corporate managers offer worksite health promotion activities to improve employee health.

H4.b: Corporate managers offer worksite health promotion activities to reduce off-the-job accidents.

H4.c: Corporate managers offer worksite health promotion activities because employees want it.

There are potential advantages noted for both employers and employees; this is reflected in the following hypotheses:

H4.d: Corporate managers offer worksite health promotion activities to increase employee morale.

H4.e: Corporate managers offer worksite health promotion activities to reduce health insurance costs.

H4.f: Corporate managers offer worksite health promotion activities to reduce hospital and medical utilization.

This literature also suggests there are potential advantages primarily for employers. Furthermore, according to the critical literature, corporate wellness programs function as mechanisms of organizational control of workers (Kotarba 1983). These assertions are indicated by the following hypotheses:

H4.g: Corporate managers offer worksite health promotion activities to reduce disability claims and lost time.

H4.h: Corporate managers offer worksite health promotion activities to increase output/production/quality.

H4.i: Corporate managers offer worksite health promotion activities to reduce on-the-job accidents.

H4.j: Corporate managers offer worksite health promotion activities because management wants it.

Consistent with the institutional environment perspective, corporate wellness programs may function as image-enhancing mechanisms (Conrad 1988) and may be the result of structural isomorphism (Meyer and Scott 1983; DiMaggio and Powell 1987). This perspective is indicated by the following hypotheses:

H4.k: Corporate managers offer worksite health promotion activities to improve the corporate image.

H4.l: Corporate managers offer worksite health promotion activities because other companies were doing it.

In sum, the above mentioned hypotheses suggest that corporate managers make strategic choices about providing their employees health promotion activities based on the perceived benefits of those activities.

The primary goal in the following section is to further conceptualize the phenomena of interest: corporate wellness programming.

AN IDEAL-TYPE OF CORPORATE WELLNESS PROGRAMMING

Worksite health promotion applies general strategies of health promotion "to the workplace including it's employees and often their families, as well as organizational, managerial and environmental aspects of work" (Sloan et al. 1987:26). As previously suggested, worksite health promotion efforts vary considerably. I am interested in the array (number and type) of worksite health promotion activities and in the structuring of corporate wellness programs.

First, I present a brief discussion of program diversity and the role that health promotion objectives play in the development and design of corporate wellness programs. Then I review the four components often incorporated into more comprehensive wellness programs. Finally, I explore a conceptual framework for classifying the various wellness activities and present an ideal-typology of corporate wellness program components.

Health promotion objectives

Figure 2.3 (adapted from Parkinson et al. [1982]) depicts levels of objectives for worksite health promotion. A review of the health education literature suggests that objectives in a health promotion program may be classified along a continuum, from least to most complex (Parkinson et al. 1982). In addition, there are two identifiable dimensions: educational objectives involve efforts to increase employees' levels of awareness and knowledge, and to encourage changes in attitudes; cost-reduction objectives seek changes in employees' behavior, in order to reduce health risks, morbidity and premature mortality.

Educational objectives. Changes in health attitudes usually require educational intervention and long-term reinforcement (Parkinson et al. 1982:19). Although education is necessary and effective for creating awareness of health-promoting activities, changes in knowledge

Least complex					Most complex
Education objectives			**Cost-reduction**		
increase in awareness	increase in knowledge	change in attitudes	change in behavior	reduction in risk	reduction in morbidity and mortality

Figure 2.3. Levels of objectives for health promotion programs (from Parkinson et al. 1982 Figure 1.1, page 19).

and attitudes are not sufficient to affect changes in health behaviors (Parkinson et al. 1982:19; Conrad 1988:487).[8] Thus, educational objectives are often supplemented by cost-reduction objectives, in order to encourage positive changes in behaviors related to health and illness.

Cost-reduction objectives. Parkinson et al. (1982:8) notes that "people often need motivation and help in learning how to take care of themselves." Two strategies are often incorporated in wellness program designs to assist in motivating individuals to engage in health-promoting behaviors: behavior modification and employee incentives. These strategies also support the corporate objective of reducing health care expenditures.

Corporate efforts in health behavior modification may include providing individual counseling, group classes or workshops, and special events or innovations in the workplace. Fitness behavior may be further promoted through intra-corporate team sports and corporate-organized recreational activities.

The incentive of improved health and the prospect of a longer life may provide the justification for many to adopt a healthy lifestyle and

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[8] For example, Conrad (1988) asserts that although there are health risks associated with smoking and with not wearing seatbelts when in an automobile (and most of us are aware of the risks associated with each of these activities) almost one-third of Americans still smoke and many must be "forced" by law to regularly use seatbelts.

participate in health promotion activities. Nevertheless, additional incentives such as personal acknowledgement, awards, gifts, days off and cash have been found to effectively encourage corporate wellness program participation by individuals with high-risk lifestyles (Chapman 1989).

Four components in comprehensive programs

The most comprehensive health promotion programs in corporate America tend to include four components: assessment of risk, risk reduction activities, social support mechanisms and evaluation of the program's effectiveness (Parkinson, et al. 1982:8). A brief description of each component follows.

Assessment of risk. Health risk appraisals (HRA's) are often incorporated to measure the degree of individual risk of morbidity or premature mortality for conditions such as cardiovascular disease, mental health problems, cancer and accidents (Parkinson, et al. 1982). Generally, HRA's provide information on the individual's medical history, dimensions of lifestyle, knowledge about health facts, and attitudes about health care. This information is often compiled and compared to national health data in order to create a health risk profile for the individual; further, these data are often aggregated into a "corporate health" report. Even though there is a lack of scientific confidence in the use of health risk assessments as either an educational instrument or as an assessment device, the use of this component has increased rapidly in the past few years, and the number of different instruments available has multiplied (Kirscht 1989).

Other strategies incorporated in the assessment of risk include medical exams or physicals, physical fitness tests, cancer screenings, blood pressure screenings, and blood cholesterol tests. These serve to detect health risks as well as to identify existing medical problems.

Risk reduction. There is a wide range of individual risk-reduction activities that companies have included in their wellness programs. Ideally, the following areas are included in a comprehensive program:

a restrictive smoking policy and smoking cessation, high blood pressure control, exercise/physical fitness, weight control and nutrition education, stress management, back care education, accident prevention, mental health, and drug/alcohol abuse control. Again, employee participation in risk-reduction activities may be increased with the use of incentives.

Social support. The social environment is an important element in a program that supports healthy lifestyle changes (Parkinson, et al. 1982). Ideally, a business organization's social (and physical) environment would include the following supports for healthy lifestyles: a lending library of health books and journals, break rooms, recreation facilities, nutritious food in the cafeteria and snacks in vending machines, and the removal of cigarette vending machines (Parkinson, et al. 1982).

Organizational supports specific to corporate wellness programming may include: a health promotion budget, program eligibility for all employees and health promotion activities that are accessible, affordable and available. Further supports in the organization may include health-related policies and organizational changes to reduce stressful working conditions.

Evaluation. Corporate managers have increasingly turned to health promotion programs in the effort to reduce health care costs associated with absenteeism, hospitalization, disability, job turnover, and premature death (Conrad 1988; Hollander and Lengermann 1988; Roman and Blum 1988). In line with the long-term goals of most wellness programs, it is generally assumed that data <u>should</u> be collected in the effort to monitor indexes of program effectiveness.[9]

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[9] Indices monitored via program evaluation of worksite health promotion include: decrease in absenteeism; increase in employee morale and productivity; decrease in medical costs and disability benefits; reduction in risk of cardiovascular disease, cancer, mental health problems, and accidents; and reduction in morbidity and premature mortality.

In sum, health promotion objectives play a role in the development and design of wellness programs. There are general educational objectives (and strategies) as well as more specific cost-containment considerations. It has been suggested that a comprehensive program will incorporate four components in the effort to achieve health promotion objectives: assessments of individual risk, risk reduction activities, social support mechanisms, and program evaluation.

Next, I provide a theoretical foundation for the diversity found across corporate wellness programs. The following segment describes the distinction between an individual versus environmental locus of health intervention.

The individual model versus the environmental model

Shain et al. (1986:44) describe "the philosophical and political debate surrounding [the locus of health] intervention," in terms of an "individual" model versus an "environmental" model. This discourse provides a theoretical foundation for an analysis of the diversity in wellness programs.

The individual model states that individuals are responsible for their own health and that illness places an unfair burden on society; further, since most illness is tied to lifestyle, the individual should be targeted for health promotion and education efforts. The individual model is exemplified in health economist Victor Fuchs' (1974) statement:

> ...the greatest potential for improving the health of the American people is found in what they do - or don't do - for themselves. Individual decisions about diet, exercise, and smoking are of critical importance (Everly and Feldman 1985:ix).

Empirical support for this model was found by Belloc and Breslow (1972), who collected data over a seven-year period on Alameda county, California, residents. The association between mortality and individual daily health practices (e.g., 7-8 hours of sleep, regular breakfast, no smoking, moderate alcohol use, and regular exercise) was found to be stronger than the relationships between mortality and respondent's income

level or physical health status. Thus, this study highlights the importance of individual health practices.

According to the individual model, lifestyle and health-related behaviors are regarded as "discretionary" or under the control of the individual. This notion, however, is increasingly being challenged by the environmental model and studies that demonstrate the significance of "socioeconomic, cultural and political factors in the genesis and maintenance of personal health" (Shain et al. 1986:20).

The environmental model suggests that the individual model is a person-blaming (or blaming-the-victim) strategy that diverts attention away from the environmental sources, both physical and social, that cause stress, illness and disease. Empirical support for the environmental model was found by Karasek and Theorell (1990) whose study illustrates how psychological job demands and the decision latitude (or degree of control workers have over their work) interact to influence stress-related disease; they found that the organizational structuring of work plays a consistent role in developing stress-related illness. Similarly, Ganster et al. (1982) found that stress was reduced more by changing job design (manipulating assembly line work and pay systems) than by providing individual stress management training.

Almost exclusively, the focus of corporate wellness programs has been on the modification of individual risk behavior (Sloan et al. 1987:234). Organizational work redesign and modifications in the corporate culture may prove to be promising supplements to the existing array of individually-oriented health promotion programs delivered in the workplace.

Next, I present an ideal-type of corporate wellness programming. Here I specify whether program components more reflect the individual or the environmental model.

An ideal-type of corporate wellness programming

Health promotion may be approached from one of two directions: those efforts that are aimed toward the control of risks external to the individual, and those aimed toward the change of individual behaviors in relation to risk factors (Sloan et al. 1987:21). Generally, the efforts aimed at controlling risks external to the individual incorporate elements of the "environmental model," and those aimed at controlling individual's behaviors with regard to risk factors incorporate elements of the "individual model."[10]

A conceptual model of wellness program components follows. I have incorporated the individual and environmental perspectives, the two general health promotion objectives, and the four components found in most comprehensive programs.

INDIVIDUAL MODEL	**COMPONENTS:**	
	EDUCATION OBJECTIVES	**COST-REDUCTION OBJECTIVES**
	health information risk assessment	behavior modification incentives
ENVIRONMENTAL MODEL	**COMPONENTS:**	
	organizational support program evaluation	

Figure 2.4. Conceptual model of wellness program components.

Individual model components. The first part of the model includes components assumed to be indicative of the individual perspective. The health information and assessment of risk components of the ideal-type generally incorporate principles of the individual model. For example,

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[10] However, risk factors may be classified as either controllable, such as lifestyle or environment, or uncontrollable, such as age, sex, race, and heredity (Sloan et al. 1987:21).

health education and materials are made available to employees in the effort to inform individual choices. Also, health risk assessments focus on an individual's medical history and current lifestyle.

As suggested by the more critical branch of the literature, cost-reduction objectives (e.g., the behavior modification and incentive components) share a preoccupation with changing the individual health behaviors of employees. Further, the efficacy of these health promotion components depends upon individual participation and compliance. See Figure 2.5 for a detailed list of individual components.

A. EDUCATIONAL OBJECTIVES:
1. Provide health information:
   - overall health/risks
   - smoking cessation
   - high blood pressure control
   - exercise/fitness
   - weight control
   - nutrition
   - stress management
   - back care
   - accident prevention
   - mental health
   - drugs/alcohol abuse
2. Assessment of risk:
   a. Individual screenings/exams
      - health risk assessments
      - medical exams or physicals
      - physical fitness tests
      - cancer screenings
      - blood pressure screening
      - blood cholesterol tests
   b. Individual reports from screenings/exams

B. COST-REDUCTION OBJECTIVES:
1. Levels of behavior modification/risk reduction
   a. Individual consultations
   b. Group classes or workshops
   c. Special events or innovations
2. Provide individual incentives

Figure 2.5. Ideal-type: list of individual model components.

Environmental model components. The second part of the ideal-type includes components informed by the environmental model. The list in Figure 2.6 is influenced by the perspective that organizational supports in the physical and social environment affect positive health outcomes

for organizational members. Also, efforts to evaluate or monitor the wellness program are included in this list.

In sum, this ideal-typology presents an array of corporate wellness program components. All programs incorporate individual model components, although there are variations in the degree to which educational and cost-reduction objectives are included. Wellness programs often include environmental model components as well.

A. ORGANIZATIONAL SUPPORT:
- 1. General supports:
  - a. health literature library
  - b. recreation areas
  - c. cafeteria serving nutritious foods
  - d. vending machines with nutritious snacks
  - e. removal of cigarette vending machines
- 2. Specific to corporate wellness programming:
  - a. health promotion budget
  - b. wide program eligibility
  - c. accessible, affordable, and available health promotion activities
  - d. health-related policies
  - e. organizational changes

B. PROGRAM EVALUATION:
- 1. Written health promotion goals
- 2. Costs/benefits of overall program
- 3. Costs/benefits of specific program activities
- 4. Corporate reports of health risk assessments

Figure 2.6. Ideal-type: list of environmental model components.

Later, I present profiles of the corporate wellness programs in business organizations and in Fortune 500 companies, and explore the distribution of individual versus environmental components.

CHAPTER THREE:

RESEARCH METHODOLOGY AND EMPIRICAL MODELS

The focus of the study is the social organization of health promotion in the workplace. This chapter discusses the research methodology of the study. Information on the background of the study and overall research design is presented first. Then, the two sources of data are described in detail. Finally, two empirical models of the impact of organizational context on corporate wellness programming are presented.

BACKGROUND OF STUDY

Within the tradition of "starting where you are" (Lofland and Lofland 1984:9), worksite health promotion was selected as the topic of inquiry during my American Sociological Association-sponsored medical sociology research internship. The major project of this internship was to draft a proposal for a comprehensive corporate wellness program for Arkla, Inc., a Fortune 500 natural gas utilities company.[1]

The health promotion objectives of Arkla's corporate managers included a wellness program design conducive to its corporate culture, geographic distribution (across several states) and employee demographics, in a dual-effort to enhance employee health and control rising health care expenditures. I was asked by management to conduct a telephone survey of the health promotion activities in other U.S. natural gas transmission companies and two assessments of the health needs and interests of Arkla's employees.[2] Data were also collected via a review

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[1] The one-year internship was conducted through July, 1989, in the Health Benefits Division of Arkla's Department of Human Resources, corporate headquarters, Shreveport, Louisiana.

[2] One survey instrument addressed employee participation in health promotion activities currently sponsored by Arkla and another measured employee support for a proposed smoking policy for the company's corporate headquarters.

of corporate documents (policy and mission statements), a content analysis of written employee statements, and discussion with corporate managers. The results of these efforts stimulated my interest in the subject and provided important insights into the issue of corporate wellness. These led to my decision to conduct a sociological study on the subject.

RESEARCH DESIGN

The analysis of precollected data is the basic research design for this study. Data were secured from two previous studies on the subject: Hollander and Lengermann's Worksite Health Promotion Program Survey (WHPPS) of Fortune 500 Companies and the Office of Disease Prevention and Health Promotion's National Survey of Worksite Health Promotion Activities (NSWHPA). These data are used in this study to explore the nature and extent of wellness programming in U.S. corporations and to test hypotheses associated with worksite health promotion.

There are important justifications for incorporating these two data sets in the study. First, each provides similar indices of organizational structure; this allows for more than one test of the organizational structure hypotheses. Second, each dataset provides unique information. For example, the NSWHPA includes data on corporate cultural factors (e.g., managerial beliefs associated with wellness program implementation) that are not provided by any other source. Also, even though the Fortune 500 survey is not as comprehensive as the NSWHPA, it provides unique data on the array of corporate wellness program components.

Like the analysis exemplified in Kanter's (1977) Men and Women of the Corporation, I combine data sources for the purposes of describing observed empirical regularities in the occupational sphere and developing a plausible explanatory framework. Like Hall (1987:45), I seek to "explain and predict what happens in the organizational world by searching for regularities and causal relationships among elements

related to organizations". Finally, I hope to contribute to both the medical sociology and complex organizations literatures.

SOURCES OF DATA

Following are methodological details from the two sources of data used in the analysis. First, the National Survey of Worksite Health Promotion Activities (NSWHPA) is described; then the Worksite Health Promotion Program Survey (WHPPS) of Fortune 500 Companies is detailed.

National survey of worksite health promotion activities[3]

The stated objectives of this survey are to determine the nature and extent of worksite health promotion activities in worksites of 50 or more employees, and to determine employers' perceptions of the benefits of such activities. The NSWHPA is the most comprehensive data source to date on the extent of health promotion programming in U.S. businesses.

The universe for this study is all worksites in the private sector with 50 or more employees. The worksite (i.e., establishment) was selected as the unit of analysis, rather than the firm, because an accurate accounting of the health promotion activities of entire corporations was not considered feasible.

Researchers drew two separate samples from the December 1984 Dun & Bradstreet listing of U.S. businesses. The first sample was for worksites having 50-99 employees; 400 sites were contacted. The second sample was for worksites having 100 or more employees; 1300 sites were contacted. Both samples were selected with equal probability and then stratified by geographic region, size of establishment and type of industry.

An introductory letter was sent to the selected companies, requesting the name and title of the person who was most familiar with

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[3] This survey was a collaborative effort: the Department of Health and Human Services contracted with U.S. Corporate Health Management to design and analyze the survey. The Research Triangle Institute was subcontracted to conduct the survey.

the health promotion and wellness activities of the company. Thus, respondents to the questionnaire are assumed to be the companies' most knowledgeable managers.

Three hundred and twenty questionnaires were completed from the first sample (response rate of 80%) and 1,038 questionnaires were completed from the second sample (response rate of 84%). Completed interviews were divided into 3 categories. Short interviews were completed by respondents who answered the initial health promotion screening questions only and had no specific policies or programs (384 or 28.3% of the total); medium interviews were completed by respondents who provided information on the health promotion policy or program in at least one of the activity areas listed (224 or 16.5%), plus provided information on worksite characteristics; long interviews were conducted for respondents who had numerous health promotion activities; these respondents generally answered all questions in the survey (750 or 55.2%). Sample weights were applied to the response values and an estimate was produced that 65.5% of all U.S. businesses with more than 50 employees have worksite health promotion activities.

The sampling weight is the reciprocal of the probability of selection into the sample. Sampling weights are adjusted to reduce the potential bias due to non-response. Thus, the final analysis weights used in this study provide an unbiased estimation of the universe of worksites included on the Dun and Bradstreet frame at the time of sample selection and still in operation at the time of interviewing (from the Database Documentation Final Report, Research Triangle Institute 1986).

Empirical Model I (see Figure 3.1) provides an extensive test of the organizational structure and corporate cultural influences on worksite health promotion programming.

Operationalization of the independent variables: organizational context

The independent variables in the model are grouped into one of three categories: organizational environment, organizational structure,

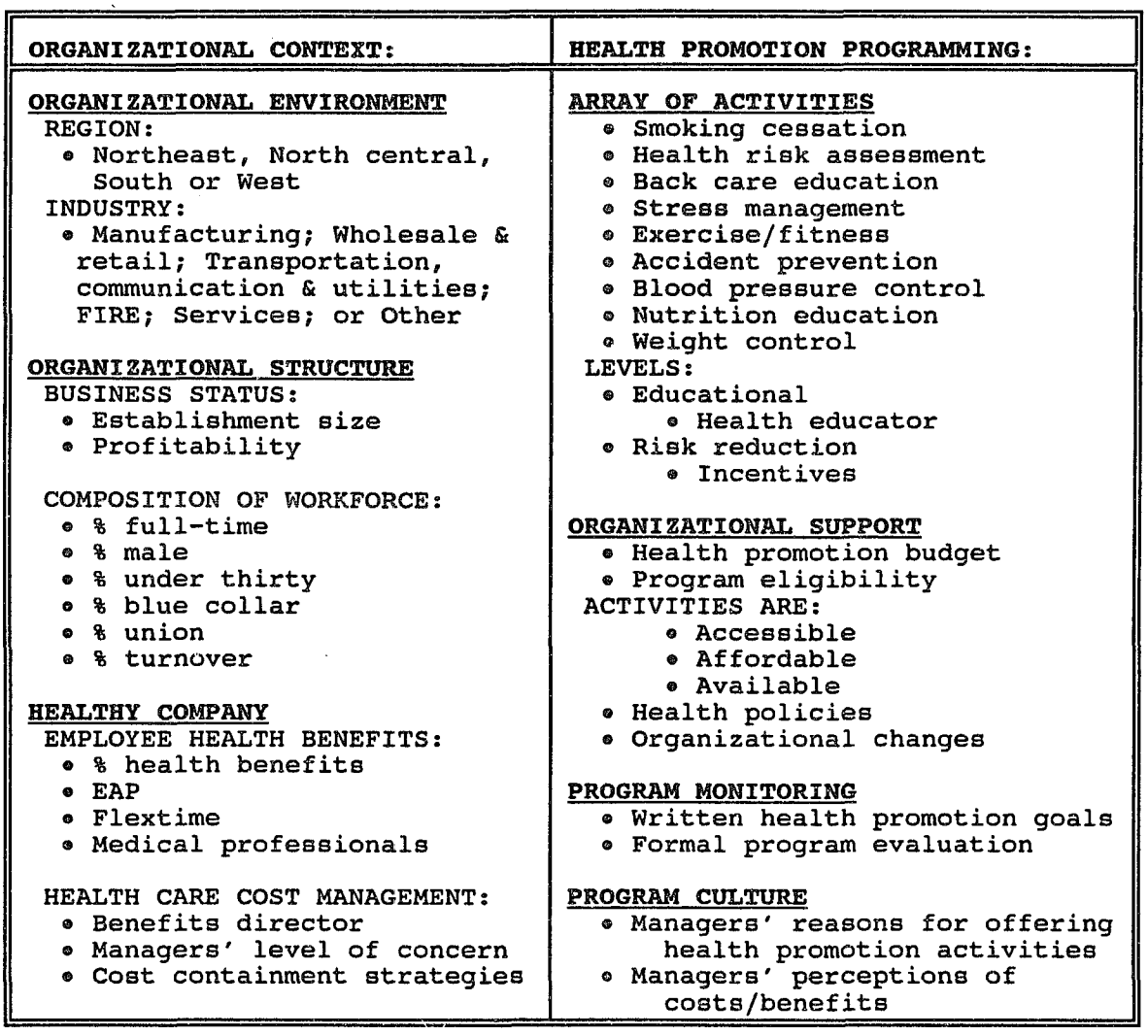

Figure 3.1. Empirical Model I: organizational context and worksite health promotion programming.

or healthy company; collectively these groupings represent the organizational context. For the categorical independent variables, I created dummy variables for each response category, and deleted one category during regression analysis. Each of the dichotomous variables in the model were then coded "1" if the response was yes or present and "2" if the response was no or not present.

The presence of a corporate wellness program is measured as a dichotomous variable; either the business organization has a program (or specific wellness activities) or it does not. Because the dependent

variables are discrete outcomes, logistic regression techniques are used to determine the relative importance of independent variables in the models.

Organizational environment. Two indices of organizational environment are included in this model: region and industry. Geographic region is the broadest measure of an organization's environment and is included as a proxy measure for institutional environments in the United States. Region was stratified on the NSWHPA sampling frame into the four U.S. Census categories: northeast, north central, south and west. Industrial categories also provide a proxy of institutional environments. The types of industry were stratified on the sampling frame into six categories: manufacturing; wholesale & retail; transportation, communication & utilities; finance, insurance and real estate; services; and all other.

The two measures of organizational environment are very broad and present a question of construct validity. Thus, any interpretation of findings associated with these variables needs to be tempered with the acknowledgement that these are proxies, and not precise measures of institutional environments.

Organizational structure. There are two dimensions of organizational structure included in this model: business status and composition of the workforce. The indices of business status include establishment size and profitability. Establishment size was stratified on the NSWHPA sampling frame (55-99 employees, 100-249 employees, 250-749 employees and 750 or more employees); such an operationalization is considered both valid and reliable. The second business status variable is profitability. Managers were instructed to choose: *which of the following best describes how profitable your company was during 1984?* Responses include: very profitable; moderately profitable; somewhat profitable; slightly profitable; or not at all profitable. Given the degree of

uncertainty and variations in managers' motivations for describing corporate profits, the reliability of this measure is questionable.

Managers were asked six questions related to the composition of their workforce. These include: *approximately what percent of the employees at this worksite are full-time (at least 35 hours per week); approximately what percent of the employees at this worksite are male; approximately what percent of the employees at this worksite are under the age of 30; approximately what percent of the employees at this worksite are blue collar; approximately what percent of the employees at this worksite are represented by a union; and what is the annual turnover rate at your worksite?* The responses were between 0 and 100 percent. The fact that managers' estimates of these proportions could vary rather widely raises questions about the reliability and validity of these measures.

Healthy company. Two dimensions of a healthy company (and a healthy work climate) are included in this model: employee health benefits and health care cost management. With regard to employee health benefits, respondents were asked: *what percentage of the workforce at your worksite (from 1 to 100) is eligible for an employer or union-sponsored health benefits plan?* With regard to health-related benefits, managers were asked: *does your worksite offer employees either directly or indirectly via outside contracts, an Employee Assistance Program?* Also, corporate managers were asked: *does your worksite offer flextime to any of its employees?* Information was also collected on the presence of medical professionals in the workplace. Managers were asked: *does your worksite have an on-site physician or an on-site nurse?*

Included as an indicator of health care cost management is a question about the person who usually overcees cost containment: *does your worksite have a benefits director?* Also, managers were requested to: *please describe how concerned your worksite is in health care cost management?* Response categories included: extremely, moderately,

somewhat, slightly or not al all concerned. Respondents were then asked: *has your worksite implemented any health care cost management strategies in the last 3 years?* If the answer was yes, the respondent identified all of the following strategies that their organization had incorporated:

hospital admission review, second opinion program, preferred provider arrangements, medical expense accounts, analysis of medical claims data, membership in a health care coalition, and increased cost-sharing, copayment, or deductible in employee health insurance policies.

Each of the above indices contributes to the construct "healthy company." Additional research on this construct seems necessary to establish its reliability and validity, and the results derived from its use should be viewed with caution.

Operationalization of the dependent variables

The dependent variables are organized into the following dimensions: the array of health promotion activities, the degree of organizational support, the presence of program monitoring and health promotion program culture. Indices for each of these follow.

Array of activities. Nine types of health promotion activities were listed in the NSWHPA:

smoking control, health risk assessment, back care, stress management, exercise/fitness, off-the-job accident prevention, nutrition education, high blood pressure control and weight control.

Respondents were asked whether each of these had been offered during the last twelve months (September, 1984 through August, 1985).

Data were collected on whether each worksite provided activities at the level of education (e.g., information to employees) and at the level of risk reduction (e.g., individual counseling, group classes or workshops, and special or innovative events). With regard to the education component, managers were also asked: *does your worksite have an on-site health educator?* With regard to the risk-reduction level, managers were also asked: *does your worksite provide any incentives to encourage participation besides time-off or cost-sharing, such as recognition for participation, prizes for signing up, or rewards for*

getting others to participate? These indices are generally considered reliable and valid indicators of the array of health promotion activities in U.S. business organizations.

Organizational support. There are seven indices of organizational support for worksite health promotion programming included in the empirical model. In order to ensure that health promotion activities are provided employees, many worksites have a health promotion budget. Managers were asked: *does your worksite have a budget or money specifically allocated for health promotion activities?* Corporate managers were also asked: *which employees are eligible for your health promotion activities?* Possible response categories include: all permanent employees; full time only; high-risk only; top management or executives only; exempt only; salaried only; members of employee association only; union members only; or other. The dichotomous dependent variable of interest is whether all permanent employees are eligible for program activities or not.

There are three interrelated indicators of the degree of organizational support for health promotion activities in the workplace; these include activity accessibility, affordability and availability. As a measure of the accessibility of health promotion activities, managers were asked: *where are your individual counseling sessions, your group classes or workshops, and your screenings and exams held?* Response categories include: exclusively on-site; primarily on-site; about equally on and off-site; primarily off-site; or exclusively off-site. The dichotomous variable of interest is whether activities are primarily (or exclusively) held on-site or not. As a measure of the affordability of health promotion activities, managers were asked: *who pays ...for the cost of individual counseling sessions, ...for the cost of your group classes or workshops, and ...for the cost of your screenings and exams?* Response categories include: the company pays the cost; the participants pay the cost; the cost is shared by the participant; or there is

a different arrangement. The dichotomous dependent variable of interest is whether the company pays the cost of activities or not. As a measure of the availability of health promotion activities, managers were asked: *does your worksite provide time off ...for participation in individual counseling sessions, ...for participation in group classes or workshops, or ...for participation in screenings and exams?* The dichotomous dependent variable of interest is whether the business provides time off for participation in health promotion activities or not.

With regard to the presence of health policies in an organization, managers were asked: *does your worksite have a formal policy restricting smoking and does your worksite have a formal policy regarding seat belt use in company vehicles?* The dichotomous variable of interest is whether the organization has at least one health-related policy or not. A final measure of an organization's support for or commitment to health promotion is the willingness to change features in the organization that create stress. Respondents were asked: *does your worksite attempt to change the organization so that the employees will experience less stress, such as training supervisors to handle problems more effectively?* These seven indices are employed as indicators of a business's degree of organizational support for worksite health promotion programming. The reliability and validity of these measures seem reasonable, but caution is advised.

Program monitoring. Two aspects of the monitoring of health promotion activities are included in the model: the presence of written program goals and formal evaluations of the program. Managers were asked: *is there a written set of objectives and goals for the health promotion activities at your worksite?* For each of the health promotion activities listed in their program, managers were then asked whether a formal evaluation of that activity is conducted.

Program culture. Two types of "rational myths" are included as indicators for a health promotion program's culture: managers' reasons

for offering health promotion activities in the workplace and managers' perceptions of the costs/benefits of each health promotion activity offered. Managers were asked: *why did your worksite decide to offer health promotion activities?* Because the following reasons mentioned by corporate managers were identified only for businesses with health promotion programming, they are treated as dependent variables.[4] Responses include:

> to improve employee health, to reduce off-the-job accidents, because employees want it, to increase employee morale, to reduce health insurance costs, to reduce hospital and medical utilization, to reduce disability claims and lost time, to increase output/production/quality, to reduce on-the-job accidents, because management wants it, to improve the corporate image and because other companies were doing it.

With regard to perceptions of the costs/benefits of each health promotion program activity, managers were asked: *considering [this health promotion activity], would you say...the benefits have outweighed the costs; the costs have outweighed the benefits; the costs and benefits have been about the same; or is it too soon to tell?* The dichotomous dependent variable of interest is whether managers believe the benefits of each program activity have outweighed the costs or not.

Corporate managers' reasons for offering worksite health promotion activities, and their perceptions of the costs verses benefits of each, are assumed to be valid, yet limited, indicators of a health promotion program's culture. Given that they are limited to managerial perceptions, there is also an issue of reliability associated with these indicators.

Summary

Empirical Model I provides a comprehensive test of the impact of organizational context on health promotion programming. However, these data are limited. First, some indices represent only proxy measurements of the relevant concepts (e.g., region and industry for organizational

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[4] Nonetheless, it is reasonable to suggest that the reasons mentioned by managers for offering health promotion programs may be considered both a cause as well as a consequence of offering worksite health promotion activities.

environments). Second, given that many of the indices are measures of managerial beliefs or perceptions, this poses a problem with reliability (e.g., corporate profitability). Third, not all of the hypotheses can be tested with these data (e.g., the core versus periphery distinction). Because of these limitations, I also include a second dataset in the study. These data are described next.

Worksite health promotion program survey of fortune 500 companies

Hollander and Lengermann (1988:491) conducted a survey of all companies appearing on the 1984 Fortune 500 list. A 25-item questionnaire was mailed to the Chief Executive Officer (CEO) or the medical director of each company. Although respondents were directed to answer the questionnaire in terms of the entire company or firm, some respondents found it necessary to answer in terms of an establishment or a single unit, given that information on the entire firm was not always available.[5] This may affect interpretation, especially any attempts to generalize the results of data analysis.

Two hundred and forty-seven questionnaires were returned, for an overall response rate of 49 percent. The researchers addressed sampling bias with the following strategies: first, completed questionnaires were placed into one of two response groups, either those who responded to the initial wave of questionnaires or those who responded only after follow-up efforts were made. The researchers found no significant differences between the two groups with respect to the presence and the mean number of health promotion activities offered in their workplaces (Hollander & Lengermann 1988:494). Also, twenty (8%) of the organizations not responding to the mailed questionnaire were randomly selected for a brief telephone survey; results demonstrated that non-responding companies were not significantly different from companies participating in the questionnaire with regard to either the presence of a corporate wellness

[5] Most respondents (56%) answered in terms of the entire organization; of the remaining respondents, half answered in terms of their corporate headquarters and half in terms of a specific unit.

program or the plans to start one. Thus, confidence in the representativeness of the sample of companies was enhanced (Hollander & Lengermann 1988:494).

The following empirical model (see Figure 3.2) provides for a test of the impact of organizational context on the presence of wellness program activities for Fortune 500 companies.

ORGANIZATIONAL CONTEXT:	CORPORATE WELLNESS PROGRAMMING:
ORGANIZATIONAL ENVIRONMENT • Industrial sector **ORGANIZATIONAL STRUCTURE** FORTUNE 500 RANK: • Annual sales • Number of employees • Total assets COMPOSITION OF THE WORKFORCE: • % female CONTROL VARIABLE: • Firm or establishment	**ARRAY OF ACTIVITIES** • Presence of a wellness program • Number of program activities **ORGANIZATIONAL SUPPORT** • Plans to start or expand program • Program eligibility • Who pays for activities? • When are activities offered? • When do employees participate? • Organizational changes • Use of health professionals **PROGRAM MONITORING** • Program evaluation • Needs assessment • Cost analysis

Figure 3.2. Empirical Model II: organizational context and corporate wellness programming.

Operationalization of the independent variables: organizational context

The following details of the operationalization of the independent variables are from "Notes to the Fortune Directory", Fortune, April 30, 1984. The independent variables in this model are grouped into either the organizational environment or the organizational structure.

Organizational environment. To be included in the Fortune 500 list, companies must have derived more than 50% of their sales from manufacturing and/or mining. Thus, all of these companies fall under a manufacturing industrial environment. Each company was assigned a code to indicate the industry from which greatest volume of sales is derived. Using Tolbert et al.'s (1980) ranking of industries by factor scores, I

assign each company to either the core or periphery sector. The variable of interest here is whether the company is classified in the core sector or not.

Organizational structure. The first index of organizational structure is ranking(s) on the 1984 Fortune 500 list. For each company, data were compiled on the annual sales,[6] number of employees in the firm, and total assets at the company's fiscal year-end. Then, the companies were rank-ordered (1-500) by each of these dimensions of size. Together, these indicators are considered a more valid indicator of organization size than is the index of number of employees alone.

The other index of organizational structure is the only measure of the composition of the workforce included in the WHPPS. Respondents were asked: *approximately what percentage of employees are women?* Last, as a control variable, I include a measure of whether the data represent the organization's entire firm or not.

Operationalization of the dependent variables

The dependent variables are classified into three categories: the array of activities, the degree of organizational support, and program monitoring. Indices for each are discussed in turn.

Array of activities. The presence of a corporate wellness program is determined by responses to the question: *does your organization/unit have a worksite health promotion or wellness program?* The number and type of program activities were determined by responses to the question: *what activities does your health promotion program offer?* Respondents were directed to identify each of the following ten activities offered:

hypertension screening or control; smoking cessation; fitness or exercise; weight control, nutrition or diet; stress management; alcohol or drug; accident prevention, safety or first aid training; mental health; health risk assessment or periodic health evaluations; cancer screening or control; and to list any other activities offered.

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[6] Sales include rental and other revenues but exclude dividends, interest, and other non-operating revenues. All figures are for the year ending December 31, 1983.

Organizational support. There are seven indicators of organizational support included in this model. These indices are similar to those presented for Empirical Model I. One of the variables in this model is organizational plans for corporate wellness programming. Respondents were questioned: *at present, what plans does your organization/unit have to start up or expand your health promotion program?* The variables of interest here are whether a company has plans to start a program or not and whether a company has plans to expand an existing program or not.

With regard to program eligibility, managers were asked: *what categories of employees are eligible to participate in your health promotion program?* Responses include: all employees, executives or managers only, spouses, children, or retired employees. The dependent variable of interest here is whether all employees were eligible to participate or not.

As a measure of the affordability of program activities, respondents were asked: *who pays for health promotion activities?* Response categories included: employer pays all; employee pays all; or a combination of both. The variable of interest here is whether the company pays all for health promotion activities or not.

As a measure of the availability of worksite health promotion activities, respondents were asked: *when are health promotion activities offered?* Response categories for this indicator of organizational support include: during work (excluding lunch); during lunch time; before work; after work; on weekends; or other. The variable of interest is whether health promotion activities are offered during work time or not. A related measure of availability was whether employees participate on their own time, on company time, or have some other arrangement. The variable of interest is whether employees participate on company time or not.

Managers were asked: *what other health related changes, if any, has your organization/unit made?* The variable of interest is whether organizational changes had been made or not.

To identify the specific use of health professionals, respondents were asked: *what types of personnel work in your health promotion program?* Response categories include: health educator, physician, and nurse; each response was coded as a dichotomous dependent variable.[7]

Program monitoring. Three indices of program monitoring are included in this model: formal program evaluation, needs assessment and cost analysis. According to Hollander and Lengermann (1988), these measures provide an indication of organizational support for wellness programming.[8] Respondents were asked three questions about the monitoring of their programs: *has your health promotion program been evaluated, was a needs assessment done to determine which health promotion activities to offer, and has a cost analysis (e.g., cost effectiveness, cost benefit, return-on-investment, etc.) been done in your health promotion program?* Each of these are treated as a dichotomous variable.

Summary

Following a description of the two sources of data incorporated into the research design, two empirical models were detailed. Empirical Model I employs data from the NSWHPA and provides an extensive test of the organizational structure and corporate-cultural determinants of worksite health promotion programming. Empirical Model II uses data from the WHPPS of Fortune 500 companies; this test of the structural determinants of corporate wellness programming is more limited in that

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[7] For the NSWHPA, managers are asked about the presence of health professionals in the worksite (and this is included as an independent variable in Empirical Model I). In the WHPPS of Fortune 500 companies, however, managers are asked whether health professional specifically work with the health promotion program (and is therefore treated as a dependent variable in Empirical Model II).

[8] Nonetheless, I make an analytical distinction between organizational support and program monitoring.

indices of corporate culture are not available and this model represents a target population rather than the larger universe of companies. The results of the analysis of data from each of these sources are presented in the next two chapters.

CHAPTER FOUR:

BUSINESS ORGANIZATIONS AND HEALTH PROMOTION PROGRAMMING

This chapter includes a descriptive profile of the business organizations participating in the National Survey of Worksite Health Promotion Activities (NSWHPA), and of the array of health promotion activities offered in these settings. Given that this survey incorporates a stratified random sample of all companies in the U.S. with at least 50 employees, it provides a reasonably accurate picture of the extent and array of worksite health promotion programming in America during the 1980s.[1]

Later in the chapter, results from data analysis of Empirical Model I are presented. These results offer insights into the correlates of worksite health promotion programming.

DESCRIPTIVE PROFILE

The first section of the descriptive profile focuses on worksite health promotion programming. Included here are the array of health promotion activities offered in the workplace, organizational support for these activities, elements of program monitoring, and aspects of health promotion program culture.

Worksite health promotion programming

Array of health promotion activities. Table 4.1 presents a rank order of the health promotion activities in business organizations responding to the NSWHPA questionnaire. As shown there, smoking cessation is the most prevalent health promotion activity across businesses in the sample. Over thirty-six percent offer some form of smoking control activity in the workplace. Health risk assessment is the next most frequently reported health promotion activity, present in

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[1] All of the variables in the descriptive profile and data analysis are weighted. For worksites with 50-99 employees, the sampling weight is equal to 310.81; for worksites with 100 or more employees, the sampling weight is equal to 79.72.

Table 4.1. Rank order of worksite health promotion activities.

HEALTH PROMOTION ACTIVITIES:	WEIGHTED NUMBERS:	WEIGHTED PERCENTS:
1. Smoking Cessation	484	36%
2. Health Risk Assessments	401	30%
3. Back Care Education	388	28%
4. Stress Management	361	27%
5. Exercise/Fitness	301	22%
6. Accident Prevention	269	20%
7. Nutrition Education	228	17%
8. Blood pressure control	226	16%
9. Weight Control	200	15%

nearly 30% of the responding companies. Many of these businesses (28%) report that they also offer back care education, stress management activities (27%), and exercise or fitness activities (22%).

The number of separate health promotion activities present in these business organizations is presented in Table 4.2.

Table 4.2. The number of health promotion activities (N=892)

NUMBER OF REPORTED ACTIVITIES:	WEIGHTED NUMBER OF COMPANIES:	WEIGHTED PERCENT OF COMPANIES:
One	260	29%
Two	174	20%
Three	125	14%
Four	97	11%
Five	81	9%
Six	64	7%
Seven	48	5%
Eight	25	3%
Nine	18	2%
Totals:	892	100%

As demonstrated there, nearly 66% of the companies have at least one worksite health promotion activity. For those companies with health promotion programs, the range of program activities is from one to nine; the overall mean number is 3.5 (standard deviation is 2.2).

Nearly 30% of the business organizations responding to the NSWHPA report some form of activity to measure employee health status or health risk (see Table 4.3). For those businesses offering health risk assessment activities, over three-fourths provide health exams or physicals. Blood pressure monitoring is offered in two-fifths of these programs, and health risk questionnaires are offered in about one-fourth of these programs.

Over two-thirds of the businesses that offer health assessment activities provide their employees individual test results. Sixty percent of these compile the results of individual tests in order to have health information about the employee population. Such composite data may be used to plan health promotion activities and for program evaluation purposes.

Table 4.3. Rank order of health risk assessment activities (N=401).

HEALTH RISK ASSESSMENT ACTIVITIES:	WEIGHTED NUMBER:	WEIGHTED PERCENT:
1. Health exams or physicals	310	77%
2. Blood pressure screenings	173	43%
3. Health risk questionnaire	96	24%
4. Blood cholesterol tests	88	22%
5. Cancer screenings	61	15%
6. Tests of physical fitness	47	12%

For the remaining health promotion activities, data were collected on whether the worksite offered information only, individual counseling or treatment, group classes or workshops, and special events or

innovations associated with each activity. Table 4.4 presents these levels of worksite health promotion activities.

Table 4.4. Levels of worksite health promotion: weighted percents of companies offering wellness program activities.

HEALTH PROMOTION ACTIVITIES:*	INFO ONLY	COUNSEL-ING	GROUP CLASSES	SPECIAL EVENTS
1. Smoking cessation (n=484)	54%	15%	20%	24%
3. Back care (n=388)	91%	N/A	55%	20%
4. Stress management (n=361)	81%	39%	58%	12%
5. Exercise/fitness (n=301)	65%	25%	59%	25%
6. Accident prevention(n=269)	75%	N/A	28%	24%
7. Nutrition (n=228)	89%	33%	42%	23%
8. Blood pressure (n=226)	90%	23%	17%	26%
9. Weight control (n=200)	77%	43%	52%	23%

* Activities are listed in the same order of Table 4.1, with the exclusion of: 2. Health risk assessments.

As determined by the ideal-type of wellness program components (presented in Chapter 2), providing information only is an educational objective of worksite health promotion programming, whereas individual counseling, group classes or special events represent risk-reduction objectives. Although "information only" is the most frequently reported category for each activity, businesses participate in various other levels of worksite health promotion as well.

The last variable considered under the array of health promotion activities is incentives to participate. Of the businesses with at least one health promotion activity, 14% report providing recognition, prizes or rewards to encourage employee participation.

Organizational support. Of the businesses with at least one health promotion activity, 24% report a budget or money specifically allocated for health promotion activities. This percent is somewhat smaller than

expected given the array of program activities offered in many of these workplaces.

Of the 750 businesses that participated in the long form of the NSWHPA and answered the questions about program eligibility, 85% report that all of their employees are eligible to participate. Only 4% of these companies reserve their programs for executives or top managers.

These data suggest that most individual counseling (77%) and group classes (80%) are held either exclusively or primarily on-site (see Table 4.5). The location of health screenings and exams tend to be bifurcated: 43% take place away from the worksite and 34% take place exclusively on-site. This bifurcation may be due to the fact that employee physicals and medical exams are often conducted in a physician's office.

Table 4.5. Organizational support: where are health promotion activities held and who pays the cost? (Weighted percents)

	INDIVIDUAL COUNSELING SESSIONS (n=234)	GROUP CLASSES OR WORKSHOPS (n=460)	HEALTH SCREENINGS AND EXAMS (n=310)
WHERE ARE ACTIVITIES HELD?			
Exclusively on-site	50%	59%	34%
Primarily on-site	27%	21%	8%
Equally on- and off-site	12%	11%	8%
Primarily off-site	6%	4%	7%
Exclusively off-site	5%	5%	43%
WHO PAYS THE COST?			
Company	70%	77%	87%
Shared	16%	13%	9%
Other arrangement	11%	7%	3%
Participants	3%	3%	1%

The company pays the cost of health promotion activities in most cases, regardless of the level of program activity. For the rest, the cost of activities is mostly shared between employees who participate and the company. Rarely are employees expected to pay the whole cost of program activities.

Most companies provide employees with time off work to participate in health promotion activities. Employees are most likely to get time off work for health screenings and exams (in 78% of the reported cases).[2]

Two types of health policies are included in this analysis: restricting smoking in the workplace and mandating the wearing of seatbelts in company vehicles. Of the 484 businesses that report having some form of smoking cessation activity, 76% have a formal policy restricting smoking in the workplace. Of the 269 businesses reporting some form of accident prevention activities, 61% report having a formal policy that mandates the wearing of seat belts when in company vehicles.

The last index of a business' support for health promotion is whether the organization has made health-related changes. Of the 361 businesses that offered some form of stress management activities, 81% report that there have been organizational changes made so that employees will experience less stress.

Program monitoring. Of the 892 businesses with at least one form of health promotion activity, 19% said their company had a written set of objectives for health promotion activities in the workplace. Only a small percent of the health promotion program activities offered in the workplace are being formally evaluated (see Table 4.6).

Formal evaluations of health promotion activities occur in between six and twenty-one percent of the programs with those activities. Smoking cessation activities and nutrition education are the least formally evaluated activities; HRA's and back care activities are being evaluated most frequently.

Health promotion program culture. Two indices of program culture included in this analysis are corporate managers' reasons for offering health promotion activities in the workplace and managers' perceptions of the costs/benefits of the specific health promotion activities.

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[2] In 63% of the reported cases, employees have time off work to participate in individual counseling sessions and in 72% of these cases employees have time off to attend group classes or workshops.

Table 4.6. Formal program evaluation, by type of health promotion activity.

FORMAL PROGRAM EVALUATION:	WEIGHTED PERCENTS:
1. Smoking cessation (n=484)	6%
2. HRA's (n=401)	21%
3. Back care (n=388)	20%
4. Stress management (n=361)	14%
5. Exercise/fitness (n=301)	11%
6. Accident prevention (n=269)	10%
7. Nutrition (n=228)	7%
8. Blood pressure (n=224)	11%
9. Weight control (n=200)	18%

Table 4.7 lists the reasons managers gave for why they decided to offer health promotion activities in the workplace. Most often managers report that they offer health promotion activities in order to improve employee health. Managers also rationalize program activities because they want to reduce health insurance costs, to increase employee productivity, and to improve employee morale.

Table 4.7. Rank order of the managers' reasons for offering health promotion activities.

MANAGERS' REASONS:	WEIGHTED NUMBERS:
1. To improve employee health	169
2. Because management wanted it	106
3. To reduce health insurance costs	61
4. To increase output/productivity/quality	62
5. To improve employee morale	59
6. Because employees wanted it	56

Table 4.8 presents managerial perceptions of the costs/benefits of worksite health promotion activities. Generally, for each health promotion activity, the data mirrors the same pattern: first, managers most often think that the benefits outweigh the costs; next, it is too soon for some managers to tell; followed by a few managers who think that the costs and benefits are about the same; and last, managers rarely report that the costs outweigh the benefits.

Table 4.8. Managers' perceptions of the costs/benefits of program activities.

ACTIVITIES:	BENEFITS OUTWEIGH COSTS	COSTS ARE MORE	ABOUT THE SAME	TOO SOON TO TELL
1. Smoking cessation	38%	5%	13%	44%
2. HRA's	48%	2%	17%	34%
3. Back care	65%	1%	10%	24%
4. Stress management	52%	1%	18%	29%
5. Exercise/fitness	50%	3%	14%	33%
6. Accident prevention	65%	4%	8%	24%
7. Nutrition	52%	1%	18%	30%
8. Blood pressure	66%	-	16%	18%
9. Weight control	51%	3%	15%	32%

Organizational context. The next section of the descriptive profile focuses on aspects of the NSWHPA sample related to the organizational context. Included in the analysis are organizational environment, organizational structure and health company characteristics.

Table 4.9 provides information on the organization's environment and business status. The largest proportion of businesses in the NSWHPA sample is located in the South region (33%) and the smallest proportion is in the West (18%). Nearly three-fourths of these companies located in the west have worksite health promotion activities.

Table 4.9. Region, industry, size and profitability: weighted percents of the sample and percent of businesses with wellness programs.

ORGANIZATIONAL CONTEXT:	WEIGHTED PERCENTS:	% WITH PROGRAMS:
ORGANIZATIONAL ENVIRONMENT:		
REGION		
Northeast	23.6%	62.9%
North Central	25.4%	67.0%
South	32.6%	61.8% *
West	18.4%	73.4% **
INDUSTRY		
Manufacturing	29.4%	65.1%
Wholesale & retail	15.7%	60.0%
TC & U	3.6%	77.9%
FIRE	6.2%	60.6%
Services	37.5%	70.7% **
All other	7.5%	51.3% **
ORGANIZATIONAL STRUCTURE: (BUSINESS STATUS)		
SIZE (Number of employees)		
50-99	55.2%	57.0% ***
100-249	28.9%	76.1% ***
250-749	11.9%	75.9% ***
750 +	3.9%	76.4% ***
PROFITABILITY		
not at all profitable	19.5%	63.9% *
slightly profitable	13.6%	66.3% *
somewhat profitable	15.8%	75.3% *
moderately profitable	36.4%	62.9% *
very profitable	14.7%	66.1% *

Chi Square Significance: * $p<.05$, ** $p<.01$, *** $p<.001$

Most business organizations in the NSWHPA sample are in manufacturing (29%) or the services (38%) industries. Of the businesses in the services category, over 70% have worksite health promotion activities.

Over four-fifths of these businesses have between 50 and 250 employees. Thus, most of the business organizations represented in the sample are of moderate size. Generally, the larger the number of employees, the more likely that organization offers worksite health promotion activities.

Over four-fifths of the companies report some degree of corporate profitability, which, of course, is necessary for survival in a capitalist economy; the modal response (36%) is "moderately profitable". The businesses that reported "somewhat profitable" are more likely than others to have worksite health promotion activities.

Table 4.10 presents information on the composition of the workforces of the businesses participating in the NSWHPA survey. For each of the indices of workforce composition, respondents reported estimated percentages (from 0 to 100). For descriptive (and analytical) purposes, I have collapsed these responses into quartiles.

Most of the businesses (83%) have a workforce that is primarily comprised of full-time employees, that is, for most companies, between 75 and 100% of their employees work at least 35 hours per week. Generally, companies with between 50-74 percent of full-time employees are more likely than others to offer worksite health promotion activities.

Nearly 30% of the businesses report a predominantly male workforce (i.e., between 75 and 100% of their employees are male). Of these, only 58% have worksite health promotion activities. Generally, companies with a lower the percent of male employees are more likely to have a health promotion program.

Most companies have between 25 and 74% of their workforce under the age of thirty. There is no significant association between the percent of workforce under thirty and the presence of worksite health promotion activities.

With regard to the percent of blue-collar workers, the business organizations appear bifurcated. Over one-third have less than 25% blue collar and over one-third have more than 75% blue collar. Generally, these businesses (with either a high or low percent of blue collar workers) are less likely to have a health promotion program than are

companies with between 25 and 74 percent of their workforce identified as blue collar.

Table 4.10. Composition of the workforce and percent of businesses with worksite health promotion programs.

ORGANIZATIONAL STRUCTURE: COMPOSITION OF THE WORKFORCE	WEIGHTED PERCENT:	% WITH PROGRAMS:
% FULL-TIME		
<25% employees	2.0%	65.8% *
25-49%	3.5%	43.9% *
50-74%	11.3%	72.1% *
75-100%	83.1%	66.7% *
% MALE		
<25% employees	17.2%	71.6% **
25-49%	21.8%	64.9% **
50-74%	31.2%	68.0% **
75-100%	29.9%	58.4% **
% UNDER THIRTY		
<25% employees	27.1%	63.7%
25-49%	34.1%	68.3%
50-74%	27.5%	64.9%
75-100%	11.4%	61.5%
% BLUE COLLAR		
<25% employees	35.7%	62.7% *
25-49%	10.8%	74.4% *
50-74%	16.0%	69.8% *
75-100%	37.6%	61.8% *
% UNION		
<25% employees	76.4%	65.4%
25-49%	3.2%	68.6%
50-74%	6.0%	64.1%
75-100%	14.5%	63.0%
ANNUAL TURNOVER RATE		
<25% employees	73.6%	66.0%
25-49%	15.8%	65.9%
50-74%	6.3%	57.5%
75-100%	4.3%	63.5%

Chi Square Significance: * $p<.05$, ** $p<.01$, *** $p<.001$

Only 14% of the businesses report a predominantly unionized workforce. Most companies (three-fourths) have fewer than 25% of their employees as union members. There is no significant association between the percent of workforce that is unionized and the percent of businesses with a health promotion program.

Most of the businesses (three-fourths) have less than 25% annual turnover of employees. This suggests a degree of stability for many

employees working in these companies. However, a businesses' turnover rate is not significantly associated with the presence of worksite health promotion activities.

Table 4.11 presents the distribution of healthy company characteristics across the NSWHPA sample of businesses.

Table 4.11. Healthy company characteristics and percent of businesses with wellness programs.

HEALTHY COMPANY CHARACTERISTICS:	WEIGHTED PERCENT:	% WITH PROGRAMS:
EMPLOYEE HEALTH BENEFITS		
Percent with benefits:		
<25% employees	8.9%	53.3% ***
25-49%	2.5%	40.7% ***
50-74%	5.1%	59.9% ***
75-100%	83.5%	68.4% ***
Employee Assistance Program:	23.7%	82.5% ***
Flextime:	32.8%	74.6% ***
Medical Professionals:	21.3%	90.6% ***
HEALTH CARE COST MANAGEMENT		
Health Benefits Director:	49.6%	74.5% ***
Managers' Level of Concern:		
not at all	4.3%	30.4% ***
slightly	5.1%	59.0% ***
somewhat	9.3%	53.4% ***
moderately	33.9%	66.2% ***
extremely	47.5%	72.5% ***
Cost management strategies:	41.6%	74.3% ***

Chi Square Significance: * p<.05, ** p<.01, *** p<.001

The most direct index of employee health benefits is the percent of employees eligible for an employer-sponsored health benefits plan. The majority of businesses (83%) report that most of their employees (between 75 and 100% of the workforce) are eligible for such benefits. Generally, the higher the percent of employees eligible for health benefits, the

higher the percent of businesses with worksite health promotion activities.

Nearly 24% of the business organizations report they offer an Employee Assistance Program (EAP). These businesses are more likely than others to also offer a wellness program. Nearly 33% of the business organizations offer their employees flextime and these businesses are also more likely than others to offer worksite health promotion activities.

With regard to the distribution of medical professionals available to employees in the workplace, over 21% of these companies have at least one medical professional in the workplace (i.e., an on-site nurse/nurse-practitioner and/or a physician). Over 90% of the companies with an on-site medical professional also have a wellness program.

Health benefits directors generally oversee the management of corporate health care costs. Nearly 50% of the businesses in the NSWHPA sample have a health benefits director in the organization and 3/4 of these also offer worksite health promotion activities.

The majority of corporate managers report that they are either extremely (48%) or moderately (34%) concerned about the management of increasing health care costs. Generally, businesses with managers who have a high level of concern for health care cost management are more likely than others to also have a wellness program.

Nearly 42% of the companies report implementing at least one health care cost management strategy in the last three years.[3] Nearly three-fourths of companies that have implemented such strategies also offer worksite health promotion activities.

Data presented in the descriptive profile of the health promotion activities in U.S. business organizations suggest that there is an extensive array of program activities across U.S. businesses with over

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[3] The most frequently reported strategies are second opinions for anticipated surgeries and increased deductibles for employee health insurance.

50 employees. This profile provides a foundation for the following analysis of the associations hypothesized in Empirical Model I.

ANALYSIS OF EMPIRICAL MODEL I

As previously stated, independent variables (collectively representing the organizational context) are grouped into one of three categories: organizational environment, organizational structure and healthy company (see Appendix A, Table A.1 for correlations among the independent variables). Dependent variables are grouped into the array of health promotion activities, organizational support for those activities, program monitoring and program culture (see Appendix A, Table A.2 for correlations among the independent variables and the array of health promotion activities). The following is a discussion of results from logistic regression analysis of each dependent variable on the organizational context variables.

Array of program activities. Table 4.12 presents results for the presence of worksite health promotion programs and for the number of wellness activities. As shown there, for businesses in the west, the odds of having a health promotion program are increased over their counterparts in the south (odds ratio = 1.588). Also, for each unit increase in size, the likelihood of a worksite having a program increases (odds ratio = 1.244). Even greater effects are found with the healthy company indices. For example, establishments that employ at least one medical professional are nearly 5 1/2 times more likely to have a program than those without on-site medical personnel (odds ratio = 5.489) and the presence of an EAP increases the likelihood of a company having a program by over two times (odds ratio = 2.019). The presence of flextime, a benefits director, managers' concerns over health care cost containment and the implementation of cost containment strategies also significantly influence the presence of a worksite health promotion program.

With regard to the number of activities within programs, the most significant influence, again, is the presence of medical professions in

Table 4.12. **Regression analyses for the presence of a worksite health promotion program (Logistic: odds ratios) and the number of activities (OLS: standardized estimates) on organizational context variables.**

ORGANIZATIONAL CONTEXT:	PRESENCE OF A WORKSITE HEALTH PROMOTION PROGRAM	NUMBER OF PROGRAM ACTIVITIES
ENVIRONMENT		
Northeast	1.123	.004156
North central	.974	.004489
South	contrast	contrast
West	1.588*	.026837
Manufacturing	contrast	contrast
Wholesale	.891	.018890
TC & U	1.334	.024630
FIRE	.854	.003994
Services	1.012	.027305
Other	.701	-.007567
STRUCTURE		
Size	1.244**	.092802***
Profitability	.942	.004608
% full-time	.967	-.008470
% male	.955	-.000477
% under thirty	1.044	-.024432
% blue collar	1.058	.011001
% union	.997	-.030636
% turnover	.965	-.025474
HEALTHY COMPANY		
Health benefits	1.087	.018631
EAP	2.019***	.170663***
Flextime	1.459**	.091854***
Professionals	5.489***	.388933***
Benefits director	1.459**	.083863***
Mgrs' concerns	1.174*	.077238**
Cost strategies	1.386*	.085311***
-2 LOG L	1623.06	R-square = .3280***
Model Chi Square (DF=23)	226.80***	

* p<.05, ** p<.01, *** p<.001

the organization. Businesses that have are larger, have an EAP, offer flextime, have a benefits director, and have implemented at least one health care cost management strategy are also more likely to have a larger number of program activities.

Both the model chi square (for the logistic regression of the presence of a worksite health promotion program) and the R-square (for OLS regression of the number of program activities) are statistically significant. Organizational context variables provide a PRE (proportional reduction of error[4]) of nearly 14% for the presence of a program and explain 32.8% of the variation in the number of program activities.

Table 4.13 presents the odds ratios for the logistic regressions of the presence of each type of health promotion activity on the organizational context variables. As displayed there, first, the model chi squares for each worksite health promotion activity are all statistically significant. This suggests that Empirical Model I's indices of organizational context are fruitful predictors of health promotion activities.

Region is related to the presence of only two worksite health promotion activities: smoking cessation and health risk assessment. The log odds for the presence of these activities is increased for businesses in the west (and for smoking cessation, businesses in the northeast) as compared with those in the south.

With regard to industry, the odds of having stress management (odds ratio = 2.643) and accident prevention (odds ratio = 3.360) activities are increased substantially for business organizations in transportation, communications and/or utilities (TC & U), compared to businesses in manufacturing. The odds of having stress management, exercise/fitness and weight control activities are increased substantially for business

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[4] PRE is calculated by dividing the model chi square by the -2 LOG L; in this case, 226.8 / 1623.1 = .1397 or nearly 14%.

Table 4.13. **Odds ratios for the presence of worksite health promotion program activities on organizational context variables.**

ORGANIZATIONAL CONTEXT:	SMOKING CESSATION	HEALTH RISK	BACK CARE EDUCATION	STRESS MANAGEMENT	EXERCISE/ FITNESS	ACCIDENT PREVENTION	NUTRITION EDUCATION	BLOOD PRESSURE	WEIGHT CONTROL
ENVIRONMENT									
Northeast	1.478*	1.097	.863	.919	1.154	1.054	.845	.998	.784
North central	1.242	1.162	.945	.903	.963	1.010	1.001	.957	1.010
South	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
West	1.605**	1.491*	.914	1.377	1.156	.741	.837	1.018	1.087
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	.922	.655	.819	1.528	1.425	1.259	2.022**	.974	1.487
TC & U	.676	1.723	.635	2.643***	.978	3.360***	1.246	.813	.710
FIRE	.857	.980	.337***	1.765*	2.006*	.664	1.323	.816	2.072*
Services	.917	.932	.825	1.626**	1.772**	.958	1.724**	.708	1.734**
Other	.636	.786	1.193	.975	.960	1.601	.937	.616	.802
STRUCTURE									
Size	1.004	1.313***	1.232**	1.332***	1.201*	1.229*	1.268**	1.173	1.197
Profitability	.982	1.001	1.034	.999	1.073	.992	1.001	.992	1.050
% full-time	.906	1.104	.924	.832	1.129	1.229	.826	.868	1.039
% male	.841**	.992	.976	.924	1.017	1.340***	.956	1.140	1.035
% under thirty	1.088	.925	.941	.885	.925	.966	.910	.875	1.013
% blue collar	.999	.931	1.232***	.938	.932	1.127	.997	1.019	.971
% union	.883*	1.019	1.012	.897	.812**	1.001	.937	1.006	1.004
% turnover	1.075	.857	1.062	.951	.850	.784	.810	1.058	.980
HEALTHY COMPANY									
Health benefits	1.170	1.107	1.008	1.082	1.019	.958	.961	1.223	1.219
EAP	1.523**	1.419*	1.464**	2.393***	1.868***	2.042***	1.443*	2.083***	1.956***
Flextime	1.728***	1.351*	1.030	1.504**	1.375*	1.302	1.605**	1.207	1.412*
Professionals	2.682***	4.358***	2.822***	2.613***	2.588***	2.207***	5.063***	6.119***	5.249***
Benefits dir.	1.166	1.429**	1.039	1.733***	1.500**	1.458*	1.549**	1.192	1.189
Mgrs' concerns	1.194**	1.250**	1.198**	1.068	1.126	1.161	1.208	1.215*	1.207
Cost strat.	1.142	1.271	1.479**	1.250	1.339*	1.358*	1.322	1.534**	1.296
-2 LOG L	1798.58	1780.49	1749.25	1700.21	1545.70	1485.29	1365.72	1405.96	1254.35
Model Chi Square (DF=23)	177.99***	273.95***	167.94***	255.02***	193.59***	180.16***	245.16***	253.76***	223.02***

* p<.05, * p<.01, *** p<.001

organizations in both FIRE and Services, compared with those in manufacturing. The odds of offering back care education is substantially increased for businesses in the FIRE category and the odds of offering nutrition education is increased for businesses in wholesale and in the services, compared with those in manufacturing.

Establishment size contributes to the presence of six of the nine listed health promotion activities. Interestingly, a business organization's degree of profitability does not significantly influence the presence of any health promotion activity.

Workforces with a larger percent of male employees have a decreased probability of offering smoking cessation (odds ratio = .841), but an increased probability of having accident prevention activities (odds ratio = 1.340). Workforces with a larger percent of blue collar workers are more likely to have back care activities (odds ratio = 1.232). Workforces with a larger percent of union members have a reduced likelihood of having both smoking cessation (odds ratio = .883) and exercise/fitness activities (odds ratio = .812).

The greatest influences on the likelihood of an organization having these activities are healthy company characteristics. Consistently, the largest positive influence is the presence of on-site medical professionals. The presence of an EAP, flextime or a benefits director increase the odds of having nearly every type of worksite health promotion activity. The level of managers' concern for health care cost management and the implementation of cost management strategies increase the odds of having four of the nine types of program activities. Interestingly, the percent of employees with formal health benefits is not significantly related to the presence of any health promotion activity.

The odds ratios for the presence of educational objectives, that is, providing employees information only about various health promotion activities, are presented in Appendix A, Table A.3. Most of the

associations just mentioned for the presence of the health promotion activities hold for the presence of educational objectives within each activity. With regard to the presence of a on-site health educator in the organization, businesses in the north central region of the country have an increased likelihood of having a health educator, when compared to their southern counterparts. Being in the Services industry increases the likelihood of an organization employing a health educator by over two times, compared to organizations in manufacturing. By far, the largest single predictor is the presence of an on-site medical professional (odds ratio=14.419); other significant influences include the presence of a benefits director, flextime or an EAP in the organization.

With regard to a business providing levels of health promotion beyond education (see Appendix A, Table A.4), the patterns established in the previous tables remain. For example, larger establishment size increases the likelihood of having individual consultations, group classes and special events for nearly every health promotion activity. Again, a business's degree of profitability does not significantly influence the presence of activities designed to reduce individual risks. Also, some of the most significant influences on the presence of this level of health promotion continue to be the healthy company characteristics.

The logistic regression of incentives to participate in health promotion activities is also included in Appendix A, Table A.4. Significant influences include the presence of medical professionals, the implementation of cost management strategies, and establishment size. Interestingly, and unlike the previous regressions, corporate profitability provides a significant influence on the provision of employee incentives to participate.

Organizational support. Table 4.14 presents the results of the logistic regression of four indices of organizational support (a health

Table 4.14. **Odds ratios for the presence of organizational support on organizational context variables.**

ORGANIZATIONAL CONTEXT:	HEALTH PROMOTION BUDGET	PROGRAM ELIGIBILITY	HEALTH POLICIES	ORGANIZATIONAL CHANGES
ENVIRONMENT				
Northeast	.817	1.296	1.389*	.780
North central	.904	1.141	1.149	.945
South	contrast	contrast	contrast	contrast
West	1.229	1.319	1.156	1.319
Manufacturing	contrast	contrast	contrast	contrast
Wholesale	.763	1.048	.961	1.481
TC & U	1.370	1.909*	1.666	2.020*
FIRE	1.301	1.265	.700	1.277
Services	1.047	1.336	.959	1.572*
Other	1.350	.976	.831	1.002
STRUCTURE				
Size	1.202*	1.350***	.957	1.219*
Profitability	.970	.967	.977	1.020
% full-time	.923	1.121	.929	.954
% male	1.022	.915	.908	.935
% under thirty	.969	1.024	.998	.930
% blue collar	.944	1.125*	1.066	.962
% union	1.100	.894	.913	.964
% turnover	.735*	.806*	1.039	1.043
HEALTHY COMPANY				
Health benefits	1.183	1.023	1.080	1.104
EAP	1.708***	2.189***	1.871***	2.576****
Flextime	1.534**	1.327*	1.677***	1.536**
Professionals	3.262***	6.216***	2.114***	2.167***
Benefits dir.	1.379	1.106	1.080	1.724***
Mgrs' concerns	1.153	1.224**	1.141*	1.080
Cost strat.	1.673**	1.280	1.089	1.195
-2 LOG L	1351.85	1879.38	1786.01	1549.94
Model Chi Sq. (DF=23)	188.56***	344.04***	124.11***	198.93***

* p<.05, ** p<.01, *** p<.001

promotion budget, widespread program eligibility, company health policies and organizational changes made to decrease stressful working conditions) on the organizational context variables. The only significant influences of region is for Northeast businesses, where the odds of having health policies are increased over businesses in manufacturing.

With regard to industry, variation is noted for organizational changes: businesses in TC & U (odds ratio = 2.020) and in Services (odds ratio = 1.572) are more likely to have implemented changes than those in manufacturing. Being in the TC & U industrial category also increases the odds of having widespread program eligibility.

Larger establishment size increases the likelihood that a business has a health promotion budget, wide program eligibility and organizational changes. The percent of annual turnover decreases the likelihood that a business has either a program budget or wide program eligibility. Again the most significant influences on the indices of organizational support are the healthy company characteristics. This is consistently the case for organizations with medical professionals, an EAP, and flextime.

The results of logistic regression of the other indices of organizational support (the accessibility, affordability and availability of health promotion activities) by three levels - individual counseling, group classes, and screenings/exams - are presented in Appendix A, Table A.5. Establishment size and healthy company characteristics (especially the presence of medical professionals, an EAP, or a benefits director in the organization) significantly increase the likelihood of whether program activities are more accessible, affordable and available to employees.

Program monitoring. The two indices of program monitoring are written health promotion goals and formal evaluations of each program activity. There are only two significant influences on the presence of written goals (see Table 4.15). On-site medical professionals (odds

Table 4.15. **Odds ratios for the presence of program monitoring (written goals and format evaluations[1]) on organizational context variables.**

ORGANIZATIONAL CONTEXT:	WRITTEN GOALS	SMOKING CESSATION	HEALTH RISK ASSESSMENT	BACK CARE	STRESS MANAGEMENT	ACCIDENT PREVENTION	NUTRITION	BLOOD PRESSURE CONTROL	WEIGHT CONTROL
ENVIRONMENT									
Northeast	1.236	.742	1.226	.805	.854	1.119	1.089	.352*	.305
North central	.984	.399	.960	.937	.669	.0648	.637	.368*	.328*
South	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
West	.986	1.152	1.299	.703	.993	.878	2.107	.822	.677
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	.851	.253	.378	.443	1.159	1.993	1.381	.382	1.580
TC & U	.975	.373	1.515	.221	2.905	3.885*	1.851	.995	.815
FIRE	1.161	.540	.515	.179	1.559	.356	1.297	.548	2.433
Services	1.242	.898	.680	1.500	1.225	.671	1.389	.312*	1.849
Other	1.303	1.704	1.152	1.480	1.779	1.264	1.784	.749	1.459
STRUCTURE									
Size	1.177	1.184	1.052	1.214	1.310	1.680**	1.410	1.521*	1.235
Profitability	.914	1.205	.999	1.067	1.041	1.092	.980	.909	1.115
% full-time	.966	.594	.865	.967	1.088	1.509	1.342	.940	.799
% male	1.049	1.206	1.055	1.059	.759	1.501	.632	1.454	1.341
% under thirty	1.207	1.136	1.042	.942	1.025	1.051	1.027	.766	1.190
% blue collar	1.090	.938	.956	1.393**	1.103	1.201	.970	.788	.921
% union	.954	1.054	1.033	.987	.839	.715	.754	1.329	.989
% turnover	.856	.566	.980	1.037	.909	.913	1.014	1.214	.953
HEALTHY COMPANY									
Health benefits	1.014	.881	1.052	.984	.803	1.722	.580*	.582*	1.090
EAP	1.655**	2.452*	1.314	1.578*	2.922***	2.174*	1.777	1.583	1.500
Flextime	1.370	2.962**	2.069***	1.191	1.674*	2.302*	2.028	1.699	2.814**
Professionals	4.085***	4.783***	3.772***	3.069***	2.962***	2.766**	5.865***	11.947***	11.504***
Benefits dir.	1.436	4.766*	1.207	1.277	1.842	1.143	4.669*	1.072	1.343
Mgrs' concerns	1.155	2.349*	1.795**	1.552**	.900	1.105	.703	1.583	1.484
Cost strat.	1.292	3.246*	1.589	1.154	1.391	2.933*	1.984	1.958	1.746
-2 LOG L	1149.12	332.42	729.27	729.27	557.28	339.59	257.19	360.80	367.77
Model Chi Square (DF=23)	148.07***	96.81***	102.71***	99.95***	79.90***	67.01***	56.97***	93.32***	91.14***

* p<.05, ** p<.01, *** p<.001

[1] Convergence was not attained in 25 iterations for the logistic regression of formal evaluation of exercise/fitness activities on the organizational context variables.

ratio = 4.085) and an EAP (odds ratio = 1.655) increase the likelihood of an organization having written health promotion goals.

Overall, there are a few significant influences of organizational environment and organizational structure on the presence of formal evaluations (again, see Table 4.15). Positive influences include most of the healthy company characteristics. The most notable influence is the presence of medical professionals in the workplace, which significantly increases the odds that a business has a formal evaluation of health promotion program activities.

Program culture. Table 4.16 presents the results of logistic regression analysis of managers' reasons for offering health promotion activities on the organizational context variables. Convergence was not attained for six of the twelve managers' reasons (probably due to the small number of responses to those questionnaire items) and are not included in this analysis (see footnote on Table 4.16). None of the region or industry variables is significantly related to managerial reasons for offering health promotion in the workplace. Also, only a few of the organizational structure variables influence these reasons.

Significant positive influences on the reason "to improve employee health" include the presence of medical professionals, an EAP, managers' concerns for health care cost management and establishment size. Similarly, positive influences on the reason "to improve employee morale" include medical professionals and establishment size. Medical professionals, cost management strategies and establishment size significantly increase the likelihood of managers reporting that they offer health promotion programs in order "to reduce health insurance costs". The presence of an EAP in the business organization increases the likelihood of managers reporting the to "increase employee output/ productivity" as a reason.

Table 4.17 presents the logistic regression results of managers' perceptions of the costs/benefits of each health promotion activity on

Table 4.16. **Odds ratios for the presence of managers' reasons[2] for offering health promotion program activities on organizational context variables.**

ORGANIZATIONAL CONTEXT:	(PRIMARILY FOR: EMPLOYEES)		(BOTH EMPLOYEES AND EMPLOYERS)		(EMPLOYERS)	
	TO IMPROVE EMPLOYEE HEALTH	BECAUSE EMPLOYEES WANTED IT	TO IMPROVE EMPLOYEE MORALE	TO REDUCE HEALTH INSURANCE	MANAGEMENT WANTED IT	TO INCREASE OUTPUT/ PRODUCTIVITY
ENVIRONMENT						
Northeast	.901	1.705	.786	.729	1.638	.994
North central	1.083	.596	.624	1.063	1.293	1.281
South	contrast	contrast	contrast	contrast	contrast	contrast
West	.957	1.135	.596	1.009	1.634	.413
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	.943	1.780	1.615	.584	1.412	1.200
TC & U	.787	1.751	.629	1.350	1.935	.610
FIRE	.793	2.102	1.580	.623	2.036	.750
Services	1.030	2.130	.870	.690	1.743	.865
Other	.627	1.166	.241	1.219	.838	.818
STRUCTURE						
Size	1.225*	.991	1.064	1.357*	.897	1.127
Profitability	.958	1.018	.825	.942	.998	.964
% full-time	.942	1.063	.855	1.776	2.003**	.972
% male	1.022	.903	1.174	1.050	1.060	1.063
% under thirty	1.073	1.017	1.411*	1.306	1.065	1.032
% blue collar	1.021	.933	.878	1.072	.919	.874
% union	.973	.811	.979	1.226	.835	1.102
% turnover	.801	.687	.779	1.039	.945	.925
HEALTHY COMPANY						
Health benefits	.935	.880	.891	.824	.921	1.489
EAP	1.846***	1.758	1.788*	1.477	1.700**	2.951***
Flextime	.975	2.107**	1.412	.949	.846	.904
Professionals	2.385***	1.973	2.541**	2.038**	1.359	1.580
Benefits dir.	1.382	.934	1.463	1.323	1.150	1.210
Mgrs' concerns	1.292**	.830	1.404	1.383	1.180	1.224
Cost strat.	1.070	.751	1.401	2.481**	1.222	1.089
-2 LOG L	1183.21	466.76	545.63	608.27	729.26	585.89
Model Chi Square (DF=23)	95.98***	42.36**	56.13***	67.74***	39.74*	50.43**

* p<.05, ** p<.01, *** p<.001

[2] Convergence was not attained in 25 iterations for the logistic regressions of six of the twelve managers' reasons (to reduce disability claims and lost time, to reduce hospital and medical utilization, to reduce accidents - both on- and off-the job, to improve corporate image, and because other companies were doing it) on the organizational context variables.

Table 4.17. Odds ratios for the presence of program culture (managers' perceptions of the costs/benefits of health promotion activities) on organizational context variables.

ORGANIZATIONAL CONTEXT:	SMOKING CESSATION	HEALTH RISK ASSESSMENT	BACK CARE	STRESS MANAGEMENT	EXERCISE/ FITNESS	ACCIDENT PREVENTION	NUTRITION	BLOOD PRESSURE	WEIGHT CONTROL
ENVIRONMENT									
Northeast	1.508	.995	.984	.635	.907	1.056	.515	1.243	.711
North central	1.214	.717	.873	.828	.738	.609	.697	1.167	.781
South	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
West	.966	1.046	.719	.832	.971	.534	.555	1.284	.862
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	1.186	.786	1.348	1.663	2.481*	1.394	1.367	.450	1.998
TC & U	1.094	1.463	.848	1.640	.553	4.711***	1.630	.600	.524
FIRE	1.453	1.040	.180*	1.437	1.503	1.011	1.231	1.249	2.149
Services	1.095	.787	1.666*	1.767*	2.197**	.850	1.654	.650	1.001
Other	1.111	1.191	1.543	1.932	2.399	1.708	.621	.614	.990
STRUCTURE									
Size	1.278	1.131	1.267*	1.232	1.129	1.339*	1.373*	1.301*	1.326*
Profitability	.905	.986	.975	.999	.962	.868	.992	.977	.991
% full-time	1.500	1.131	1.038	.973	1.365	.692	.850	.864	.858
% male	.827	1.011	.919	.864	1.206	1.609**	1.140	1.178	1.091
% under thirty	.672**	.926	1.039	.971	.969	.948	1.125	.822	1.048
% blue collar	.831	.809**	1.171*	1.016	.791*	1.161	.745**	1.022	.892
% union	.997	1.001	.913	.881	.767*	.885	.773	1.044	1.106
% turnover	.856	.699	1.023	.954	.739	.747	.983	1.225	.769
HEALTHY COMPANY									
Health benefits	.832	.915	1.001	.866	.842	1.333	.706*	.786	.726
EAP	2.344***	1.514*	1.376*	3.169***	1.781**	1.575	1.943**	2.061**	2.020**
Flextime	1.503	1.444**	1.083	1.727**	1.788**	1.870**	1.352	1.736**	1.283
Professionals	2.333***	3.284***	2.635***	2.411***	3.882***	2.401***	9.091***	10.924***	9.059***
Benefits dir.	1.273	1.591*	.872	1.519*	1.303	1.406	1.201	1.346	.960
Mgrs' concerns	1.182	1.352**	1.168	1.239	1.339*	1.530*	1.360	1.606**	1.096
Cost strat.	1.955**	1.466	1.348	1.276	1.534	1.624	1.315	1.377	1.457
-2 LOG L	667.69	1069.99	1110.29	980.68	811.38	635.66	667.69	806.70	683.39
Model Chi Square (DF=23)	97.72***	142.25***	101.67***	146.53***	131.93***	97.34***	152.98***	207.55***	128.49***

* p<.05, ** p<.01, *** p<.001

the organizational context variables. There are no significant effects of region on managerial perceptions.

For corporate managers in the Services industry, the odds of reporting more benefits than costs is significantly increased for back care, stress management and exercise/fitness activities, when compared to their counterparts in manufacturing. For corporate managers in the TC & U industry, the odds of reporting benefits for accident prevention activities increases by nearly 5 times over those in manufacturing. Corporate managers in the wholesale industry are more likely to report benefits for exercise/fitness activities than are managers in manufacturing.

Larger establishment size increases the odds of managers reporting that the benefits outweigh the costs for five of the nine listed health promotion activities. With regard to the composition of the workforce variables, a larger percent of blue collar workers increases the odds of managers' perceiving that the benefits outweighed the costs of back care activities, and a larger percent of male workers increases the odds of managers' perceiving that accident prevention activities are primarily beneficial. A larger percent of blue collar workers decreases the odds of positive managerial evaluations of health risk assessment, exercise/ fitness, and nutrition activities in the workplace.

Again, the healthy company characteristics have an overall positive influence on managerial perceptions that the benefits outweigh the costs of these activities. The presence of medical professionals, an EAP and flextime significantly increase the odds of managers possessing positive perceptions of most health promotion activities.

Hypotheses associated with organizational context

Next, I describe the results of analysis of the NSWHPA data in light of the hypotheses associated with the organizational context. There is limited support for Proposition 1 (that organizational environment factors will be directly related to and affect corporate

wellness programming). Region was not expected to be significantly associated with worksite health promotion programming. However, the odds ratio for the west (1.588) suggests that there are differences by region and that being in the west increases the likelihood of having a program (see Table 4.12), when compared to being in the south.

There is no statistical support for hypotheses H1.b (that companies in highly regulated industries [e.g., TC & U] are more likely to have worksite health promotion activities than are companies in other types of industries), with regard to the presence of a program and the number of activities (see Table 4.12). However, there is some support when corporate wellness programming is broken down into types of program activities (see Tables 4.13 through 4.17). For example, this hypothesis receives support, with regard to stress management and accident prevention activities, overall program eligibility and the provision of group classes.

Proposition 2 (organizational structure factors will be directly related to and affect corporate wellness programming) receives mixed support. Organizational size is consistently an important structural variable in these equations, for the overall model of the presence of a program, for the number of program activities, and for each type of health promotion activity. However, H2.d (the higher the company's profitability, the more likely a company has worksite health promotion activities) is not supported by these data.

The composition of the workforce does not influence the presence of a program nor the number of program activities (see Table 4.12). However, there are mixed results with regard to the impact of composition of the workforce indices on the various types of program activities. For example, there is no support for H2.e (the higher the percent of full-time employees, the more likely a company has worksite health promotion activities). In fact, the data suggest that in many cases, a larger percent of full-time employees decreases the likelihood of having program

activities (although these coefficients are not statistically significant).

With regard to H2.f (the higher the percent of male employees, the more likely a company has worksite health promotion activities), support is only evident for one type of program activity: accident prevention. In fact, this index significantly decreases the odds of a company having smoking cessation activities.

There is no support for H2.g (the lower the percent of employees under thirty years of age, the more likely a company has worksite health promotion activities). Although not statistically significant, this index appears to increase the odds of a company having many of the different health promotion activities.

There is mixed support for H2.h (the higher the percent of blue collar workers, the more likely a company has worksite health promotion activities); a higher percent increases the odds of having back care education and some of the accident prevention activities, but negatively influences the likelihood of having exercise/fitness activities. Also, a higher percent of blue collar workers positively influences widespread program eligibility and the provision of group classes.

There is evidence that contradicts the association presented in H2.i (the higher the percent of union members, the more likely a company has worksite health promotion activities). In fact, the percent of union members significantly decreases the likelihood of three types of health promotion activities: smoking cessation, exercise/fitness and nutrition education.

The last hypothesis related to the composition of the workforce is H2.j (the lower the company's turnover rate, the more likely a company has worksite health promotion activities). Limited support was found for this hypothesis; higher turnover rates decrease the probability of a business offering exercise/fitness activities, and reduce the likelihood

of a health promotion budget, widespread program eligibility, and the accessibility/affordability/availability of program activities.

Proposition 3 states that elements of a healthy company and a healthy work climate will be directly related to and affect corporate wellness programming. Three of the four hypotheses associated with employee health benefits are supported by the data; H3.b (companies with an Employee Assistance Program are more likely than other companies to have worksite health promotion activities), H3.c (companies that offer employee flextime are more likely than other companies to offer worksite health promotion activities) and H3.d (companies employing health personnel are more likely than other companies to have worksite health promotion activities) are all consistently supported by the data, both for the presence of a health promotion program and for the array (number and types) of program activities. However, H3.a (companies with employee health benefits are more likely than other companies to have worksite health promotion activities) is not supported by these data.

Although the results are not consistent across all program activities, the three hypotheses associated with health care cost management are supported by these data. H3.e (companies with a benefits director are more likely than other companies to have worksite health promotion activities) appears to be the most consistently supported hypothesis of this group, especially with regard to HRAs, stress management, exercise/fitness and nutrition activities, and to the presence of a health educator and organizational changes. H3.f (companies with managers who are concerned about health care cost containment are more likely than other companies to have worksite health promotion activities) is supported, especially with regard to smoking cessation, HRAs, and back care activities, and to the presence of widespread program eligibility and health policies. H3.g (companies with health care cost containment strategies are more likely than other companies to have worksite health promotion activities) is supported,

especially with regard to back care, accident prevention, and blood pressure control, and to the presence of employee incentives and a health promotion budget.

Hypotheses associated with program culture

Proposition 4 states that managers explain their worksite health promotion activities in terms of the perceived benefits of those activities. Two of the three hypotheses that suggest there are potential advantages primarily for employees are supported by these data: H4.a (managers offer worksite health promotion activities to improve employee health) and H4.c (managers offer worksite health promotion activities because employees want it). H4.b (managers offer worksite health promotion activities to reduce off-the-job accidents) does not receive support.

Two of the three hypotheses that suggest there are potential advantages for both employers and employees are also supported by these data: H4.d (managers offer worksite health promotion activities to increase employee morale) and H4.e (managers offer worksite health promotion activities to reduce health insurance costs). H4.f (managers offer worksite health promotion activities to reduce hospital and medical utilization) does not receive support.

Two of the four hypotheses that suggest there are potential advantages primarily for employers are supported by these data: H4.h (managers offer worksite health promotion activities to increase output/production/quality) and H4.j (managers offer worksite health promotion activities because management wants it). H4.g (managers offer worksite health promotion activities to reduce disability claims and lost time) and H4.i (managers offer worksite health promotion activities to reduce on-the-job accidents) are not supported.

Neither of the hypotheses that suggest corporate wellness programs function as image-enhancing mechanisms and are the result of structural isomorphism are supported. This includes the hypothesis that managers

offer worksite health promotion program activities in order to improve corporate image (H4.k) and because other companies were doing it (H4.l).

In sum, many of the organizational factors included in Empirical Model I were found to be significantly related to worksite health promotion programming. Separate influences were noted for organizational environment, organizational structure and healthy company factors, with the later being the most significant influence on the array of worksite health promotion activities in U.S. businesses.

CHAPTER FIVE:

FORTUNE 500 COMPANIES AND CORPORATE WELLNESS PROGRAMMING

Hollander and Lengermann (1988:491) assert that Fortune 500 companies serve as a

> good barometer of the state of the art of [wellness] programs in work settings because these companies have large numbers of employees, an interest in cost savings, and expertise to invest in innovative effort.

Further, these firms often serve as models for program development in smaller companies. Thus, it is important to explore the extent to which Fortune 500 companies have implemented corporate wellness programming.

First, I provide a descriptive profile of the Fortune 500 companies responding the Worksite Health Promotion Program Survey. Then I present findings from the data analysis of Empirical Model II on the structural correlates of corporate wellness programming.

DESCRIPTIVE PROFILE OF FORTUNE 500 COMPANIES

Of the 247 companies responding to the questionnaire, 66% (164) have worksite health promotion programs. This is the same percent that was found for the NSWHPA's sample of companies in the U.S.

Array of activities

Table 5.1 lists the most frequently reported types of wellness activities in Fortune 500 companies and the percent of all companies responding to the WHPPS questionnaire that offer each. The most frequently reported activity is hypertension control (i.e., blood pressure screening and control). HRAs, alcohol/drug treatment, smoking cessation, fitness/exercise and accident prevention activities are each present in about 1/2 of these companies. Weight control and stress management activities are each present in about 2/5 of the companies. Fewer companies offer mental health counseling and/or some form of cancer screening.

Table 5.2 presents a comparison of the worksite health promotion activities of the two surveys included in this data analysis.

Table 5.1. Rank order of corporate wellness program activities (n=247).

TYPE OF ACTIVITY:	PERCENT:
1. Blood pressure screening/control	55%
2. Health risk assessments (HRAs)	51%
3. Alcohol/drug treatment	50%
4. Smoking cessation	50%
5. Fitness/exercise	50%
6. Accident prevention	50%
7. Weight control	43%
8. Stress management	40%
9. Mental health counseling	24%
10. Cancer screenings	22%

Table 5.2. Comparison of the NSWHPA and the WHPPS of Fortune 500 companies: percent of activities in organizations with wellness programs.

TYPE OF ACTIVITY:	NSWHPA: (N=965)	WHPPS: (N=164)
1. Blood pressure screening/control	30%	83%
2. Health risk assessments (HRAs)	51%	77%
3. Alcohol/drug treatment	n/a	76%
4. Smoking cessation	53%	75%
5. Fitness/exercise	36%	75%
6. Accident prevention	33%	75%
7. Weight control	24%	65%
8. Stress management	45%	60%
9. Mental health counseling	n/a	36%
10. Cancer screenings	n/a	34%
11. Nutrition education	28%	n/a
12. Back care education	48%	n/a

For the most part, both surveys report similar arrays of activities.[1] However, Fortune 500 companies offer a greater array (number and types) of health promotion activities in their wellness programs than the national business organizations.

For each questionnaire, both HRA's and smoking cessation activities ranked high of the list of activities present in worksite wellness programs. However, these two activities are each present in over three-fourths of the Fortune 500 programs and in only about one-half of the NSWHPA's business organizations' programs.

Organizational support

Of the Fortune 500 companies with corporate wellness programs, over one-third do not report plans for additional wellness activities in the workplace (see Table 5.3). Even so, many of those companies report plans to start another wellness activity or to expand existing activities. Of the 83 companies without corporate wellness programs, 31% report plans to start wellness activities in the workplace.

Table 5.3. Plans to start or expand a corporate wellness program.

PLANS:	COMPANIES WITH PROGRAMS:	COMPANIES WITHOUT PROGRAMS:
To start activities	33 (20%)	26 (31%)
To expand activities	44 (27%)	n/a
Both start and expand	15 (9%)	n/a
No plans	59 (36%)	n/a
	164 (100%)	83 (100%)

[1] However, the WHPPS listed alcohol/drug treatment, mental health counseling and cancer screenings as specific wellness program activity options, and the NSWHPA did not. Also, the NSWHPA listed nutrition and back care education, and the WHPPS did not.

Most Fortune 500 companies (89%) report that all of their employees are eligible to participate in wellness program activities. This is similar to the NSWHPA data, with 86% of those businesses reporting widespread program eligibility. Some of the Fortune 500 companies (17%) allow spouses to participate; a few even allow children of employees eligibility. Retired employees are eligible to participate in only 11% of the wellness programs.

In most cases (54%), companies pay for worksite health promotion activities. However, this is followed by an arrangement of employers and employees sharing the costs (in 43% of the companies). Rarely is the employee expected to pay the full cost to participate in program activities.

There are various time-frames during which wellness activities may be provided. Corporate wellness activities are most often offered after work (69%), during lunch time (68%), and during working hours (63%). Only a few programs offer activities before work (26%) or over the weekend (17%). In 31% of the programs, participation occurs during the employees' own time and in 21% of the programs, participation is during company time. Even so, 48% of the companies report that program participation occurs during a combination of employee and company time.

Of the Fortune 500 companies with wellness programs, 25% reported one organizational change, 20% reported two and 25% reported three changes that have been implemented in the effort to promote health. The most frequently listed change was to designate "no smoking" areas in the worksite.

With regard to the use of health professionals in corporate wellness programs, nurses are associated with 70% of the corporate wellness programs in Fortune 500 companies. Physicians are associated with program activities in 57% of the programs and health educators were the least frequently reported health professionals, associated with only 37% of the programs.

Preliminary analysis (ANOVAs) shows significant associations between the use of physicians in the wellness program and sales and assets ranks: companies with larger annual sales and greater net assets are more likely to employ physicians in their programs (see Appendix B, Table B.2). The use of nurses and health educators, on the other hand, is positively associated with the number of employees in the company.

Program monitoring

The three indices of program monitoring included in this analysis are formal program evaluation, needs assessment and cost analysis. Overall, the most frequently occurring monitoring activity was needs assessments, reported in 40% of the programs. Program evaluation was reported for 34% of the programs and formal cost analysis occurred in only 15% of the programs.

Preliminary analysis (ANOVAs) suggests that there are no significant associations between Fortune 500 rankings and program monitoring (see Appendix B, Table B.4). These findings appear to be consistent with an assertion in most interpretations of institutional environments: to the degree that structural innovations, such as corporate wellness programs, reflect the adoption of rational myths and the enhancement of legitimacy, formal program monitoring is not considered a crucial element.

Organizational context

Two broad categories of organizational context are the organizational environment and organizational structure. Indices for each are discussed in turn.

Organizational environment. The following table lists the types of industries represented by the Fortune 500 companies. The majority (94%) of all companies responding to the questionnaire are in core industries (likewise, 94% of the companies with wellness programs are also in the core sector).

Table 5.4. Distribution of Fortune 500 companies by industry.

CODE AND INDUSTRY CATEGORY:[2]	CORE OR PERIPHERY: INDUSTRIAL SECTOR	COMPANIES RESPONDING TO SURVEY (N=247)	WITH WELLNESS PROGRAMS (N=164)
10 Mining, crude-oil prod.	core	7	6
20 Food	core	20	14
21 Tobacco	core	1	1
22 Textiles, vinyl flooring	periphery	5	2
23 Apparel	periphery	5	3
26 Paper, fiber, wood products	core	15	9
27 Publishing, printing	core	7	7
28 Chemicals	core	22	12
29 Petroleum refining	core	18	15
30 Rubber, plastic products	core	6	3
31 Leather	periphery	1	1
32 Glass, concrete, abrasive	core	10	7
33 Metal manufacturing	core	13	9
34 Metal products	core	10	4
36 Electronics, appliances	core	20	15
37 Shipbuilding, rr & trans	core	3	0
38 Measuring, scientific	core	4	2
40 Motor vehicles	core	8	5
41 Aerospace	core	12	7
42 Pharmaceuticals	core	13	10
43 Soaps, cosmetics	core	6	5
44 Office equipment, computers	core	13	10
45 Industrial, farm equipment	core	19	11
47 Musical, toys, sporting	periphery	3	3
49 Beverages	core	4	2

Organizational structure. There are three indices of organizational structure specific to these companies: the Fortune 500 rankings on annual sales, number of employees, and total assets. Table 5.5 shows the distribution of companies with wellness programs and the mean number of activities by these rankings.

Both the presence of a corporate wellness program and the mean number of wellness program activities offered are positively associated with these rankings. The mean number of wellness activities in these Fortune 500 companies is 7.8 (standard deviation is 3.5). This is considerably higher than for the NSWHPA business organizations.

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[2] These categories were established by the U.S. Office of Management and Budget and issued by the Federal Statistical Policy and Standards Office.

Table 5.5. Fortune 500 rankings and mean number of wellness activities for companies with programs.

	COMPANIES RESPONDING TO SURVEY (N=247)	COMPANIES WITH WELLNESS PROGRAMS (N=164) NUMBER: (%)	MEAN NUMBER OF WELLNESS ACTIVITIES: MEAN (S.D.)
SALES RANK:			
1-100	58	53 (91%)	8.9 (3.6)
101-200	57	44 (77%)	8.0 (3.6)
201-300	48	33 (69%)	6.8 (3.3)
301-400	42	19 (45%)	7.2 (3.1)
401-500	42	15 (36%)	5.8 (2.8)
	247	164 66%	
		*F=13.65 ***	F=3.55 **
EMPLOYEE RANK:			
1-100	58	50 (86%)	9.1 (3.2)
101-200	53	42 (79%)	7.9 (4.0)
201-300	53	34 (64%)	7.4 (2.8)
301-400	38	16 (42%)	5.6 (3.1)
401-500	42	21 (50%)	6.7 (3.1)
	244	163 66%	
		F=8.22 ***	F=3.53 **
ASSETS RANK:			
1-100	56	51 (91%)	9.0 (3.8)
101-200	61	48 (79%)	7.6 (3.2)
201-300	49	29 (59%)	7.7 (3.2)
301-400	39	20 (51%)	7.3 (3.8)
401-500	39	15 (38%)	5.8 (3.0)
	244	163 66%	
		F=11.16 ***	F=4.67 **

F from ANOVAs; * p<.01, ** p<.05, *** p<.001

Respondents provided information for either the entire firm or an establishment. For the 247 responding companies, 55% responded for the firm (the entire company) and 45% responded for an establishment. The distribution for this variable is similar for the 164 companies with corporate wellness programs; of these, 51% responded for the firm and 49% responded for an establishment. Next, I turn to the analysis of Empirical Model II.

ANALYSIS OF EMPIRICAL MODEL II

As previously stated, Empirical Model II groups independent variables (indices of organizational context) into organizational environment and organizational structure categories. The dependent variables are grouped into the array of health promotion activities, organizational support for those activities and program monitoring. Following are results from the regression analysis of each of the dependent variables on the organizational context.

The array of program activities. Three indices of organizational size are included in the analysis: the number of employees, the volume of annual sales, and the total assets of the company. However, there is a high degree of correlation among these indices (see Appendix B, Table B.1 for correlation matrix). Therefore, it was deemed necessary to run separate analyses, including one of the indices at a time. Table 5.6 presents results of the regression analyses for the presence of a worksite health promotion program and the number of activities on the organizational context variables.

Although separate analysis were conducted for each of the size indicators, the results are virtually the same. In each equation, the size indicator is the strongest predictor for the presence of a worksite health promotion program and the number of program activities. For each unit increase in sales rank, for employees rank or assets rank, the odds of having a wellness program are significantly increased.

When employees rank or assets rank are used in the equation (instead of sales rank), a significant positive effect of percent female workers in the company emerges. That is, the larger the percent of women, the larger the number of activities that companies with wellness programs have. That the company is in a core, rather than a periphery, industry and responding for the entire firm, rather than for an establishment, does not significantly influence these outcomes.

Table 5.6. Regression analyses for the presence of a worksite health promotion program and the number of activities on organizational context variables.

ORGANIZATIONAL CONTEXT:	PRESENCE OF A WORKSITE HEALTH PROMOTION PROGRAM (Logistic regression: Odds ratio)	NUMBER OF PROGRAM ACTIVITIES (OLS regression: Standardized estimates)
Core industry	.822	-.055055
Sales rank	1.977***	.449508***
Percent female	1.448	.108722
The firm	.602	-.021938
-2 LOG L	315.35	R-square:
Model Chi Square (DF=4)	52.94***	.2293***
Core industry	1.704	.027571
Employees rank	1.630***	.361844***
Percent female	1.496	.126852*
The firm	.562	-.043605
-2 LOG L	315.35	R-square:
Model Chi Square (DF=4)	35.04***	.1656
Core industry	.863	-.055530
Assets rank	1.882***	.439167***
Percent female	1.519	.123864*
The firm	.580	-.028247
-2 LOG L	315.35	R-square:
Model Chi Square (DF=4)	46.94***	.2223

* p<.05, ** p<.01, *** p<.001

Since each of the indices of size are so highly correlated, they are probably tapping the same phenomenon. Thus, for purposes of parsimony, the following logistic regressions are reported for the first and strongest indicator of size only - the Fortune 500 sales rank.

Organizational support. Table 5.7 presents the results for the logistic regression of four indices of organizational support on the organizational context variables. The model regressing a company's plans to start wellness program activities on the organizational context

Table 5.7. Odds ratios for the presence of organizational support on organizational context variables.

ORGANIZATIONAL CONTEXT:	PLANS TO START	PLANS TO EXPAND	PROGRAM ELIGIBILITY	ORGANI-ZATIONAL CHANGES
Core industry	.675	1.091	1.266	.330
Sales rank	.941	1.843***	1.810***	1.257*
Percent female	.945	1.230	1.758**	1.156
The firm	.863	.702	.528*	.813
-2 LOG L	271.59	231.47	334.17	341.73
Model Chi Square (DF=4)	1.076	23.49***	53.33***	11.45*

* p<.05, ** p<.01, *** p<.001

variables is not statistically significant. Model chi squares for the other three indices of organizational support, however, are significant.

With regard to plans to expand, for each unit change (increase) in sales rank, the odds of a company having plans increases. That is, larger firms are more likely to have current plans to expand their wellness programs.

Three of the four independent variables contribute to widespread program eligibility: larger sales rank and a larger percent female employees serve to increase the odds, and responding for the firm (rather than for an establishment) serves to decrease the odds. Organizational changes that reduce stressful working conditions are more likely to be present in larger companies.

Table 5.8 presents results for the logistic regression of other indices of organizational support on the organizational context variables: the affordability and availability of wellness program activities. Sales rank produces a significant positive influence on both the odds of a company paying for all program activities and of program activities being offered during company time. The model of whether employees participate on company time is not significant.

Table 5.8. Odds ratios for the affordability and availability of program activities on organizational context variables.

	AFFORDABILITY:	AVAILABILITY:	
ORGANIZATIONAL CONTEXT:	THE COMPANY PAYS FOR ALL ACTIVITIES	ACTIVITIES ARE OFFERED DURING COMPANY TIME	EMPLOYEES PARTICIPATE ON COMPANY TIME
Core industry	1.200	.447	1.006
Sales rank	1.443***	1.602***	1.108
Percent female	1.118	1.069	1.186
The firm	.933	.502*	.636
-2 LOG L	312.56	336.23	190.46
Model Chi Square (DF=4)	14.67***	31.35***	2.81 (ns)

* p<.05, ** p<.01, *** p<.001

Table 5.9 presents the logistic regression results for the use of health professionals in the wellness program. A larger sales rank increases the odds of a company's specific use of health educator, the use of a physician and the use of a nurse in the wellness program.

Table 5.9. Odds ratios for the use of health professionals on organizational context variables.

ORGANIZATIONAL CONTEXT:	HEALTH EDUCATOR	PHYSICIAN	NURSE
Core industry	.345	1.663	.550
Sales rank	1.756***	1.957***	1.668***
Percent female	1.234	.708	1.007
The firm	2.058	1.169	.765
-2 LOG L	276.13	328.18	341.50
Model Chi Square (DF=4)	30.09***	43.31***	29.61***

* p<.05, ** p<.01, *** p<.001

Program monitoring. Table 5.10 presents the logistic regression results for the presence of program monitoring on organizational context variables. For each unit increase in sales rank, the odds of having a formal program evaluation, of conducting needs assessment, and of

utilizing cost analysis is increased. Also, the larger the percent of female employees, the more likely a company has formal wellness program evaluation.

Table 5.10. Odds ratios for the presence of program monitoring on organizational context variables.

ORGANIZATIONAL CONTEXT:	PROGRAM EVALUATION	NEEDS ASSESSMENT	COST ANALYSIS
Core industry	.544	.752	.306
Sales rank	1.497**	1.688***	1.894**
Percent female	1.695*	1.177	1.500
The firm	.952	.750	1.360
-2 LOG L	261.95	284.71	157.49
Model Chi Square (DF=4)	19.42***	24.18***	16.44**

* p<.05, ** p<.01, *** p<.001

Hypotheses associated with Empirical Model II

There is no statistical support for proposition 1 (that a company's industry will be directly related to and affect corporate wellness programming) with regard to the presence of a program and the number of program activities (see Table 5.6). Specifically, H1.a (companies in core industries are more likely to have worksite health promotion activities than are companies in the periphery) is not supported by these data.[3]

Proposition 2 (organizational structure factors will be directly related to and affect corporate wellness programming) receives strong support using the WHPPS data. Size consistently produces a strong positive effect on the dependent variables (see Table 5.6). Support was found for: H2.a (the larger the company's number of employees, the more likely the company has worksite health promotion activities), H2.b (the

[3] The skewed distribution of the percent of these Fortune 500 companies in core industries (96%) may neutralize the effect of this potentially fruitful indicator.

higher the company's annual sales, the more likely the company has worksite health promotion activities) and H2.c (the larger the company's total assets, the more likely the company has worksite health promotion activities).

The percent of women in the company was significant for the number of program activities, program eligibility and program evaluation. The significant positive associations between the percent of women in the company and wellness program components contradict H2.f (the higher the percent of male employees, the more likely a company has worksite health promotion activities).

In sum, the measures of size consistently has a positive and significant effect on the array of health promotion activities, organizational support for those activities and program monitoring. The percent of women in the company was a significant influence on some of the wellness program activities. Hypotheses associated with the other indices of organizational context are not supported by these data.

CHAPTER SIX:

SUMMARY AND CONCLUSIONS

This chapter is organized into two sections. First, I review the major findings from the analyses of the NSWHPA and the WHPPS data. Then, I make concluding remarks about the limitations and implications of the study, and suggest further areas for investigation.

REVIEW OF STUDY AND MAJOR FINDINGS

An increasing number of American corporations have introduced health promotion programs into the workplace since the mid-1970s (Conrad 1988). The purpose of this study was to examine the factors associated with corporate wellness programming in contemporary U.S. business organizations.

I constructed an ideal-type of wellness program components in order to more fully operationalize the phenomena of interest and to profile varying arrays (i.e., number and types) of health and fitness activities across corporations. Then, I detailed the nature and extent of health promotion programming in business organizations and in major corporations, using secondary data sources.

The study concentrates on the organizational level of analysis -- the central research task of this study was to explore organizational factors that account for the diversity observed across corporate wellness programs. The diversity in corporate wellness programming was viewed, in part, as a function of the organization's macro (e.g., environmental and institutional factors) and meso (e.g., organizational structure and corporate culture) contexts.

A conceptual model of the correlates of worksite health promotion programming was developed, and propositions and hypotheses for the predicted associations were formulated. Two sources of data were incorporated into the study to test the empirical models. Discussion of the findings is organized according to these sources.

National Survey of Worksite Health Promotion Activities

The universe for the NSWHPA study was all worksites in the private sector with 50 or more employees. Two probability samples were selected (one for worksites with between 50-99 employees and one for worksites with over 100 employees) and then stratified by geographic region, size of establishment and type of industry. Three hundred and twenty questionnaires were completed from the first sample and 1,038 questionnaires were completed from the second. Sampling weights were applied to the response values and an estimate was produced that 65.5% of all U.S. companies (with more than 50 employees) have worksite health promotion activities.

Empirical Model I tests the association between the presence (and array) of health promotion activities in the workplace and the organizational context in which businesses are embedded. Organizational context was operationalized into three areas: the organizational environment (region of country, type of industry), the organizational structure (business status [establishment size and profitability] and composition of the workforce [the proportion of workers who are full-time, male, under thirty, blue collar, or union members, and the annual turnover rate]), and healthy company characteristics (the percent of employees with health benefits, the presence of an EAP, flextime, medical professionals and a benefits director in the organization, and managers' level of concern for and implementation of cost containment strategies). Since most of the dependent (and many of the independent) variables are dichotomous, logistic regression analysis was used to determine the degrees of association.

Research findings. The following summary of research findings is organized according to components of organizational context. With regard to the proposition that organizational environment factors will be directly related to and affect corporate wellness programming, the major findings include:

- Establishments located in the west are more likely to have a worksite health promotion program than are establishments located in the south (U.S. Census regions).

- The hypothesis that companies in highly regulated industries are more likely to have health promotion activities in the workplace receives limited support only (e.g., stress management and accident prevention activities).

The proposition that organizational structure factors will be directly related to and affect corporate wellness programming receives mixed support. The major findings include:

- Organizational size is consistently an important structural variable in these equations, for the presence of a program, for the number of program activities, and for each type of health promotion activity.

- The hypothesis that higher company profitability leads to increased likelihood of a company having worksite health promotion activities is not supported by these data.

- The composition of the workforce indices do not significantly influence the presence of a program nor the number of program activities; however, there are mixed results with regard to the impact of these indices on the types of program activities. For example:

  - Contrary to expectations, these data suggest that a larger percent of full-time employees does not increase the likelihood of having program activities.

  - A higher percent of male employees increases the odds a company having one type of program activity only (accident prevention), and significantly decreases the odds of a company having smoking cessation activities.

  - There is no support for the hypothesized association between the percent of employees under thirty years of age and the likelihood of health promotion activities.

  - There is limited support that the higher the percent of blue collar workers, the more likely a company has worksite health promotion (e.g., for back care and accident prevention activities).

  - There is evidence that contradicts the predicted association between the percent of union members and worksite health promotion activities; in fact, a larger percent of union members significantly decreases the likelihood of smoking cessation, exercise/fitness and nutrition education activities.

  - As expected, higher rates of employee turnover decrease the probability of a business offering some types of health promotion activities (e.g., exercise/fitness activities), as well as reduce the likelihood of organizational support for program activities (e.g., a health promotion budget and widespread program eligibility).

The proposition that elements of a healthy company (and a healthy work climate) will be directly related to an affect corporate wellness programming was strongly supported by these data. Findings include:

- Three of the four hypotheses associated with employee health benefits are supported by the data: companies with an Employee Assistance Program, that offer employee flextime, or employ medical personnel are all consistently more likely than other companies to have worksite health promotion activities. However, companies with a larger percent of employees with health benefits are not more likely than other companies to have worksite health promotion.

- Each of the three hypotheses associated with health care cost management are supported by the data: companies with a benefits director are more likely to have a health promotion program and a larger number of program activities; companies with managers who are concerned about health care cost containment are more likely than others to have certain health promotion activities (e.g., widespread program eligibility and health policies); and companies with health care cost containment strategies are more likely than others to have specific health promotion activities (e.g., employee incentives to participate and a health promotion budget).

In sum, many of the organizational contextual factors were found to be significantly related to corporate wellness programming. Separate influences are noted for organizational environment, organizational structure and healthy company characteristics, with the later being, by far, the most significant set of influences on the array of worksite health promotion activities.

With regard to the program culture surrounding health promotion in the workplace and the general proposition that managers explain their worksite health promotion activities in terms of the perceived benefits of those activities, one-half of the hypothesized associations are supported by the data. These include:

- Two of the three hypotheses that suggest potential advantages primarily for employees are supported: managers do offer worksite health promotion activities to improve employee health and because employees want it. The hypothesis that managers offer worksite health promotion activities to reduce off-the-job accidents did not receive support.

- Two of the three hypotheses that suggest potential advantages for both employers and employees are supported: managers do offer worksite health promotion activities to increase employee morale and to reduce health insurance costs. The hypothesis that managers offer activities to reduce hospital and medical utilization did not receive support.

- Two of the four hypotheses that suggest potential advantages primarily for employers are supported: managers report that they offer worksite health promotion activities to increase output/production/quality, and because management wanted it. The hypotheses that managers offer activities to reduce disability claims or to reduce on-the-job accidents did not receive support.

- Neither of the hypotheses that suggest corporate wellness programs function as image-enhancing mechanisms are supported: managers do not report that they offer program activities in order to improve the corporate image or because other companies have done so.

Finally, managers generally report that they believe the benefits outweigh the costs of each type of health promotion program activity.

Worksite Health Promotion Program Survey

Hollander and Lengermann (1988:491) conducted a survey of the wellness program activities of all companies appearing on the 1984 Fortune 500 list. These companies are assumed to serve as models for the smaller business organizations, and thus are an important targeted population to study.

The independent variables in Empirical Model II were grouped similar to Empirical Model I; the organizational context included organizational environment (core versus periphery industrial sector), organizational structure (Fortune 500 rankings and the percent of women in the company), and a control variable (whether the responses were for the entire firm or an establishment). The dependent variables were grouped into the array of activities, organizational support for those activities and the degree of program monitoring. The major findings of this analysis include:

- There is no support for the hypothesis that a company's industry is related to corporate wellness programming, although the skewed distribution of the Fortune 500 companies in core industries probably accounts for this finding.

- Each of the indices of organizational size (annual sales, number of employees and total assets) consistently produced a strong positive effect on the presence and array of wellness programs.

- Although a larger percent of women in the company did not significantly influence whether a health promotion program is present or not, this factor significantly increased the number of health promotion activities present in companies with wellness programs. Further,

- A larger percent of women workers in the organization increased the likelihood of widespread program eligibility and the use of program evaluation.

- Whether the firm or the establishment was the unit responding to the questionnaire did not have a significant influence on the presence or number of wellness program activities.

Comparison of the two sources of data

Findings from both the National Survey of Worksite Health Promotion Activities and the Worksite Health Promotion Program Survey of Fortune 500 companies suggest that two-thirds of U.S. businesses offer at least one health promotion activity in the workplace. Fortune 500 companies offer a greater array (number and types) of health promotion activities in their wellness programs than do the business organizations in the NSWHPA sample.

For both sources of data, indices of organizational structure (e.g., establishment size) are associated with the odds of having wellness program activities, as well as organizational support for and program monitoring of those activities. Indices of organizational environment (e.g., region and industry) are more significant for business organizations in the NSWHPA sample than for Fortune 500 companies. This finding, however, may be more a result of limitations in the indices of organizational environment for the WHPPS than of true differences between the samples.

CONCLUDING STATEMENTS

This final section presents a brief discussion on the limitations of the study, the implications of the study, and areas for further investigation. Each of these is presented in turn.

Limitations of the data

The primary purpose of this study was to provide the most comprehensive attempt to date that examines the relationship between organizational features and the presence of worksite health promotion activities. One of the strengths of the study is that the data allow for

a systematic assessment of variability in wellness program activities across companies.

One limitation of the data is that no single source was adequate to my research goals, and two secondary sources of data had to be secured. Both the Fortune 500 survey and the NSWHPA include data on factors in the organization's context that may account for the presence and diversity of corporate wellness programs. However, they are drawn from two different populations and therefore present limitations for analysis. Although results from each analysis may be compared, findings are only generalizable to the population of business organizations or to the major corporations represented in these separate samples.

The major limitation of the data is that many dimensions of the organizational context have not been satisfactorily operationalized. For example, potentially fruitful indices of the organization's macro context (e.g., environmental and institutional factors) as well as the organization's meso context (e.g. organizational structure and corporate culture) are not included in the primary data sources. Second, as mentioned in the research methods chapter, some of the indices included are approximate rather than precise. This presents a potential problem of construct validity. Last, there is an issue of reliability with regard to the questions that measure managerial perceptions.

The final limitation concerns the causal ordering of variables in the empirical models. For example, as mentioned in the conceptual model of corporate wellness programming, components of a healthy company are considered exogenous variables. And yet, worksite health promotion programs may be themselves considered an index of healthy companies. Even so, other analytically distinct components of a healthy company are associated with the presence and array of worksite health promotion activities.

Implications of the study

Since wellness programming has become a reality in business organizations across the country, it has the potential to influence the health outcomes of many working Americans and their families. Further, it was noted that worksite health promotion has the potential to influence corporate profitability. Thus, there are practical consequences associated with corporate wellness programming across U.S. businesses. Likewise, there are practical, as well as theoretical, implications of this study.

Of theoretical interest, worksite health promotion programs represent at least three changes in the boundaries between work organizations and the medical community. First, business organizations are employing more health-related professionals in their worksites and are contracting for health and medical services for their employees (such as physical exams and health screenings). Thus, corporate-sponsored wellness programs represent an effort to centralize employees' access to both health information and services. Second, health promotion generally entails the participation of a wider range of players than does "scientific" medicine, which tends to be characterized by professional dominance (Freidson 1970b) and the authority of physicians (Starr 1982). The list of worksite health promotion players includes - but is not limited to - health educators, nurse practitioners, allied health professionals, fitness and nutrition experts, and corporate managers. Third, worksite health promotion also represents a structural change in the composition of employee health benefits. For example, group health insurance policies have played a major role in the provision of "sick care" to many American employees. This form of employee benefit is especially salient when biomedical interventionist strategies are indicated. However, most health insurance policies do not cover preventative care. Worksite health promotion serves to fill in some of the gaps left by employee health insurance policies.

Ideally, organizations that support worksite health promotion endorse an ongoing series of activities that are designed to promote the adoption of both personal behaviors and corporate practices consistent with health promotion goals (Terborg 1986). Sloan et al. (1987:50) posit that most worksite health promotion efforts are too narrowly defined; corporate wellness programs generally exclude from their scope the cultural norms of the work community, constraints imposed by the work situation itself that discourage positive health behaviors, and a work environment that may be contributing to disease through the stress it generates. Further, "the norms, values and practices of the workplace and of management" are modifiable factors that could reduce employee's illness behavior, which they suggest constitutes the basis of corporate health care expenses. Accordingly, the goal of corporate wellness programming should be "to change the system from one in which illness behavior is prevalent [in order] to create a truly healthy organization" (Sloan et al. 1987:53). Consistent with Rosen's (1986) notion of a healthy company, practical strategies may be taken to create a healthier work climate. For example,

> by making modifications of the organization's design, management structures, remuneration systems and other organizational-level features, the incidence of disease and consequently health care costs also will be reduced Sloan et al. (1987:237).

Another implication of this and related studies is that worksite health promotion posits the potential for social control of workers. Even though employee participation in most wellness program activities is voluntary, "overtones of normative prescriptions" emerge in this context, as do "subtle definitions of the ideal employee", which could lead to discrimination toward those employees not participating in health-promoting lifestyles (Roman and Blum 1988:506). In some cases, support for worksite health promotion programs comes from executives in the corporate hierarchy who are personally committed to wellness lifestyles. These executives may view failures to meet their high standards of "wellness" as a problem of individual employee motivation.

This, in turn, may lead to blaming-the-victim (Crawford 1979) or defining deviations from health in terms of employee disloyalty.

The potential exists for further coercion, whereby corporations could make "wellness" a condition of employment (Conrad 1988:487), creating a new basis for discrimination. For examples, observe the rise in pre-employment physicals (for "suitability" of employment) or the implementation of pre-employment drug screens as a condition of employment. Further, aspects of some health promotion programs may violate employees' legal rights to confidentiality and privacy (Sloan et al. 1987: 149). This may become particularly salient for socially stigmatized medical conditions, such as AIDS.

Finally, newer concepts, such as "higher-level health" or "wellness" (Ardell, 1977), have emerged over the past two decades and suggest that an ideal-state or optimal level of mental and physical health is possible. Since there are consequences for the ways in which society defines health, some scholars are concerned that the ideal of a "state of perfect health" (Twaddle 1974) may become translated into unreasonable managerial expectations in the workplace.

Areas for further investigation

This study concentrated at the meso- or organizational level of analysis, and identified many of the existing indices of organizational structure and corporate culture in the research literatures that were anticipated to be associated with corporate wellness programming. Many of these indices proved fruitful and some did not. Future study in the area of wellness programming would be well served if more indices related to the structure and culture of business organizations were included for analysis.

In addition, research in the area of corporate wellness programming needs to continue at the micro- or interpersonal level. Research questions might include: what individual-level factors are associated with employee support of worksite health promotion policies (e.g.,

restrictive smoking and mandatory seatbelt policies), and what individual-level factors are associated with employee participation in corporate wellness program activities.

In most previous research, responses of corporate managers or representatives are analyzed, rather than responses of employees. Thus, it would be well advised to study the phenomena from this other perspective as well. Conrad (1988) suggests that from the employees' perspective, wellness programs may be perceived as a "symbolic exchange" for other cost control measures that employers have taken. This association is in need of empirical investigation.

In the implications section, I assert that worksite health promotion represents structural change in the boundaries between work organizations and the medical community. Research questions at a more macro-level of analysis are also necessary, to help assess the changes that have occurred in our social institutions as a result of corporate wellness programming, particularly with regard to work settings, family life, and the national system(s) of health care delivery.

Kotarba (1983) warned that to the extent that "wellness" becomes normative in the workplace, deviations from this standard may become labeled and subject to organizational control. Further research needs to operationalize measures of managerial and peer controls associated with corporate wellness program goals, rather than simply concentrate on the potential for social control.

With regard to this conflict of interests, Sloan et al. (1987:232) suggest that workers tend to resist and are "understandably sensitive" to interventions that restrict their actions, especially when those interventions appear to be related to aspects of their private lives. On the other hand, corporate managers feel that such interventions are justified, if not in the name of health promotion, then in the context of cost containment. Thus, an important distinction in perceptions is suggested - between managers who tend to view worksite health promotion

as a cost containment strategy, and workers who may be more likely to view it as an employee health benefit or as another source of organizational control over their lives. This distinction in perceptions provides another topic for further investigation.

It has been suggested that health promotion programs are good for the corporate image (Conrad 1988). To the degree that wellness programming contributes to the image of a "good employer", it may serve in the recruitment and retention of professional employees (Roman and Blum 1988:545). However, this relationship has not been established in previous studies.

A recurrent theme in the health education literature is that worksite health promotion programs will result in overall savings. However, the cost-saving advantages depend on use by higher-risk employees, who may not utilize services as much as employees who are already "health conscious" and physically fit (Roman and Blum 1988:506). First, by determining the empirical associations between utilization of wellness services and employee levels of fitness, practical strategies may then be taken to target those who under-utilize.

Although I was able to accomplish many of my research goals, there is at least one additional direction I plan on pursuing: factor analysis of the components of organizational context, as well as of the components of corporate wellness programming. This strategy should provide additional empirical support for the conceptual constructs used in this analysis, as well as suggest further research directions.

REFERENCES

Agresti, Alan. 1990. Categorical Data Analysis. New York: John Wiley & Sons.

Aldrich, Howard E. 1992. "Incommensurable paradigms? vital signs from three perspectives." in M. Reed and M. Hughes eds., Rethinking Organization: New Directions in Organizational Theory and Analysis. London: Sage Publications, Inc.

Aldrich, Howard E. 1972a. "Technology and organizational structure: A reexamination of the findings of the Aston Group." Administrative Science Quarterly, 17, No.1 (March):26-43.

Aldrich, Howard E. and Peter V. Marsden. 1988. "Environments and Organizations" in Handbook of Sociology, edited by Weil J. Smelser. Sage Publications, Inc.

Alexander, Jacqui. 1988. "The ideological construction of risk: an analysis of corporate health promotion programs in the 1980s." Social Science and Medicine 26(5):559-567.

Anderson, Arthur L. 1985. "Ideological and historical rationales for occupational health promotion: from Asclepius to Hygeia" in Everly and Feldman, eds., Occupational Health Promotion: Health Behavior in the Workplace. New York: John Wiley and Sons.

Ardell, D. 1977. High Level Wellness. Emmaus, PA: Rodale.

Averitt, Robert T. 1968. The Dual Economy: The Dynamics of American Industry Structure. New York: Norton.

Baron, James N. and William T. Bielby. 1980. "Bringing the firms back in: stratification, segmentation and the organization of work." American Sociological Review, 45, No.5 (Oct.):737-65.

Baron, James N. and William T. Bielby. 1984. "The organization of work in a segmented economy." American Sociological Review, 49:454-473.

Baron, James N., Alison Davis-Blake, and William T. Bielby. 1986. "The structure of opportunity: how promotion ladders vary within and among organizations." Administrative Science Quarterly, 31:248-273.

Bellec, N.B. and L. Breslow. 1972. "Relationship of physical health status to health practices." Preventative Medicine 1:409.

Chapman, Larry. 1989. "Sweet Incentives." Health Action Managers 3(1).

Child, John. 1972. "Organizational structure, environment, and performance: the role of strategic choice." Sociology, 6, No.1 (Jan.):1-22.

Cockerham, William C. 1989. Medical Sociology. 4th edition. Englewood Cliffs, New Jersey: Prentice Hall.

Conrad, Peter. 1988. "Worksite health promotion: the social context." Social Science and Medicine 26(5)485-489.

Conrad, Peter. 1988. "Health and fitness at work: a participants' perspective." Social Science and Medicine 26(5):545-550.

Conrad, Peter and Rochelle Kern (eds.). 1986. The Sociology of Health and Illness: Critical Perspectives. 3rd edition. New York: St. Martin's Press, Inc.

Coriel J., J.S. Levin, and E.G. Jaco. 1985. "Lifestyle-an emergent concept in the social sciences." Culture, Medicine and Psychiatry 10:423-437.

Crawford, R. 1979. "Individual responsibility and health politics in the 1970s" in Health Care in America, edited by S. Reverby and D. Rosner. Philadelphia: Temple University Press.

Danielson, D. & K. Danielson. 1980. Ontario Employee Programme Survey. Ministry of Culture and Recreation of Ontario, Toronto.

Davis, Tim R.V. 1984. "The influence of the physical environment in offices." Academy of Management Review, 9(April):271-283.

Davis, M.F., K. Rosenberg, D.C. Iverson, T.M. Vernon and J. Bauer. 1984. "Worksite health promotion in Colorado." Public Health Report 99:538-543.

DiMaggio, P.J. & W.W. Powell. 1983. "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48:147-160.

Dubos, Rene. 1959. Mirage of Health. New York: Harper and Row.

Edwards, Richard. 1975. Contested Terrain: the Transformation of the Workplace in the Twentieth Century. New York: Basic Books, Inc.

Everly, George S. and Robert H. Feldman. 1985. Occupational Health Promotion: Health Behavior in the Workplace. New York: John Wiley and Sons.

Feagin, Joe R. 1982. Social Problems: a Critical Power-Conflict Perspective. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Fielding, J. E. and L. Breslow. 1983. "Health promotion programs sponsored by California employers." American Journal of Public Health. 73:538-542.

Forouzesh, M.R. and L.E. Ratzker. 1984-5. "Health promotion and wellness programs: an insight into the Fortune 500. Health Education 15:18-22.

Freidson, Eliot. 1970b. Professional Dominance. Chicago: Aldine.

Fuchs, Victor. 1974. Who Shall Live? Health Economics and Social Choice. New York: Basic Books.

Ganster, D., G. Mayes, W. Sime and G. Tharp. 1982. "Managing organizational stress: a field experiment." Journal of Applied Psychology. 67:533-542.

Geertz, Clifford. 1979. The Interpretation of Cultures. New York: Basic Books.

Gregory, Kathleen L. 1983. "Native-view paradigms: multiple cultures and culture conflicts in organizations." Administrative Science Quarterly, 28:359-376.

Hall, Richard H. 1987. Organizations: Structures, Processes, and Outcomes. New Jersey: Prentice-Hall, Inc.

Hodge, B.J. and William P. Anthony. 1991. Organizational Theory: a Strategic Approach. Boston: Allyn and Bacon.

Hollander, Roberta B. and Joseph J. Lengermann. 1988. "Corporate characteristics and worksite health promotion: survey findings from Fortune 500 companies." Social Science and Medicine 26(5).

Hollander, Roberta B. and Joseph J. Lengermann. 1989. "Worksite health promotion programs in midsize New Jersey firms: survey findings" in Advances in Health Education: Current Research, 2:99-115.

Hollander, Roberta B., Joseph J. Lengermann and N.M. DeMuth. 1985. "Cost-effectiveness and cost-benefit analyses of occupational health promotion" in Occupational Health Promotion: Health Behavior in the Workplace. (Edited by G.S. Everly et al.) New York: Wiley.

Hollingshead, August B. and Frederick C. Redlich. 1958. Social Class and Mental Illness. New York: John Wiley.

House, James S. and Eric M. Cottington. 1986. "Health and the workplace" in L. Aiken and D. Mechanic (eds.) Applications of Social Science to Clinical Medicine and Health Policy. New Brunswick, New Jersey: Rutgers University Press. pp 392-416.

Kalleberg, Arne L. and Ivar Berg. 1987. Work and Industry: Structures, Markets, and Processes. New York: Plenum Press.

Kanter, Rosabeth M. 1977. Men and Women of the Corporation. New York: Basic Books, Inc.

Karasek, Robert and Tores Theorell. 1990. Healthy Work: Stress, Productivity and the Reconstruction of Working Life. New York: Basic Books, Inc.

Kennel, W. and T. Gordon (eds). 1968. The Farmingham Study. U.S. Government Printing Office, Washington, D.C.

Kimberly, John R. 1976. "Organizatinal size and the structuralist perspective: a review critique, and proposal." Administrative Science Quarterly, 21 No.4 (Dec.):577-97.

Kirscht, John D. 1989. "Process and measurement in health risk assessments" in American Journal of Public Health 79(12):1598-99.

Kizer, William M. 1987. The Healthy Workplace: a Blueprint for Corporate Action. New York: John Wiley & Sons, Inc.

Kotarba, Joseph A. 1983. "Social control function of holistic health care in bureaucratic settings: the case of space medicine." Journal of Health and Social Behavior 24:275-288.

Kotarba, Joseph A. and Pamela Bently. 1988. "Workplace wellness participation and the becoming of self." Social Science and Medicine 26(5):551-558.

Kronenfeld, Jennie J., Kirby L. Jackson, Keith E. Davis, and Steven N. Blair. 1988. "Changing health practices: the experience from a worksite health promotion project." Social Science and Medicine 26(5):515-523.

Lester, Richard. 1967. "Pay differentials by size of establishment." Industrial Relations 8(October):62-5.

Lackoff, George and Mark Johnson. 1980. Metaphors We Live By. Chicago: University of Chicago Press.

Lofland, J. and L.H. Lofland. 1984. Analyzing Social Settings. California: Wadsworth Publishing Company, Inc.

Mannheim, K. 1936. Ideology and Utopia. New York: Harcourt, Grace and World.

Marantz, Janet K. and Diana C. Walsh. 1983. "The medical department and pressures for change" in Richard Egdahl and D.C. Walsh (eds.) Corporate Medical Departments: A Changing Agenda? Cambridge, Massachusetts: Ballinger Publishing Company.

McKeown, Thomas. 1979. The Role of Medicine. Oxford: Blackwell.

McKinlay, J. and S. McKinley. 1976. "The questionable contribution of medical measures to the decline of mortality in the U.S. in the twentieth century. Milbank Memorial Fund Quarterly 55(3):405-428.

Meyer, John W. and Brian Rowan. 1977. "Institutionalized organizations: formal structure as myth and ceremony." American Journal of Sociology 83:440-463.

Meyer, John. W. and W. Richard Scott. 1983. Organizational Environments: Ritual and Rationality. Beverly Hills, CA:Sage.

Morgan, Myfanwy, Michael Calnan, and Nick Manning. 1985. Sociological Approaches to Health and Medicine. London: Croom Helm.

Osterman, Paul. 1987. "Choice of employment systems in internal labor markets." Industrial Relations, 26:46-67.

Parkinson, Rebecca S. and associates. 1982. Managing Health Promotion in the Workplace: Guidelines for Implementation and Evaluation. Palo Alto, Ca.: Mayfield Publishing Company.

Parson, Talcott. 1951. The Social System. New York: The Free Press.

Parsons, Talcott. 1958. "Definitions of health and illness in the light of American values and social structure" in Patients, Physicians, and Illness, edited by E. Jaco. Glenco, Il.: The Free Press.

Parsons, T., R. Fox, and V.M. Lidz. 1973. "The gift of life and its reciprocation" in Death in American Experience, Arien Mack, ed. New York: Schocken.

Perrow, Charles. 1967. "A framework for the comparative analysis of organizations." American Sociological Review, 32, No.2 (Apr.):194-208.

Pfeffer, Jeffrey. 1981. "Management as symbolic action: the creation and maintenance of organizational paradigms" in L.L. Cummings (ed.), Research in Organizational Behavior. Vol. 3. Greenwich, Conn: JAI.

Pfeffer, Jeffrey. 1978. "The micropolitics of organizations" in Environments and Organizations, eds. Marshall W. Meyer and associates. San Francisco, CA:Jossey-Bass.

Robertson, Ian. 1989. Society: A Brief Introduction. New York: Worth Publishers.

Roman, Paul M. and Terry C. Blum. 1988. "Formal intervention in employee health: comparisons of the nature and structure of employee assistance programs and health promotion programs." Social Science and Medicine. Vol. 26 (5):503-514.

Rosen, Robert H. 1986. Healthy Companies: A Human Resources Approach. American Management Association: Publications Division.

Santa-Barbara, Jack. 1987. "Corporate health and corporate culture" in Samuel H. Klarreich (ed.) Health and Fitness in the Workplace: Health Education in Business Organizations. New York: Praeger.

Schneider, David M. and Raymond T. Smith. 1973. Class Differences and Sex Roles in American Family and Kinship Structure. Englewood Cliffs, NJ: Prentice-Hall.

Scott, W. Richard. 1987. Organizations: rational, natural and open systems. Englewood Cliffs, NJ: Prentice-Hall.

Scott, W. Richard. 1983. "Introduction: from technology to environment" in Organizational Environments: Ritual and Rationality. Beverly Hills: Sage Publications.

Shepard, Jon M. 1990. Sociology. 4th edition. St. Paul, MN: West Publishing Company.

Shain, Martin, Helen Suurvali and Marie Boutilier. 1986. Healthier Workers: Health Promotion and Employee Assistance Programs. Lexington, Massachusetts: Lexington Books.

Sheets, Robert G. and Yuan Ting. 1988. "Determinants of employee-termination benefits in organizations." Administrative Science Quarterly. Vol.33:607-624.

Sidel, Victor W. and Ruth Sidel. 1983. A Healthy State. New York: Pantheon Books.

Singelmann, J. and F.C. Mencken. 1992. "Job autonomy in advanced industrial countries." Social Science Quarterly. Vol.73 (4):829-843.

Sloan, Richard P., Jessie C. Gruman and John P. Allegrante. 1987. Investing in Employee Health: A Guide to Effective Health Promotion in the Workplace. San Francisco: Jossey-Bass Publishers.

Smircich, Linda. 1983. "Concepts of culture and organizational analysis." Administrative Science Quarterly. Vol. 28, pp.339-358.

Spilman, M. A. 1988. "Gender differences in worksite health promotion activities." Social Science and Medicine 26(5):525-535.

Starr, Paul. 1982. The Social Transformation of American Medicine. New York: Basic Books.

Stoessinger, John. 1981. "The anatomy of the nation-state and the nature of power" in M. Smith, R. Little, and M. Shackleton (eds.) Perspectives on World Politics. London: Croom Helm (pp.25-36).

Suchman, Edward A. 1965a. "Social patterns of illness and medical care." Journal of Health and Social Behavior 6:2-16.

Taylor, Rosemary. 1986. "The politics of prevention" in Conrad and Kern (eds.) The Sociology of Health and Illness: Critical Perspectives pp.471-484. New York: St. Martin's Press, Inc.

Terborg, J. 1986. "Health promotion at the worksite: a research challenge for personnel and human resources management" in K. Rowland and G. Ferris (eds.) Research in Personnel and Human Resources Management 4:225-267, Connecticut: JAI Press.

Thompson, James D. 1967. Organizations in Action. New York: McGraw-Hill.

Tolbert, Charles, D.M. Horan and E.M. Beck. 1980. "The structure of economic segmentation: a dual economy approach." American Journal of Sociology. Vol. 85 (5):1095-1116.

Twaddle, Andrew C. 1974. "The concept of health status." Social Science & Medicine 8:29-38.

Twaddle, Andrew C. and Richard M. Hessler. 1987. A Sociology of Health. 2nd edition. New York: Macmillan Publishing Company.

U.S. Department of Health, Education and Welfare. 1964. Smoking and Health. U.S. Government Printing Office, Washington, D.C.

U.S. Department of Health, Education and Welfare. 1979. Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention. U.S. Government Printing Office, Washington, D.C.

U.S. Department of Health and Human Services. 1987. National Survey of Worksite Health Promotion Activities. Monograph Series.

Verbrugge, Lois M. 1985. "Gender and health: an update on hypotheses and evidence." Journal of Health and Social Behavior 26:156-82.

Walsh, Diana C. 1988. "Toward a sociology of worksite health promotion: a few reactions and reflections." Social Science and Medicine 26(5):569-575.

Wan, Thomas T. and Scott J. Soifer. 1974. "Determinants of physician utilization: a causal analysis." Journal of Health and Social Behavior 15:100-108.

Wildavsky, Aaron. 1977. "Doing better and feeling worse: the political pathology of health policy." Daedalus pp.105-123.

Williamson, Oliver E. 1981. "The economics of organization: the transaction cost approach." American Journal of Sociology, 87:548-577.

Wilson, Robert N. 1970. The sociology of health: an introduction. New York: Random House.

Woodward, Joan. 1965. Industrial Organizations: Theory and Practice. London: Oxford University Press.

Zucker, Lynne G. 1987. "Institutional theories of organization" in Annual Review Sociology 13:443-64.

APPENDIX A

NATIONAL SURVEY OF WORKSITE HEALTH PROMOTION ACTIVITIES

TABLE A.1. National Survey of Worksite Health Promotion Activities: Correlations among the independent variables

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13
X1	1.0												
X2	-.32***	1.0											
X3	-.38***	-.41***	1.0										
X4	-.26***	-.28***	-.33***	1.0									
X5	.06*	.01	-.01	-.06*	1.0								
X6	.03	-.01	-.05	.03	-.28***	1.0							
X7	-.03	-.01	.06*	-.03	-.13***	-.08**	1.0						
X8	-.08**	.06*	.01	.01	-.17***	-.11***	-.05	1.0					
X9	-.02	-.01	-.01	.04	-.50***	-.33***	-.15***	-.19***	1.0				
X10	-.01	-.05	.05	.01	-.18***	-.12***	-.06*	-.07**	-.22***	1.0			
X11	.02	.01	.01	-.04	.08**	-.11***	.02	.01	.05	-.07**	1.0		
X12	-.01	-.03	.01	.03	-.01	.09***	-.01	.12***	-.13***	.02	.01	1.0	
X13	.01	-.05*	.01	.03	.18***	-.16***	.08**	.05	-.16***	.09***	.05	.02	1.0
X14	.04	-.03	-.01	.01	.16***	.06*	.12***	-.16***	-.31***	.27***	-.05*	.05	.19***
X15	-.05	-.01	.02	.04	-.02	.10***	-.07*	.06*	-.02	-.08**	-.03	.04	-.24***
X16	-.03	.01	-.01	.02	.24***	.07***	.03	-.20***	-.22***	-.07**	-.01	.04	-.08**
X17	.15***	.02	-.13***	-.04	.06*	-.01	.09***	-.13***	-.07***	.09***	.06*	-.03	.10***
X18	-.10***	.03	.04	.03	-.09**	.05	-.07**	-.01	.09***	-.03	-.03	-.03	-.20***
X19	-.01	.01	.01	.01	.08**	-.05	.02	.06*	-.08**	.01	.10***	.04	.37***
X20	-.05	.02	-.02	.05*	-.02	.05	.09***	.04	.01	-.01	.11***	.04	.06*
X21	-.01	.03	.01	-.03	-.06*	-.08**	-.04	.01	.16***	-.04	-.02	-.03	-.03

(Table continued.)

TABLE A.1, continued.

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13
X22	.01	.04	-.06*	.02	-.12***	-.16***	-.03	-.03	.32***	-.10***	.13***	-.07**	.03
X23	.02	.01	-.01	-.02	.05	-.05	.04	.07**	-.02	-.06*	.20***	.10***	.10***
X24	-.07**	.04	.04	-.01	.03	-.05*	.06*	.04	.01	-.07**	.10***	-.02	.07**
X25	-.05	.05	-.02	.02	.01	-.02	-.01	.08**	-.01	-.04	.16***	.05	.04

	X14	X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25
X1	.04	-.05	-.03	.15***	-.10***	-.01	-.05	-.08	.01	.02	-.07**	-.05
X2	-.03	-.01	.01	.02	.03	.01	.02	.03	.04	.01	.04	.05
X3	-.01	.02	-.01	-.13***	.04	.01	-.02	.01	-.06	-.01	.04	-.02
X4	.01	.04	.02	-.04	.02	.01	.06*	-.03	.02	-.02	-.01	.02
X5	.16***	-.02	.24***	.06*	-.08**	.08**	-.02	-.06*	-.12***	.05	.03	.01
X6	.06*	.10***	.07**	-.01	.05	-.05	-.05	-.08**	-.16***	-.05	-.05*	-.02
X7	.12***	-.07*	.01	.09***	-.07*	.02	.09***	-.04	-.03	.04	.06*	-.01
X8	-.16***	.05*	-.20***	-.13***	-.01	.06*	.04	.01	-.03	.07**	.04	.08**
X9	-.31***	-.02	-.22***	-.07**	.09***	-.08**	.01	.16***	.32***	-.02	.01	-.01
X10	.27***	-.08**	.07**	.09***	-.03	.01	-.01	-.04	-.10***	-.06*	-.07**	-.04
X11	-.05*	-.03	-.01	.06*	-.03	.10***	.11***	-.02	.13***	.20***	.10***	.16***
X12	.05	.04	-.04	-.03	-.03	.04	.04	-.03	-.07**	.10***	-.01	.05*
X13	.19***	-.24***	-.08**	.10***	-.20***	.37***	.06*	-.03	.03	.10***	.07**	.04

(Table continued.)

TABLE A.1, continued.

	X14	X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25
X14	1.0											
X15	-.03	1.0										
X16	.21***	.11***	1.0									
X17	.16***	-.21***	.17***	1.0								
X18	-.09**	.29***	.08**	-.15***	1.0							
X19	.10***	-.14***	-.07**	.16***	-.26***	1.0						
X20	.08**	-.04	-.01	.04	-.09***	.14***	1.0					
X21	-.07**	.11***	-.04	-.10***	-.01	.02	.07**	1.0				
X22	-.30***	-.14***	-.07*	.07**	-.03	.08**	.16***	.07**	1.0			
X23	.01	.06*	-.07*	-.05	-.03	.23***	.20***	.07**	.15***	1.0		
X24	-.04	-.04	-.03	-.08**	-.01	.23***	.11***	.08**	.11***	.25***	1.0	
X25	-.03	-.01	-.05	-.08**	-.01	.21***	.17***	.03	.09***	.31***	.35***	1.0

LEGEND:

X1 Northeast
X2 North central
X3 South
X4 West
X5 Manufacturing
X6 Wholesale and retail
X7 Transportation, communications and utilities
X8 FIRE
X9 Services
X10 Other industries
X11 Establishment size
X12 Profitability
X13 Percent full-time
X14 Percent male
X15 Percent under thirty
X16 Percent blue-collar
X17 Percent union
X18 Percent annual turnover
X19 Percent health benefits
X20 Employee Assistance Program
X21 Flextime
X22 Medical professionals
X23 Benefits director
X24 Managers' concern about health care cost management
X25 Health care cost containment strategies

* p<.05, ** p<.01, *** p<.0001

TABLE A.2. Correlations among the NSWHPA independent variables and the array of health promotion activities.

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
X1	-.03	.01	-.03	-.06*	-.04	.02	.01	-.01	-.01	-.06*
X2	.02	.01	.05	-.01	-.01	.01	-.01	.04	.01	.03
X3	-.03	-.08**	-.06*	.05	-.03	-.05	.03	-.01	-.01	-.01
X4	.05	.08**	.05	.02	.08**	.03	-.04	-.02	.01	.04
X5	-.05	-.01	.01	.03	-.10***	-.08**	.01	-.10***	.03	-.07**
X6	-.07**	-.01	-.14***	-.06*	-.05*	-.04	-.02	-.01	-.03	-.04
X7	.05	-.05*	.06*	.03	.08**	-.01	.15***	.01	.01	-.01
X8	.01	-.01	.01	-.09***	.07**	.06*	-.06*	.02	-.02	.04
X9	.13***	.10***	.10***	.03	.12***	.12***	-.06*	.14***	.03	.12***
X10	-.08**	-.10***	-.05	.03	-.10***	-.06*	.07**	-.09***	-.06*	-.08**
X11	.23***	.06*	.21***	.17***	.18***	.13***	.13***	.14***	.16***	.11***
X12	.03	-.01	-.01	.01	.05	.06*	.01	.01	.01	.04
X13	.05	-.01	.10***	-.01	.01	.05	.08**	-.03	.03	.03
X14	-.10***	-.13***	-.03***	-.03	-.10***	-.08**	.13***	-.14***	-.03	-.09***
X15	-.06*	.04	-.09***	-.03	-.03	-.01	-.07**	-.08**	-.07**	-.02
X16	-.05	-.03	-.06*	.08**	-.10***	-.10***	.07*	-.07**	-.01	-.06*
X17	-.02	-.09***	.05	.02	-.04	-.08**	.06*	-.04	.02	-.03
X18	-.05	.04	-.10***	.04	-.01	-.05	-.11***	-.05	-.03	-.03
X19	.14***	.08**	.13***	.06*	.10***	.07**	.06*	.07**	.10***	.09***
X20	.31***	.14***	.19***	.14***	.28***	.20***	.20***	.13***	.24***	.19***
X21	.16***	.15***	.12***	.03	.11***	.10***	.07**	.14***	.06*	.10***

(Table continued.)

TABLE A.2, continued.

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
X22	.46***	.23***	.36***	.25***	.29***	.25***	.16***	.36***	.33***	.33***
X23	.25***	.14***	.18***	.09**	.23***	.16***	.12***	.16***	.15***	.13***
X24	.21***	.13***	.17***	.12***	.14***	.12***	.11***	.14***	.14***	.11***
X25	.23***	.11***	.14***	.15***	.16***	.16***	.11***	.14***	.17***	.13***

LEGEND:

X1 Northeast
X2 North central
X3 South
X4 West
X5 Manufacturing
X6 Wholesale and retail
X7 Transportation, communications and utilities
X8 FIRE
X9 Services
X10 Other industries
X11 Establishment size
X12 Profitability
X13 Percent full-time
X14 Percent male
X15 Percent under thirty
X16 Percent blue-collar
X17 Percent union
X18 Percent annual turnover
X19 Percent health benefits
X20 Employee Assistance Program
X21 Flextime
X22 Medical professionals
X23 Benefits director
X24 Managers' concern about health care cost management
X25 Health care cost containment strategies

Y1 Number of health promotion activities
Y2 Smoking cessation activities
Y3 Health risk assessment activities
Y4 Back care education activities
Y5 Stress management activities
Y6 Exercise/fitness activities
Y7 Accident prevention activities
Y8 Nutrition education activities
Y9 Blood pressure control activities
Y10 Weight control activities

* p<.05, ** p<.01, *** p<.0001

Table A.3. Odds ratios for the presence of educational objectives and a health educator on organizational context variables.

ORGANIZATIONAL CONTEXT:	SMOKING CESSATION	BACK CARE	STRESS MANAGEMENT	EXERCISE/ FITNESS	ACCIDENTS	NUTRITION	BLOOD PRESSURE	WEIGHT LOSS	HEALTH EDUCATOR
ENVIRONMENT									
Northeast	1.222	.875	.857	1.366	1.040	.900	.945	.940	.690
North central	1.224	.907	.952	1.245	.871	.978	.967	1.112	1.727*
South	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
West	1.201	.992	1.203	1.062	.663	.853	.932	1.052	1.410
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	.990	.798	1.488	1.492	1.219	2.237**	1.042	1.816	.588
TC & U	1.136	.563	2.332**	1.195	2.927***	1.543	.891	.613	.593
FIRE	1.727	.341**	1.874*	1.769	.413*	1.214	.901	2.878**	.578
Services	1.024	.754	1.625**	1.468	.757	1.833**	.761	1.870**	2.183**
Other	.755	1.031	.851	.989	1.404	.824	.528	.785	.736
STRUCTURE									
Size	1.190*	1.232**	1.334***	1.165	1.213*	1.287**	1.133	1.226	1.116
Profitability	.993	1.007	1.013	1.065	1.017	.961	1.023	1.036	.919
% full-time	.874	.889	.968	1.088	1.229	.866	.925	.946	.965
% male	.985	.989	.895	.961	1.371***	.990	1.165	1.109	.957
% under thirty	.906	.947	.885	.865	1.001	.926	.881	1.038	.910
% blue collar	.964	1.269***	.949	.995	1.134	.957	1.020	1.032	.865
% union	.882	.990	.885	.782**	1.022	.910	.979	1.042	.875
% turnover	.991	1.028	.944	.723*	.886	.846	.919	1.107	.800
HEALTHY COMPANY									
Health benefits	1.464**	1.043	1.032	.981	1.155	.895	1.159	1.100	.790
EAP	1.528**	1.558**	2.222***	2.498***	2.192***	1.412*	1.883***	2.380***	1.612*
Flextime	1.819***	1.033	1.520***	1.381**	1.116	1.572**	1.259	1.436*	1.813**
Professionals	4.067***	2.863***	2.493***	2.947***	2.215***	5.367***	6.770***	6.701***	14.419***
Benefits dir.	1.435*	1.052	1.719***	1.869***	1.332	1.541*	1.286	1.505*	2.356***
Mgrs' concerns	1.203*	1.198*	1.080	1.186	1.252*	1.232*	1.150	1.206	1.141
Cost strat.	1.318	1.523**	1.221	1.250	1.527**	1.366	1.697**	1.283	1.283
-2 LOG L	1459.00	1697.17	1558.34	1244.95	1269.81	1288.04	1326.31	1088.49	1159.46
Model Chi Square (DF=23)	227.63***	176.52***	221.18***	195.11***	180.05***	239.83***	251.97***	232.21***	424.19***

* p<.05, ** p<.01, *** p<.001

Table A.4. Odds ratios for the presence of risk reduction objectives and incentives to participate on organizational context variables.

ORGANIZATIONAL CONTEXT:	SMOKING CESSATION	BACK CARE	STRESS MANAGEMENT	EXERCISE/ FITNESS	ACCIDENT PREVENTION	NUTRITION	BLOOD PRESSURE	WEIGHT CONTROL	INCENTIVES TO PARTICIPATE
ENVIRONMENT									
Northeast	1.545	.935	.871	.863	1.400	.899	.727	.707	.807
North central	1.511	.930	.924	.791	.808	1.083	.913	.997	1.216
South	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
West	1.622*	.803	.962	.951	.793	.853	1.444	1.051	1.435
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	1.162	.910	1.630*	2.149**	1.502	2.137*	1.313	1.409	1.077
TC & U	1.831	.682	3.066***	1.272	5.865***	2.975*	2.361	.825	1.026
FIRE	1.993*	.308*	1.711	2.845**	1.008	2.480*	1.304	2.812**	1.517
Services	1.512	1.430	1.602**	2.058**	1.291	3.018***	1.458	1.676*	1.274
Other	1.231	1.192	1.059	1.243	2.160*	1.426	1.034	.670	.968
STRUCTURE									
Size	1.318**	1.251**	1.352***	1.154	1.441**	1.224	1.297*	1.251*	1.319**
Profitability	1.037	.955	.994	1.008	.934	.974	.930	1.052	1.163*
% full-time	1.262	.862	.934	1.167	.947	.830	.684	.867	.932
% male	.885	1.024	.923	.981	1.438**	1.006	1.153	1.086	1.224
% under thirty	.993	1.013	.905	.946	.997	.956	.920	.962	.893
% blue collar	1.000	1.308***	.945	.810**	1.265**	.900	.975	.945	1.127
% union	.915	1.001	.896	.810**	.976	.815*	.853	1.011	.892
% turnover	.999	1.036	.786	.739*	.669	.858	.905	1.017	.824
HEALTHY COMPANY									
Health benefits	1.456*	1.004	.918	.899	1.161	.847	1.066	1.118	1.033
EAP	2.387***	1.321	2.395***	1.944***	1.670**	1.562*	2.027**	2.089***	1.304
Flextime	1.761***	.984	1.610***	1.413*	1.463	1.658**	2.311***	1.468*	1.298
Professionals	3.841***	3.178***	2.799***	3.571***	2.042**	7.855***	8.346***	9.041***	2.171***
Benefits dir.	1.294	1.056	1.745***	2.041***	1.637*	2.086***	1.388	1.277	1.481
Mgrs' concerns	1.461***	1.191*	1.063	1.150	1.324*	1.145	1.169	1.188	1.079
Cost strat.	1.374	1.249	1.267	1.391*	1.606*	1.391	1.309	1.165	1.539*
-2 LOG L	1223.87	1424.06	1521.79	1282.00	870.56	1032.03	754.01	1073.72	952.04
Model Chi Sq. (DF=23)	244.92***	156.37***	234.24***	234.59***	131.61***	267.22***	175.23***	255.82***	77.92***

* p<.05, ** p<.01, *** p<.001

Table A.5. Odds ratios for the presence of organizational support (accessibility, affordability and availability of program activities) on organizational context variables.

ORGANIZATIONAL CONTEXT:	ACCESSIBLE			AFFORDABLE			AVAILABLE		
	INDIVIDUAL COUNSELING	GROUP CLASSES	SCREENINGS AND EXAMS	INDIVIDUAL COUNSELING	GROUP CLASSES	SCREENINGS AND EXAMS	INDIVIDUAL COUNSELING	GROUP CLASSES	SCREENINGS AND EXAMS
ENVIRONMENT									
Northeast	1.197	1.339	.903	1.251	1.196	1.077	1.302	.903	1.103
North central	1.244	1.062	.863	1.176	.992	.954	1.179	.906	.914
South	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
West	1.428	1.253	1.490	1.144	1.059	1.292	1.344	.979	1.277
Manufacturing	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast	contrast
Wholesale	1.315	1.105	.530	1.295	1.070	.405**	1.078	1.267	.536*
TC & U	2.316*	1.563	1.093	1.585	2.149**	1.750	1.780	1.964*	1.220
FIRE	1.316	2.013**	1.494	.890	.845	.805	1.201	1.422	1.051
Services	1.606*	1.785***	1.661	1.136	1.292	.778	1.101	1.471	.853
Other	1.768	1.984*	.636	1.394	1.570	.765	1.576	1.722*	.796
STRUCTURE									
Size	1.506***	1.559***	1.255*	1.392***	1.366***	1.187*	1.333**	1.278**	1.270**
Profitability	.889	.967	.996	.938	.924	1.024	.913	.917	.994
% full-time	.900	1.092	.984	1.150	1.032	1.346	1.577	1.148	1.379
% male	1.037	.917	.844	1.131	.934	1.031	.955	.908	.997
% under thirty	1.027	1.046	.897	1.214	.967	.963	1.085	.939	.967
% blue collar	.946	1.089	1.084	.923	1.129*	.918	.963	1.148*	.918
% union	.888	.908	1.065	.938	.926	1.069	.946	.892	.973
% turnover	.707*	.993	.897	.627**	.809*	.717*	.740	.823	.735*
HEALTHY COMPANY									
Health benefits	.931	.966	1.133	.754*	.966	1.099	.949	1.081	1.183
EAP	1.934***	1.470**	1.223	2.199***	1.672***	1.229	3.399***	1.624***	1.356*
Flextime	1.357	1.113	1.366	1.427*	1.207	1.416*	1.641**	1.208	1.271
Professionals	4.673***	3.988***	10.323***	4.629***	2.422***	4.647***	3.600***	2.690***	3.340***
Benefits dir.	1.518*	1.311*	1.553*	1.331	1.136	1.505**	1.594*	1.515**	1.899***
Mgrs' concerns	1.240*	1.158*	1.307*	1.228	1.096	1.216*	1.404**	1.131	1.202*
Cost strat.	1.108	1.093	1.034	1.267	1.168	1.276	.946	1.219	1.225
-2 LOG L	1216.19	1741.42	1012.55	1159.46	1719.38	1494.61	1128.11	1670.14	1468.68
Model Chi Square (DF=23)	222.07***	251.23***	283.67***	186.21***	149.75***	241.08***	214.86***	184.03***	209.91***

* p<.05, ** p<.01, *** p<.001

APPENDIX B

WORKSITE HEALTH PROMOTION PROGRAM SURVEY

TABLE B.1. Worksite Health Promotion Program Survey of Fortune 500 Companies: Correlations among the variables

	X1	X2	X3	X4	X5	X6	Y1	Y2	Y3	Y4	Y5	Y6	Y7
X1	1.0												
X2	-.04	1.0											
X3	.14*	-.10	1.0										
X4	-.05	-.05	.81***	1.0									
X5	.15*	-.08	.89***	.77***	1.0								
X6	-.19**	-.11	.15*	.17**	.11	1.0							
Y1	.02	-.15*	.42***	.32***	.39***	.17**	1.0						
Y2	-.01	-.08	.46***	.38***	.45***	.19**	.79***	1.0					
Y3	-.05	-.02	-.04	-.01	-.02	-.01	-.12*	-.11	1.0				
Y4	.04	-.09	.28***	.22**	.28***	.09	.33***	.37***	-.26***	1.0			
Y5	.05	-.18**	.40***	.32***	.37***	.22**	.86***	.74***	-.11	.30***	1.0		
Y6	.04	-.04	.24**	.13*	.24**	.06	.50***	.32***	-.07	.15*	.42***	1.0	
Y7	-.04	-.18**	.30***	.19**	.27***	.09	.61***	.53***	-.09	.25***	.56***	.45***	1.0
Y8	.01	-.08	.06	.01	.06	.05	.27***	.14*	-.05	.04	.17**	.42***	.35***
Y9	-.11	-.06	.15*	.12	.10	.10	.38***	.50***	.04	.24**	.36***	.17**	.26***
Y10	-.08	.13*	.28***	.31***	.25***	.09	.41***	.51***	.05	.15*	.36***	.10	.35***
Y11	.10	.01	.39***	.29***	.39***	-.05	.56***	.60***	-.11	.35***	.53***	.31***	.43***
Y12	-.02	-.09	.33***	.32***	.32***	.07	.67***	.70***	-.13*	.30***	.63***	.33***	.58***
Y13	.07	-.03	.11	.07	.07	-.01	.40***	.23**	-.12	.21**	.38***	.19**	.28***
Y14	-.06	-.04	.22**	.18**	.22**	.18**	.38***	.52***	-.09	.39***	.33***	.17**	.31***

(Table continued.)

TABLE B.1, continued.

	X1	X2	X3	X4	X5	X6	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Y15	.01	-.08	.29***	.24***	.26***	.09	.43***	.51***	-.01	.32***	.40***	.07	.29***
Y16	-.08	.02	.21**	.20**	.16**	.11	.23**	.33***	.01	.10	.16*	.09	.25***

	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16
X1	.01	-.11	-.08	.10	-.02	.07	-.06	.01	-.08
X2	-.08	-.06	.13*	.01	-.09	-.03	-.04	-.08	.02
X3	.06	.15*	.28***	.39***	.33***	.11	.22**	.29***	.21**
X4	.01	.12	.31***	.29***	.32***	.07	.18**	.24***	.20**
X5	.06	.10	.25***	.39***	.32***	.07	.22**	.26***	.16**
X6	.05	.10	.09	-.05	.07	-.01	.18**	.09	.11
Y1	.27***	.38***	.41***	.56***	.67***	.40***	.38***	.43***	.23***
Y2	.14*	.50***	.51***	.60***	.70***	.23**	.52***	.51***	.33***
Y3	-.05	.04	.05	-.11	-.12*	-.12	-.09	-.01	.01
Y4	.04	.24**	.15*	.35***	.31***	.21**	.39***	.32***	.10
Y5	.17**	.36***	.36***	.53***	.63***	.38***	.33***	.40***	.16**
Y6	.42***	.17**	.10	.31***	.33***	.19**	.17**	.07	.09
Y7	.35***	.26***	.35***	.43***	.58***	.28***	.31***	.29***	.25***

(Table continued.)

TABLE B.1, continued.

	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16
Y8	1.0	-.05	.01	.19**	.29***	.03	.11	.02	.08
Y9		1.0	.31***	.21**	.31***	.16*	.33***	.41***	.18**
Y10			1.0	.34***	.34***	.22**	.30***	.43***	.29***
Y11				1.0	.68***	.20**	.32***	.31***	.11
Y12					1.0	.22**	.41***	.38***	.24***
Y13						1.0	.04	.18**	.07
Y14							1.0	.41***	.51***
Y15								1.0	.33***
Y16									1.0

* p<.05, ** p<.01, *** p<.0001

LEGEND:

X1 Core industry
X2 Firm = unit responding
X3 Rank order of annual sales
X4 Rank order of number of employees
X5 Rank order of total company assets
X6 Percent women in company

Y1 Presence of a wellness program
Y2 Number of wellness program activities
Y3 Plans to start a wellness program
Y4 Plans to expand program activities
Y5 Program eligibility
Y6 Company pays the cost of activities
Y7 Company offers activities during work hours
Y8 Employees participate in activities on company time
Y9 Organizational changes
Y10 Company health educator involved in program activities
Y11 Company physician involved in program activities
Y12 Company nurse involved in program activities
Y13 Personnel officer involved in program activities
Y14 Formal evaluation of wellness program activities
Y15 Needs assessment for planning wellness program
Y16 Cost analysis of wellness program activities

Table B.2. Health professionals involved in corporate wellness programs.

	HEALTH EDUCATOR	PHYSICIAN	NURSE
OVERALL:	61 (37%)	94 (57%)	116 (70%)
SALES RANK:			
1-100	26	39	40
101-200	14	27	31
201-300	12	15	32
301-400	5	4	18
401-500	4	9	14
	61	94	116
		F=4.9***	
EMPLOYEE RANK:			
1-100	28	33	36
101-200	15	26	34
201-300	8	19	26
301-400	4	5	9
401-500	5	10	10
	60	93	115
	F=3.42**		F=2.50*
ASSETS RANK:			
1-100	25	40	41
101-200	16	25	30
201-300	10	16	22
301-400	3	5	12
401-500	6	7	10
	60	93	115
		F=5.24***	

F from ANOVAs; * p<.05, ** p<.01, *** p<.001

Table B.3. Wellness program monitoring.*

	PROGRAM EVALUATION	NEEDS ASSESSMENT	COST ANALYSIS
OVERALL:	55 (34%)	65 (40%)	24 (15%)
SALES RANK:			
1-100	19	25	12
101-200	16	20	5
201-300	13	12	5
301-400	2	3	1
401-500	5	5	1
	55	65	24
EMPLOYEE RANK:			
1-100	19	24	12
101-200	15	18	5
201-300	9	10	4
301-400	5	7	2
401-500	6	5	1
	54	64	24
ASSETS RANK:			
1-100	20	25	10
101-200	16	17	6
201-300	10	14	5
301-400	4	3	2
401-500	4	5	1
	54	64	24

* No significant ANOVAs.

VITA

Neller Ree Wells Simpkins was born and raised in Baton Rouge, Louisiana. She attended Tara High School and graduated with honors in 1974. That year, she married Geoffrey A. Simpkins and began her undergraduate degree at Louisiana State University, studying part-time and employed full-time for much of the next decade. In 1983 she received a Bachelors of Science in General Studies, and in 1985 a Masters of Arts in Sociology.

Ms. Simpkins was awarded a one-year American Sociological Society-sponsored medical sociology internship for 1988-9, during which time she conducted research on corporate wellness programs. She will receive a Doctorate of Philosophy in Sociology from LSU in December, 1993.

Ms. Simpkins has published research on farm women in Louisiana and family physicians in Louisiana. Her papers have been presented in local, regional, national and international conferences. Currently, Ms. Simpkins is an assistant professor of sociology at Missouri Southern State College in Joplin.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Neller Ree Simpkins

Major Field: Sociology

Title of Dissertation: Worksite Health Promotion in America: The Impact of Organizational Context on Corporate Wellness Programming

Approved:

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Date of Examination:

August 2, 1993