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THE EFFECTIVENESS AND EFFICIENCY OF
CORPORATE FITNESS PROGRAMS

A Dissertation Presented

By

RICHARD LYNN PYLE

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

September 1980

School of Business Administration

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ABSTRACT

Corporate fitness programs are evolving from their origination as executive perquisites. This research is intended as an effort to develop an evaluation process for assessing the effectiveness of a fitness program. The research examines fitness programs in four different organizational settings and provides information that can be helpful in structuring fitness programs toward specific purposes. The appropriate structure of a program relates to program efficiency.

Based upon years of literature study, personal visits to corporate fitness programs, and contacts maintained with key people in the corporate fitness movement, a model was developed for profiling and evaluating corporate fitness programs. The major dimensions of a fitness program include education and promotion, screening evaluations, personal counseling, physical facilities, and the level of dollars budgeted and invested. A management audit was structured and used for categorizing the four fitness programs in this study. A questionnaire was designed for eliciting the perceptions of personnel and management regarding a wide range of influences from the corporate fitness program.

Information collected by the audit and the survey was analyzed, leading to implications about each program design. Specific fitness program characteristics measured by the program audit relate to particular perceptions by the organization as identified by the questionnaire survey. For purposes of this study, companies were grouped by selected areas of program

similarity, and surveyed perceptions were reviewed for consistency with a variety of hypothesized relationships. Relationships were supported for: a) more fitness education leads to higher perceived program effectiveness, higher participation in the fitness program, and higher perceived perquisite value in having a fitness program; b) more clarity and communication of fitness program objectives leads to higher program success as perceived by personnel; c) there is little direct influence upon participation simply from the dollars committed to a fitness program, leaving other factors critically significant while also preserving opportunities for program success in organizations having small, available budgets; d) fitness programs are universally perceived as positively influencing job performance in their respective organizations; and e) higher promotion by company and top management leads to higher participation levels, higher retention levels for program participants, and higher perceived value of a fitness program by the organization.

This research is intended to contribute to further studies in the field of corporate fitness programs. New studies will benefit by the maturation of existing fitness programs and will extend the number of programs being studied, as well as refining the model and instruments used in this study.

C H A P T E R I

INTRODUCTION AND PROBLEM STATEMENT

Introduction

Promotion of physical fitness through corporate fitness programs has risen in importance and frequency among American businesses. Numerous and diverse reasons are behind this movement: 1) Investment in human capital has risen in importance, 2) the concern for employee effectiveness, 3) top management's interest in fitness, 4) the cardio-vascular epidemic in America, 5) the rising cost of medical benefits, 6) the emergence of strategic management as a corporate system, and 7) the increasing scientific discipline of Exercise Science.

1. "The investment in human capital by employers has become a significant element in the management of the modern organization" (Schultz, 1959). Increasing technology and mechanization is making more critical the role employees play in organizational performance. The trend from blue collar dominated companies to white collar labor forces demonstrates this development. In white collar positions output is more contingent upon the individual since the work in most cases cannot be mechanically performed.

The physical fitness of personnel is of growing interest to the management of modern business organizations. Hundreds of firms have introduced fitness programs for some of their employees by 1979, while many more express interest in starting a fitness program. Research is now in progress to define, justify, and improve corporate fitness programs, and to verify their influence.

The purpose of this research is to provide evaluative criteria for those firms already committed to a fitness program, and guidance for those planning to start. This research examines the characteristics of a variety of existing programs, as well as the reputation those programs have among personnel of the firm. The resulting findings provide guidance in the design of fitness programs to help them better achieve their purpose, to elicit more positive reaction and higher levels of participation from the personnel that are eligible to participate in the fitness program.

Despite the low acceptance for human resources accounting, companies continue to claim that the critical dimension of their operations is their people. Organizations similarly seek to be publicly recognized as being attentive, concerned, and responsive to their human resources. Besides being good business, they know it is also good social consciousness as perceived by expectations of our present culture.

2. Since the Hawthorne studies at Western Electric, increasing attention has been drawn to the effective systems of management of human resources. Work design, highlighted by Frederick Taylor's scientific management, coupled with attention to employees' attitudes have become recognized as significant elements in the determination of performance levels. Behavioral science studies have been conducted for years to better understand the variables involved with job performance. Industry has substantially financed much of this research, and also spent heavily on organizational development opportunities for their personnel (111).

Productivity has become an internationally accepted important economic concern. Attention to productivity and pertinent influencing factors con-

tinues to grow. Government interest and support is joined by private centers to assist organizations in the quest for improving employee effectiveness.

3. Top corporate leaders have strongly endorsed fitness activities for themselves and their people. Typical among them is David Kearns, President of Xerox, who speaks to that firm's 50,000 domestic employees of improving and maintaining "the corporate body." Jesse Bell of Bonnie Bell Corp. has endorsed financial incentives for employees to participate in fitness activities, and personally claims that his own fitness program has salvaged his life, his marriage, and even his business. Annon Card, a Senior Vice-President of Texaco, promotes the need for keeping physically fit to be a successful executive; and Joseph McKinney, president of Tyler Corporation, talks about the positive self-image and stamina which comes from an elevated fitness level.

Throughout large and medium-sized firms, top management are espousing the positive influences of fitness activities on their personal performance. These leaders are the principle force behind the recent proliferation of corporate fitness programs. The fitness concept developed in the YMCA comprised a general technology base, and corporations have frequently used YMCA people to establish individual corporate programs (Kimberly Clark, General Foods, etc.). This technology has been substantially refined by research in colleges and in the military, especially by Dr. Kenneth Cooper in the United States Air Force.

Just in the past few years has the responsibility and concern for the role of fitness promotion in business been shared with medical directors and personnel administrators. Retirement by some of the top management or-

iginators of corporate fitness programs is challenging companies to weigh the consequences and future posture of an existing program.

4. The fitness movement in this country has been spurred by the statistics on heart related illnesses and deaths. With over half the deaths associated with heart ailments, more attention is being paid to the causes and prevention of cardio-vascular problems. People are becoming aware that this problem is not limited to the elderly, nor restricted to men; but rather it is becoming pervasive to all age, sex, and economic levels in our society. The counterforces are joining to combat the trend--health associations (American Heart Association), insurance companies (Blue Cross), hospitals (American Hospital Association), government and business.

5. Medical benefits have become an assumed fringe benefit for most corporate jobs of today. As a socially beneficial employee benefit it has been widely adopted by employers. It comprises a tax-free benefit that improves and maintains the health of employees. The spiralling costs of medical technology compounded by the despairing increase of treatable illnesses has caused the financing of medical benefits to attract concern and attention by businesses. General Motors, it is reported, now spends more per car for employee medical benefits than they do for steel to their largest supplier, which highlights the importance of business becoming involved in the health cost crises (85).

The medical benefits cost obviously alleviates the costs of turnover and replacement due to death or disabling health problems. Turnover cost rises due to the training and skills investment that must be duplicated for replacements.

The overall costs for medical benefits have escalated to a level that brings top management attention to its control. Substantial effort is assigned to containing the costs without denying the contracted and socially expected benefit paid by the employer. Therefore there is much interest in the proclaimed health promoting effects of fitness programs upon individuals, and equally to the eventual relief such programs can provide for the costs of medical benefits.

6. Corporate strategy remains the primary concern for top level management. Strategy is the broad, all-encompassing responsibility that links together all of the facets involved with total and long-term performance of the organization. In the absence of an historical slot in the organization chart for fitness programs, they have been left to the direct concern of top corporate strategists. So far this placement has been appropriate, because of the broad-ranging influences sought from fitness promotion performance: contain costs of human resources, provide an attractive recruitment feature for personnel, and enhance the corporate image externally.

The past research and efforts in organizational development practices, along with the direct statements of corporate leaders, the recognized importance of the effectiveness of management and employee performance in the pursuit of corporate strategy. Strategy implementation involves organization structure, processes, and utilization of resources. Directly or indirectly the strategy is designed and implemented by key people, and the search will undoubtedly continue to find better ways to increase the effectiveness of high talent people.

By enhancing the stamina, confidence, and self-image of people, corporate strategy is served by programs which enhance their performance. At the same time, attacking the costs of providing health care services can preserve resources of the firm (54). This twofold conviction is what corporate leaders express as an explanation for their interest in sharing their personal fitness development experience with their subordinate managers, and other employees when deemed affordable.

More time and corporate data is required to validate the feelings of these companies that fitness activities will indeed provide payoffs to an employer. With the expanding number of firms considering and initiating corporate fitness programs, a need presently exists to steer the design of these programs to best serve their corporate goals and strategy. Assuming the acclaimed benefits to be real, fitness programs should be geared to sustaining participation in activities which mutually serve the company and the individual. This must be done within the cost limitations of each situation. Due to the social requirement in our society that this emphasis be made without coercion, the positive attributes attainable from a fitness program need to be measured by the perceptions of the organization.

7. Beyond the advances of remedial medical technology, the field of exercise science has progressed considerably in articulating WHAT is healthy, HOW to achieve a healthy state, and denying many of the myths associated with exercise in the past. Extensive research has been helpful in getting us to know what factors are critical in elevating the various dimensions of health--i.e., weight control, cardio-vascular conditioning, strength and/or flexibility conditioning, etc. Information extends to virtually all types

of activities, such that any activity preference of an individual can be rated for its health improving effect.

Though the Exercise Scientists will continue to develop the technology and understanding of physical fitness, the research proposed here deals exclusively with management's interest in fitness programs serving corporate strategy and objectives. For those firms who are convinced of the benefits of a corporate fitness program, this research seeks to assist them in appropriate design of their program - and use of their financial resources - to achieve the targeted effects they want. The research also provides encouragement and inference for what corporate objectives can be served, and what fitness program objectives ought to be developed for each corporate situation.

Problem Statement

Participation in corporate fitness programs has become a way of life for many executives. Fitness programs in corporations were born from the recreation programs in 50,000 firms (60). Initially fitness programs were limited to top executives. During the late 1960's several corporate fitness facilities were opened for select personnel at the top of the organization. The technology of fitness and the design of the facilities were provided mainly by YMCA personnel (86).

As the combination of fitness opportunity and perquisite became known (27), more companies developed such programs (33). The participating executives professed a variety of benefits, which appealed to executives of other companies who were inclined to exercise. An important impetus to

corporate fitness was the highly publicized work of Dr. Kenneth Cooper. Dr. Cooper led the technology of quantifying exercise and promoting its health benefits through substantial research with military personnel (23). The endurance form of exercise was labeled "aerobic" activity, and helped spur the national interest in jogging and fitness (25).

With more publicity on the existence of executive fitness facilities, a need for justification to corporate shareholders was felt. Similarly, the values from a fitness program were being speculated as appropriate for subordinate personnel (88). The fitness facilities had been expensive on a per participant cost basis, and therefore only justifiable for a few top corporate managers. As more companies developed facilities and programs, more variety evolved in their design and purpose (86). Such rapid expansion, and especially the inconsistency among the various programs, has made it difficult to establish a current estimate of the number of corporate programs. Recent developments of new and old programs have included extension of fitness program eligibility for larger groups of employees (88).

Substantial evidence exists supporting the desired physiological advantages of people participating in fitness programs (82). People who participate can elevate their fitness level, which by definition includes 1) getting to and maintaining a healthy body weight defined as a percent of body fat, 2) improving the cardiovascular function, 3) improving the pulmonary function, 4) improving the circulatory function, 5) achieving better functioning of visceral organs, 6) developing muscles that reduce risks of injury from routine life activities, 7) controlling blood pressure levels, and 8) improving maintenance of body chemistry. The influences are inter-

related, and can lead to numerous other physiological benefits (71). The physiological effects can be directly measured and related to fitness program activities (17,37).

A number of other benefits are claimed to result from participation in fitness programs: 1) improved self-image, 2) elevated self-confidence, 3) higher energy levels, 4) sustained energy, and 5) stress management (50, 51, 66, 79). These benefits are also interrelated and work together to achieve other claimed benefits. Better job performance and productivity are purported effects achievable through corporate fitness programs (59, 80, 83). Reduced absenteeism and turnover, along with lower medical costs, are aspirations of many companies. These non-physiological effects are distinguishable by two significant problems:

- (1) The perceptual effects of fitness programs are not as directly nor precisely measured as physiological effects. Cause and effect relationships are not as conclusively made, and control of all possible variables less likely.
- (2) The significance of these results is measurable and meaningful only in a long-term perspective. With the short history of corporate fitness programs involving relatively small numbers of participants, at least several more years will be required to more scientifically document the value of corporate programs.

Many organizations are moving ahead with some form of fitness program (72,99). Many other firms are holding back, waiting for more scientific and economic justification of the corporate advantages from having managers or employees participate. A third category of businesses are philosophically in opposition to corporate fitness programs whether they enhance

performance or not. They believe fitness is a personal issue, and the company is outside its defined role when providing or promoting fitness programs.

While data are accumulating to more conclusively justify or challenge the value of corporate fitness programs, there is a need for more clarity as to desired features and emphasis for those organizations already committed to the fitness concept. Alternatives are needed for an organization to design a corporate program best serving its situation and objectives given its geographic, sociologic, and resource boundaries. A firm can develop a program, appropriately weighting emphasis upon the four major dimensions which are introduced and explained in the Theory section following. There is no standard model for a corporate fitness program which is universally applicable or desirable.

The purpose of this research is to address the effectiveness and efficiency of various existing corporate fitness programs. Given the present growth of corporate fitness programs, the purpose here is not to espouse nor justify them. Rather, this research deals with the means of achieving effectiveness in organizing, directing, and implementing such programs. This research is intended to contribute to the design and management of corporate programs, and improve their performance relative to specified objectives and limited resources. With more time, the justification of fitness programs in business will be better evaluated from the accumulating data and the design implications from studies such as this one. By categorizing the different programs which exist, effective features or emphasis by a company can be distinguished from the less effective. And the efficient use of resources can be analyzed by a comparison

of programs and their perceived organizational impact. It is not sufficient to conclude that one program in its entirety functions more or less effectively than another corporate program; rather, it is necessary to find out what dimensions of a program need more attention or resources to achieve desired results.

C H A P T E R I I

T H E O R Y A N D H Y P O T H E S E S

Theory

Based upon an extensive literature search, considerable discussions with fitness and administrative people, association with fitness promotion organizations, and the academic community--it is concluded that no model has been developed for evaluating a corporate fitness program's effectiveness. There have not been any studies regarding the effects or effectiveness of fitness programs, nor any process developed for doing so. The Bibliography in this document demonstrates the extensive physiological research background. Interdisciplinary studies have examined the multifaceted effects of personal fitness regimens. Some business school researchers have even tried to arrive at a dollar value for an hour of fitness activity to determine the cost effectiveness of health promotion, but there is no published report available.

At present, only one other business school professor, Dr. Russell W. Driver of the University of Oklahoma, is concurrently creating a model to be used for research on existing corporate fitness programs. Its purpose is to examine why organizations think exercise programs are beneficial. Past studies and the research for this dissertation are influences in the development of that model and the projected research activities.

Therefore, a theory base for the evaluation of corporate fitness programs exists only in the combination of various supporting developments, as reported on in this and the prior chapter. This research is an initial

effort in appraising the influences of a fitness program from a managerial perspective. Separate from the concern of what type of exercise will result in the greatest weight loss for 50-59 year old men, the managerial interest is for the impact upon individuals: their health, health maintenance costs, their performance on the job, etc., the organization's relations and atmosphere, performance, and image in the business community and society. A model has been developed here to serve this purpose. Its design is based upon earlier preliminary studies by this researcher, and exposure to corporate programs and management.

Four Components of a Model for Corporate Fitness Programs

A survey in 1978 of a majority of the established corporate fitness programs (86) revealed four major dimensions by which all programs can be described. Different programs vary by the degree of emphasis on the four dimensions respectively, as well as the level of operating and capital funding, and the particular techniques used for each dimension. Also, the lifespan and maturity of a program is a factor in its organizational impact.

One dimension is the extent of education/promotion of fitness and the corporate program. Examples reflect differences among programs, from some intentionally having no education nor promotion to programs having this dimension as the leading issue as in Kimberly-Clark Corporation. The range is mostly due to varying philosophies concerning the role the corporation should have in promoting fitness and developing a capacity for self-sufficiency by personnel. The first extreme does not encourage participation

nor self-sufficiency, for example Sun Oil Co. The service is available to eligible individuals that become self-inspired. The participant retains a dependency upon the fitness program's staff and facility, thus insuring safe monitoring of the individual's activities. The other corporate extreme is aggressive encouragement for participation among eligible personnel, and extensive educational opportunities for people to learn about the many facets of fitness.

Another dimension is that of screening/evaluation, which is intended to insure a safe, personal program while also providing feedback on progress within the program. Annual physical exams have traditionally been conducted to discover unhealthy conditions that have developed sufficient for detection. Fitness program screening goes beyond this purpose by attempting to measure how healthy or fit the individual is. Consistent with the theme of prospective or preventive medicine, health is considered a variable having a negative and a positive range dimension, such as degrees of health, or levels of fitness (82, 90). Screening examines physiological issues not simply to detect illness, but to categorize the person as to what level of physical conditioning he/she is in. The technique therefore provides a way of measuring progress from a fitness program's conditioning effect. It provides the base for prescribing an appropriate fitness program for the individual. Significant in the fitness evaluation is a test to stress the cardiovascular system of the body. However, there is little agreement regarding the level of physical stress appropriate to safely measure cardiovascular condition, or to avoid risks from the test's false positives. The various forms of testing also have substantial cost differences (24).

A third dimension of a corporate fitness program is personal program and counseling. Self prescription of a fitness program is possible through self analysis according to standardized fitness programs available (24). Alternatively, highly personalized prescription and program monitoring is possible when sufficient counseling service is provided. This includes daily review by the counselor of participants' activities and resulting pulse rates, as used by Sun Oil Co. and American Can Company. In either case, general medical precautions are communicated to participants to preclude serious physical problems from developing during exercise.

The fourth dimension is that of facilities provided or available for carrying out the personal fitness program. With fitness activities infinitely varied, the cost of facilities can range from nothing to millions of dollars. The variety of facilities also reflects the range of philosophies on corporate fitness. Facility design reveals the degree to which the organization wishes to sustain the fitness activities under its control and observation, and further reflects the priority of introducing employees to fitness and then having their personal programs be self-sustained independently.

Most corporate fitness programs exist without clearly specified objectives or purpose for the four variables cited above (87). This fact suggests that a program's design most likely follows the precedent or example of other corporate fitness programs, without an attempt to structure the program to serve desired ends. Total resources provided thus cannot relate to the targeted results of the program, but more likely reflect what can be spared for this vague function. Even where the proportional emphasis profile of a corporate fitness program on the four dimensions is similar to

the profile of another corporation's program, differences in programs exist due to overall budget levels and particular techniques chosen within each dimension. When many more corporate programs exist and permit comparisons among programs having few differences, definitive research can be conducted to indicate specific program advantages. The ultimate measure of any corporate fitness program is in how effectively (degree of accomplishment) and efficiently (level of financial resources required) it achieves its objectives and purpose.

Hypotheses

This research focus is to find what apportionment of emphasis on the four dimensions is best at achieving objectives within a range of financial resources. Objectives may be formally stated, or must be discerned from evidenced philosophy. Given the objectives and the relative range of resources available, the profile of the corporate program's emphasis over the four dimensions will vary with the program's success.

The following hypotheses are presented with definitions and supporting philosophy.

- H_1 : The more fitness education is emphasized in a corporate fitness program,
- a) the higher the perceived effectiveness of that program by corporate personnel,
 - b) the higher the retention of active participants,
 - c) the higher the participation level from among eligible personnel, and

d) the higher the perquisite value to corporate personnel.

This hypothesis assumes that fitness has a value for people to which they may be oblivious. Therefore it is assumed that it can be equally critical to educate personnel on the values, influences, and techniques of fitness for them to become motivated to commit to a company sponsored program. With the drastic changes in lifestyles and higher levels of affluence accompanying substantial technological advances of the past seventy to one hundred years, the modern employee has lost touch with natural physical activities. Automated services and transportation, less essential nutrients and bulk characteristics of natural foods due to the proliferation of highly processed convenience foods, has produced a need to "artificially" and consciously satisfy basic human physiological needs through managed exercise, nutrition, and physiological stress controls. The exercise benefits of the active lifestyle of our own ancestors is now being tardily recognized for its inherent contributions to health. One theoretical alternative to correct this deficiency is to return to that lifestyle of physical labor. A more plausible alternative is to structure activities to compensate for the otherwise sedentary or convenient behaviors of our present existence. Our ancestors did not exercise because of conscious awareness of their need to do

so; they exercised as a necessary element of their lifestyle. In a sedentary work force the need for exercise and a conscious concern for fitness must be taught. It simply is not an issue to which society is naturally sensitive.

Through education in fitness, it is hypothesized people are then able to appreciate the need for and value of the corporate fitness program. Having identified its general purpose, personnel will be able to appraise its effectiveness toward the overall promotion of fitness and health, and not merely as another corporate service evaluated on the basis of its glamour and intrigue. Participants educated in fitness would have even higher motivation and incentive for continuing active enrollment and participation in the program. A larger portion of the eligible personnel would participate in the program, since fitness education only presents positive and self-serving attributes of fitness. Though the risks of fitness activities are presented, the corresponding precautions are given to avoid the negative aspects, and insure the positive features. Fitness education, it is proposed, will demonstrate the broadened interest and investment by the firm in its human resources, and elevate its mere perquisite value to a full employee appreciation for this unique service.

H₂: The more the objectives of a fitness program are clearly identified and communicated, the more successful the fitness program is regarded by corporate personnel.

When eligible personnel understand what the purpose of the corporate fitness program is, they are able to appreciate the intended value from the company's sponsorship. The improved reputation is felt to be derived from the individual's expectation that the fitness program will serve as an explicit base for developing fitness and health. This differentiates the fitness program from merely another part of a recreation service by the company. The person can buy into the purpose of the program by joining, and relate his or her participation to accomplishment of the purpose. It is hypothesized that effort towards a goal is more highly respected than simply effort alone. The reason for this hypothesis is to test the observed consequences where fitness programs do or do not communicate clearly-stated objectives to their constituencies.

H₃: There is no significant relationship between the investment/cost levels of fitness programs and the extent of participation by eligible personnel.

Other than the initial enthusiasm over the new fitness program introduced by a company, participation is believed to relate to the understood value and need for fitness activities (H_1 c.). The importance of H_3 is that it provides a rationale to participate to organizations with limited resources. This hypothesis denies the opportunity of being able to buy fitness and health for personnel. The awareness of control over one's fitness level, along with desirable alternatives for evaluating fitness, are the fundamental bases for participation in a corporate fitness program. Continuation in a program primarily results from the participant feeling better and the exercise activity becoming a habit formed into his or her lifestyle. To get the participant past the initial eight to ten weeks of commitment to exercise, discipline and self-denial required to realize these effects, a conviction to the value of the personal time and energy is essential. This can be accomplished through diverse methods, which cover a broad range of financial resources, from low to high.

- H_4 : Fitness programs result in better job performance for participating personnel, as perceived by
- a) corporate management,
 - b) program participants, and
 - c) non-participants.

Though corporate management are not presently able to measure perceived effects upon job performance from fitness level changes, they speak to that belief quite directly and publicly. Program participants are similarly vocal about the positive influences of their fitness programs upon their work performance. Testimonials have been substantial in number and in claimed benefits (refer to Chapter I). Though non-participants may not readily agree to their own performance improving if they were to initiate participation in a fitness program, it is believed they will support the claims of top management and program participants. A consistency of conviction among all three factions within a given corporate environment is hypothesized, but not necessarily resulting in the simplistic conclusion that therefore participation is right for everyone. The belief is predicted to at least be that participation is right for those that participate.

- H₅: The more a corporate fitness program is promoted by the company and supported by top management,
- a) the higher the participation level,
 - b) the higher the retention level,
 - c) the higher the perceived value of a fitness program by personnel, and

d) the more participation in the program is viewed as affecting organizational and personnel decisions.

This hypothesis relates to a communicated influence as well as to direct effects. An expected, supportive bias exists where corporate promotion and top management support are emphasized. The corporate personnel are within the corporate family, and subject to the socialization of that environment. Mutuality of purpose and commitment are nurtured in the employer - employee relationship, such that a responsiveness by personnel is predictable.

At the same time, the combination of corporate promotion and top management support in reality result in more corporate energy and resources flowing to the fitness program. This further encourages lower level decisions and processes to be supportive, in knowing of the bias of upper level philosophy. Hence, barriers are avoided which may otherwise bureaucratically impede the development and sustainment of the fitness program. Corporations frequently initiate new programs and ventures, but the successful ones are those getting ongoing attention and approval of top management -- as expressed in the substance of corporate decisions and promotions.

Sources of the Hypotheses. 1. These hypotheses are based upon personal exposure to corporate fitness programs and people involved in their personal, private programs. The basic belief is that any organizational function performs better when it has clearly identified and commonly understood objectives. This aspect successfully communicates a sense of purpose, while simultaneously pulling the efforts of many into a common direction. A higher level of achievement is thereby attainable.

2. A literature survey was made using a computerized bibliographic search. Materials surveyed included business literature and public health information sources. Some sources were based upon the personal survey of in-house programs referred to above.

Definition of Terms

The following definitions are provided to further clarify the hypothesis stated above:

1. Fitness education effort is a level of information and instruction activity determined by the program audit instrument (refer to "Instruments of Measure" in the Methodology chapter), the score of which reflects the degree of emphasis.
2. A corporate fitness program is a conscious commitment by a firm to a facility, personnel, or accessible alternatives which promote exercise activities for the purpose of fitness and health of employee participants. Different from the recreational and pleasure objective of other alternatives such as the recreation

department, a fitness program as defined here must include activities of aerobic endurance physical exercise.

3. Participants: Active, not nominal, enrollees of a fitness program refer to company personnel who exercise two or more times a week in that program.
4. Retention of participants is measured by the turnover rate for the prior year excepting those cases in which the participant was denied continued access due to termination or relocation. This is determined by the total number of people in the program at the end of the year that were participants at the beginning of that year. The calculated percentage is the retention level. It is the complement of the dropout rate.

$$(R = \frac{P_{\text{end}} - P_{\text{new}}}{P_{\text{begin}}})$$

5. Corporate personnel refers to those employees that are eligible to participate in the corporate fitness program. This eligibility is typically defined by rank in the organization, or accessibility to the fitness program's personnel and facilities.
6. Corporate management involves those individuals in a policy-making position, having responsibility and decision-making authority over the corporate fitness program.

The measure of a fitness program's emphasis on the various dimensions defined in the Theory section, namely education, evaluation, personal programs, and facilities, is established by the program audit instrument as described in Methodology and presented in Appendix II. The perceptions by

various personnel groups are measured by the survey instrument that is presented in Appendix III.

An individual's fitness level is determined by many variables, some self-controllable and others not. Very significant among the controllable determinants is one's lifestyle, including dietary and exercise habits. Though it is difficult and useless to compare one individual's fitness level to another's due to the uncontrollable variables involved, of substantial importance is the fact that practically everyone can elevate their level of fitness through improved dietary and exercise practices. Whatever the stimulus, location, and program used, this generalization is valid. The key concern for a corporate fitness program must therefore be to provide the opportunity and encouragement for individuals to participate in a program most likely to be sustained by the participant.

Though frequent reference is made to physical, mental, and emotional factors of human make-up, in reality people are not thus segmented. This point is clearly made when attempts to alter one of the factors results in changes of all three. Research has substantiated the dietary influences upon physical, mental and emotional states (18,38,73,104). Physical exercise has been widely claimed to impact on all three, even to being used remedially for mental retardation and for the emotionally disturbed.

The value for the employer of this systems perspective of people is in the implication that the performance of personnel can be positively affected by their elevating their fitness level. In addition, the better health of employees is obviously expected to lower medical costs for a given level of health care. Since medical benefits are frequently employer financed, this savings is yielded to the employer. All this speaks dispassionately

about the health and well-being of employees. Since businesses are owned, managed, and operated by people, it is hard to believe that there is not a bias in favor of improving the well-being of personnel, aside from the direct financial pay-off to the business.

Business is an important focal point for impacting on society's health, due to its central role in the lives of most mature Americans. Responsiveness of employees to work organization influences leads to the employer having a higher likelihood of influencing people's participation in a corporate fitness program. Fitness technology has existed for some time, and been promoted in large part by YMCA's and the government such as the President's Council of Physical Fitness and Sports, or the Department of Health, Education, and Welfare. Affirmation of this concept of fitness as being desirable by an employer can provide the orthodoxy and general acceptance of these activities in a manner consistent with the employee's career demands. When fitness is given the support of management, and acknowledgements provided to encourage its acceptance and individual participation, it will then have a significant impact upon the general health of society, and benefit business as well.

C H A P T E R III

METHODOLOGY

Due to broad variations among corporate fitness programs, and few programs having been in service for any length of time, this research is intended as an exploratory effort to develop a better, defined, and defensible approach to program evaluation and design. Four separate fitness program organizations were selected for study. The programs were selected to provide substantial differences as identified by the program audit instrument (refer to end of this chapter, and Appendix II). Two programs were selected to represent the high promotion, personal counseling, and highly expensive in-house facility approach to corporate fitness. Yet distinctions of philosophy and extent of corporate support between the two were desired to assess some differences in program success. Two other fitness programs were selected from branch organizations without in-house fitness facilities and staff; and, here again, differences between them as discerned by the audit could be related to differences in success of the two programs, as measured by participation, retention, and perceptions of personnel. These two programs were within the same corporation being different sales office locations, and also were from the same corporation as one of the two in-house programs studied. All three were in different parts of the United States. The two in-house programs were from separate corporations, but both were at the international headquarters of their respective firms and within the same geographical or demographic area.

Selection was intended to have the program be representative of other programs expected to be similarly profiled by the audit instrument. However, this was a lesser concern than the real intention of investigating an organization's perceptions relative to its program and the corresponding program classification.

The two organizations with in-house programs were contacted to gain their approval for the research. The proposal was made to the fitness program director and the medical director. In both cases the medical director was administratively responsible for the fitness programs, and he reported to a vice-president of personnel. Therefore, the proposal was also personally made to the respective personnel directors. Upon understanding the purpose and process of the research, authorization was received. A commitment for a report on each program and the organization's reaction was given. These reports were provided immediately following each study, in Spring 1980.

The two non-facilities programs are administrated by a manager in a separate location. He is responsible for close to one hundred such programs within this company that are located throughout the United States. Most of these are now being initiated, but the two selected had been in operation about one and a half years. Authorization was sought and received from this manager, subject to approval from the branches where the specific programs were to be studied. The branch managers and the branch fitness program coordinators, a responsibility distinct and additional to their compensated roles, gave their consent and agreed to cooperate with the study. A special report was committed to the program manager on the study

of these two branch programs, with feedback to be shared with the branches respectively.

In all four situations, an emphasis was made that the study was not an evaluation of any fitness program administration nor to assess the corporate program against other corporate programs. The service to them was specifically for evaluating their program against their expectations, and to investigate the perceived effect of their program upon their organization. Confidentiality was assured to all the companies involved.

Following the authorization for research, arrangements were made with the respective administrations regarding a date for interviews and questionnaire distribution. In each case an on-site visit by the researcher included interviews with the top managerial person responsible for the program, which were personnel directors and branch managers, and the direct administrative people which were the medical director and fitness program director for the in-house programs, and the branch program coordinators for the other two programs. The interviews were free flowing, but conducted conscious of the audit dimensions and their respective items. The information was reconciled where inconsistencies were initially evident, and then translated into scores on the program audit instrument.

The distribution of the questionnaires was unique for each location. In three of the four locations total sampling was attempted. For one in-house program (C02) a total distribution was effected by personalized mailing through intra-company mail. The two non-facilities program locations (C01 and C04) had questionnaires distributed to all personnel. The process was to have the organizational hierarchy structure and departmentalization structure used for the distribution, and in some cases the collec-

tion as well. This was required due to the flow of some of the personnel through the branch location so infrequently. In these two cases verbal follow-up was used by the branch program coordinators to achieve a higher response level, more so in C01 than C04. The other in-house program location (C03) had about two thousand employees. A directory with all of their names was used to select every fourth person to be surveyed. For these people a personalized mailing was used in-house to distribute the questionnaires. In addition, specially marked questionnaires were available at the fitness facility for fitness program participants who were not included in the mailing. A survey of this sampled population was performed to satisfy a number of issues. The sampled population is about the size of the total populations of the other companies in the study. It was also a realistic sample size given access to the employees by the company's permission, and the limitations of cost and time to perform the survey. The distribution of responses across demographic variables, and the number of responses, justify the representativeness of the sample.

The questionnaire had a cover letter from the researcher, and a letter heading identifying the research with the University of Massachusetts (see Appendix III). The questionnaire was to be anonymously returned to the researcher via intra-corporate mailing. The response levels for each population are shown in the following table:

TABLE I

A PROFILE OF THE POPULATION SURVEYED, BY COMPANY AND LOCATION,
SHOWING RETURNS AND USABLE VALUES.

	<u># of personnel at the location</u>	<u>Surveyed population</u>	<u>Questionnaires returned</u>	<u>Usable as "cleaned" data</u>
CO1	350	350	186	182
CO2	560	560	267	251
CO3	2000	500	237	224
CO4	250	<u>250</u>	<u>90</u>	<u>81</u>
TOTAL		1660	780	738

The questionnaires were mailed to the researcher when collection was completed. After the data were put into the computer and their accuracy verified, review of the data resulted in a reduction of the information to be analyzed. This reduction was of about five percent of the responses, and was caused by questionnaires with substantial parts of twenty-five percent or more not completed.

Instruments of Measure

Due to the uniqueness and exploratory nature of this research, no existing instruments of measure were considered appropriate for this study. There have been no prior attempts to classify fitness programs. The only distinguishing factor has been related to the difference from recreational programs which are oriented toward leisure-time and pleasure activities. A fitness program is generally directed towards the development and sustainment of fitness and health of participating personnel.

Many attitude surveys were reviewed, as well as Boros' Mental Measurements Yearbook, to select an appropriate instrument for eliciting responses pertinent to this study topic. None were felt to be able to be revised for getting data specific to the hypotheses. Therefore, instruments were created to generate data that can speak directly to the researched issues.

Program Audit. A study (a separate bibliography of that study is in the Bibliography section) was made to properly structure a program audit (see Appendix II) to evaluate and classify corporate fitness programs. Five categories are evaluated by the audit - the four dimensions of a fitness program plus the investment and cost level. The audit has specific questions listed for each category. Each question's significance is represented by the possible points it can be given dependent upon the assessment of the researcher. For example, a question is asked which will yield a high or low assessment by the researcher based upon the response given. The actual points scored for a question are determined from the range of points possible which represent that question's weighting. A high evaluation on a question valued at five points would receive a score of four or five. A low evaluation on a question worth ten points may result in a score of three. Therefore, the questions in the audit are intended to be comprehensive in evaluating a particular category, and also to be weighted to provide appropriate contribution of significance to the total evaluation of that overall category.

The researcher developed the questions and assigned weightings based upon prior exposure and research in corporate fitness programs. These

questions and their weightings have been reviewed by practitioners and academicians in fitness programs, which yielded revisions in the audit instrument.

The audit provides a profile, or picture, of each fitness program to which it is applied. The profile classifies each program, and the differences identified among programs permit program selection for comparison by various criteria. A program concerned for the understanding by its members for fitness benefits to one's body, mind, and soul can be distinguished from a program which is interested in having its members dependent upon program staff for closely monitoring member activities. Similarly, a fitness program that provides facilities is clearly identified as different from a program that encourages the use of noncorporate facilities like YMCAs and health clubs.

The audit gives objective measures to the various dimensions of a fitness program. A specific company would benefit by first determining the intended design for its program, and then measuring its audit scores only against that target. The audit is not intended for assessing the quality of one program against another; rather, it shows differences in designs of compared programs. The comparison is valuable to the extent different effects for which a measure is needed are considered to be related to the design differences. The quality and effectiveness of a program, from the perspective of the company involved, can only be determined relative to the expectations the company has for it (87).

The numerical values generated by the audit process are obviously subjective estimates by the person performing the review. The validity, and therefore reliability, is based on the experience and credentials of the

review person; and, the process is valid to the extent accurate observations are possible. For this reason the audit is valid as used by the same person, this researcher, and when based upon a variety of sources for perceptions of the program. This limitation is justified for this study because of the limited use of the audit scores--strictly as a selection or discriminating mechanism for the fitness programs in the study. The development of the audit is more pertinent within a company in the consulting process, and for subsequent research efforts.

Verbal descriptions of each corporate fitness program in this study are presented in Appendix I to demonstrate the use of the audit instrument, and to increase confidence in the reliability of the instrument.

Opinion questionnaire. The opinion questionnaire was structured to directly respond to issues covered in the hypotheses. Other data are generated by the questionnaire but will not be considered in this report. Given the necessity to create an instrument for the particular purposes of this research, a special set of needs was established. (1) The basic requirement of developing questions which respond to the hypothesized relations yielded the questionnaire in Appendix III. (2) Personal information is requested, along with perceptions on the various issues involved in the hypotheses. (3) The questionnaire is intended to be easy to complete with mostly convenient responses required, like circling a number. A maximum of ten minutes is expected for completion. (4) To work against bias and acquire the desired data, the questions have been mixed and posed in the negative as well as the positive. A variety of questions have been structured for each hypothesis, as reflected by Table II in Chapter IV.

The reliability of the questionnaire is addressed in a variety of ways. Precautions were made in designing the survey to avert sources of unsystematic error and avoid variation from respondent carelessness. Care was taken to ask directly about those attitudes that are dealt with in the hypotheses, recognizing that reliability is relative to the use of the results. The attitudes being measured were current ones at the time of the survey, and were not intended to be replicable at some future time since sequential testing was not expected to elicit comparable results. The dynamics of most programs and personnel groups would lead to future testing that elicits different perceptions due to the changes.

A statistical technique was used to further examine the reliability of the fifty-one questions individually. The populations for each company were randomly split by a computer program, and a t-test made of the different results from each split group. Using a criterion of $p < .05$, meaning less than a 5% probability that differences between the split groups were due other than to chance alone, only 8 of the 204 tests indicated non-random differences (<4%). However, that percentage of 4% is within the range of differences expected by chance alone.

The reliability for each set of variables combined to address individual hypothesis is indicated in the respective discussions in Chapter IV. When more than just several questionnaire items were constructed into a multivariate measure, reliability is statistically evident (Table III). However, the intent in the study was not to formulate multivariate measures for assessing broad issues. Instead, the individual questionnaire items were constructed to individually investigate their respective issues. Many items do group together; indeed, they all group together and provide a

single measure. All items are related statistically. The importance of the questionnaire items for this research is the relationship they have individually with an hypothesized issue, and to what extent they are different when the hypothesized issue has differences.

The importance for the management of the corporate programs was in getting information on the individual questionnaire items. Results were provided as the average score for the population. The data was also divided by several demographic items--management compared with non-management, and participants versus non-participants. Information was also presented as the portion of the population in agreement (responses 4 and 5) and those who disagreed (responses 1 and 2), with the percentage shown of those having an opinion at all (response other than 3). The value in the reported information to companies in this study further emphasizes the importance of individual questionnaire items. An opinion was sought, it was directed to the employee, and their response reported to the employer in an aggregated, anonymous form.

These points just expressed deal also with the validity of the questionnaire and combinations of specific items. Sufficient responses were received (47% received, 44% used for analysis) to justify the collected data as representative of the respective corporate populations. Where appropriate, numerous questionnaire items are involved with examining an hypothesis and serving to advance internal validity. External validity is evident from a comparison of questionnaire results with the audit and statistics for participation and retention. The contrasting views of managers against non-managers, and participants against non-participants, substantiates the validity of the questionnaire.

The three types of validity most considered as important concerns (as prepared by a joint committee of the American Psychological Association, the American Educational Research Association, and the National Council on Measurements Used in Education) in the overall examination of validity are content, criterion-related, and construct. The content validity is highly judgmental and is substantially determined by the designed instruments for their respective, specific applications. A number of items are used to examine the hypothesized relationships, and further support content validation. These items are representative of the issues being investigated in each situation not only by design, but also by the judgment of other persons in the corporate fitness field who have contributed to the development, critique, and refinement of the instruments.

It is extremely difficult to substantiate criterion-related validity, for outside criteria are not readily available to validate results in this study. Construct validity is supported in the comparison of similar items yielding similar results, and the similarity of results from company program facets where they are essentially identical. Similarly, even where company programs are substantially the same (e.g., C01 and C04), different results validate the ability of the instruments used to distinguish and therefore measure these specific issues of interest. Some of the hypotheses are analyzed by measures from both the audit and the questionnaire. These separate sources are consistent in their measurement of effects, and thereby reflect the convergence element in construct validity. The discussions in Chapter IV include references to similar questionnaire items that reveal differences in responses, and thereby represent discriminability that is required for construct validity.

Until "some reliable criterion for measuring success or failure (is) provided, it will not be possible to conduct a meaningful test of validity" (E. A. Suchman in Evaluative Research p. 120). The basic problem of all research is to increase validity, which underlies the importance of the role this research can have upon subsequent efforts. Given the newness of the field of corporate fitness programs and the birth of research from a business perspective, this report establishes the most reliable criterion for validity that is possible at this time in this area of study. Its success can eventually be determined by the ability it will have to be predictive for use in corporate decisions.

The objective of this research is to appraise the hypotheses in the most simple, direct manner possible. Despite the many numbers in the data base, the nature of those numbers must be remembered to deny statistical analyses which are inappropriate. The exploratory nature of the research, along with the developmental and primitive state of the fitness program field, do not justify attempts to achieve definitive conclusions. The hope is to study corporate fitness programs in a way that (a) leads to an ability to better research the field in the future, (b) provides guidelines for effectively designing programs for companies already committed to the fitness concern of personnel, and (c) lead to finding ways of answering for businesses the question of whether or not they should conduct corporate fitness programs.

C H A P T E R I V
A N A L Y S I S O F R E S U L T S

Introduction

A listing of summarized data by company is in Appendix I. This listing provides the scores acquired from the programmatic audit, the frequencies of the various demographic categories for respondents to the questionnaire, and the means of the responses for each question in the survey. The participation and retention statistics are given for each company. Verbal descriptions of each company program are provided in Appendix II to further present descriptions of the respective programs and to demonstrate the basis for the audit scores.

Information from the programmatic audit has been used as selection criteria for the various hypotheses, therefore functioning as independent variables. The selection of specific populations was at times determined by the demographic categories in the questionnaire. And in a few instances, questionnaire responses were also used as independent variables to identify certain population segments or beliefs to be related with other dependent measures.

Table II itemizes the independent and dependent variables for each hypothesis. Each hypothesis is handled separately in the analysis. Significance levels are provided where statistically appropriate. A level of $p < .05$ was used to determine significance in relationships. The F-values in the tables meet this criterion, unless marked by an asterisk to indicate

TABLE II
INDEPENDENT AND DEPENDENT VARIABLES ACCORDING TO HYPOTHESES

<u>Hypotheses</u>	<u>Independent Variables</u>	<u>Dependent Variables</u>
I-A	Education Dimension Score.	1A, 1B, 5, 6, 10, 11, 16, 17, 18, 20, 21B, 22, 27B, 28A, 28B, 29A, 29B, 30, 31, 32, 33A, 33B, 36, 38, 40.
I-B	Education Dimension Score.	Retention, 35 & 36 for participants.
I-C	Education Dimension Score.	Participation, 35.
I-D	Education Dimension Score.	40.
II	P-6 (item 6 on demographic cover sheet for questionnaire), 9.	1A, 1B, 5, 6, 10, 11, 16, 19, 20, 21B, 22, 28A, 28B, 29A, 29B, 30, 33A, 33B.
III	Program costs per eligible employee, program costs per participant, program costs per company.	Participation, 34, 35, 38.
IV-A	Management.	5, 6, 7, 8, 11, 12, 21B, 22, 24, 25, 27B, 28A, 28B, 29A, 29B, 33A, 33B, 37, 40.
IV-B	Participants.	5, 6, 7, 8, 11, 12, 21B, 22, 24, 25, 27B, 28A, 28B, 29A, 29B, 33A, 33B, 37, 40.
IV-C	Non-participants.	5, 6, 7, 8, 11, 12, 21B, 22, 24, 25, 27B, 28A, 28B, 29A, 29B, 33A, 33B, 37, 40.
V-A	Audit Score I-11, top management participation, 4, 14, 15, 19, 23, 34.	Participation.
V-B	Audit Score I-11, top management participation, 4, 14, 15, 19, 23, 34.	Retention

(Continued next page)

TABLE II (Continued)

V-C	Audit Score I-11, top management participation, 4, 14, 15, 19, 23, 34.	1A, 1B, 3, 5, 6, 7, 11, 12, 13, 16, 20, 21B, 22, 25, 27A, 27B, 27C, 28B, 29B, 30, 31, 32, 33A, 33B, 38, 40, 41.
V-D	Audit score I-11, top management participation, 4, 14, 15, 19, 23, 34.	37.

TABLE III

CRONBACH'S ALPHAS FOR HYPOTHESIZED SCALES

HAVING MORE THAN SIX ITEMS EACH FROM THE QUESTIONNAIRE

<u>TABLES</u>	<u>HYPOTHESES</u>	<u>ITEMS IN SCALES</u>	<u>ALPHAS</u>
IV	I-A	25	.924
IX, X	II	18	.901
XII, XIII, XIV	IV-A,B,C	19	.903
XV, XVI	V-C	25	.933

the significance level not at $p < .05$. A discussion analyzing each table's results is provided immediately after it. The chapter closes with a review of the overall results relative to the general issues of this research.

Table III presents the alphas for the various hypothesized scales. Relationships of variables for which six or more questionnaire items are together can be viewed as a scale and the scale alpha is therefore pertinent. The original purpose in the hypothesis was for each questionnaire item to individually relate with the independent variables. Therefore scales were intentionally not developed to represent general and broad factors. From the resulting high alpha values it is clear that the scales do provide a joint measure, and hence serve collectively as a scale. Tables having fewer than six items in a group of dependent or independent variables do not serve as scales, nor do they have significant group alphas. Low group alphas were expected due to the small number of items in these groups. These relationships are meaningful when examining individual items in one group with the other set of variables in the table.

Hypothesis I

Discussion of Table IV. The hypothesis states: "The more fitness education is emphasized in a corporate fitness program." The level of fitness education is a measure provided by the audit instrument. By each fitness program's design, the extent of high or low emphasis given fitness education is evident. Prior knowledge of types of fitness programs obtained from earlier studies by the researcher was a basis for the selection of the particular companies participating in this research. However, the

TABLE IV
 EMPLOYEE PERCEPTIONS OF FITNESS PROGRAM EFFECTIVENESS
 BY HIGH AND LOW FITNESS EDUCATION COMPANIES

Educ. Dimension Score	<u>Companies</u>		Univariate F's ^a
	<u>2 & 3</u> High 67%	<u>1 & 4</u> Low 35%	
Multivariate F = 16.9 (d.f.25,712), p = <.001			
	$\bar{X}'s$		
(1a) Participant relations improve	4.42	3.69	129.1
(1b) Personnel relations improve	3.24	2.84	26.7
(5) Working atmosphere improves	3.91	3.10	106.1
(6) Organization's performance improved	3.71	3.24	34.6
(10) Achieving FP objectives	3.81	2.87	187.6
(11) Terminating FP hurt organization	4.23	3.22	132.5
(16) Well-conducted FP	4.10	3.36	84.2
(17) Participants' physical energy elevated	4.19	3.56	101.7
(18) Participants' energy level ex- ceeds non-participants'	3.51	3.17	17.9
(20) FP improved participants' health	4.35	3.65	139.8
(21b) Participation increases self- confidence	3.42	3.11	15.6
(22) Participation improves job per- formance	3.29	3.00	18.5
(27b) Participation improves job attitude	3.42	3.19	9.7
(28a) Participants have more job moti- vation	2.99	2.92	.7*
(28b) Participation increases job moti- vation	3.17	2.97	7.4
(29a) Participants have more ambition	2.87	2.90	.1*
(29b) Participation increases ambition	3.08	2.94	3.4*
(30) Participation improves health	4.27	3.63	122.8
(31) Participants are healthier	3.68	3.28	24.4
(32) Non-participants could improve health by joining	4.11	3.76	28.2

(Continued on next page)

TABLE IV (Continued)

(33a) Program's tangible and intangible benefits exceed costs	3.95	3.48	35.1
(33b) Program's tangible benefits exceed costs	3.50	3.36	3.1*
(36) Fitness beliefs and practices stem from FP	2.83	2.67	2.7*
(38) FP expensive considering its impact	2.17	2.68	39.0
(40) FP only a perquisite	2.06	2.52	28.5

^a(d.f.1,736)

*Not significant at level of $p < .05$.

Educational Dimension Score from the programmatic audit was used as an objective measure to support the selection and distinction of High versus Low emphasis for fitness education.

Two of the four companies scored equally high as emphasizing fitness education (67%), while the other two fitness programs were comparably low (38% and 32%). In the proposal for this research twenty-five questions in the questionnaire had been selected as dependent measures to examine the perceived effectiveness of a respondent's corporate fitness program. Averages for each question have been provided for all respondents from the two fitness programs high in fitness education, and correspondingly for those low in fitness education. Q34 from the questionnaire further supports the selection of these groupings, and the difference in the perception by personnel regarding the level of promotion. The High group mean was 3.53, and the Low group mean was 3.08. This difference was statistically significant ($F = 23.4$ d.f.1,736; $p < .001$).

A comparison of the two mean scores for each dependent variable reveals the direction and degree of their difference. Table IV shows means, F scores, and significance levels. Twenty of the variables individually reflect a significant ($p < .05$) difference in the means from the two populations, all in the expected direction. Of the five variables not having a significant difference, four of them (28A, 29A, 29B, 36) have means which indicate the populations did not have feelings regarding the question ($\bar{X} \approx 3.0$). The other variable with a non-significant difference (33B) shows that both the High and Low groups agree with the tangible benefits exceeding the costs of a fitness program ($\bar{X}'s > 3.0$), but the difference in group means is not significant.

The dependent variables were selected due to their potential association with a FP's effectiveness. Effectiveness would be demonstrated by improvements in psychological, physiological, and performance measures. The twenty-five questions assess the perceptions the individual has regarding the fitness program and its effects. They collectively vary with the degree of fitness education at a significant level, as demonstrated by the multivariate F. Therefore the research supports the hypothesized relationship that there is a positive correlation between the degree of fitness education and the perception of an effective fitness program by personnel.

A computerized, statistical test of reliability for the twenty-five questionnaire items indicates they constitute a reliable set of questions. A Cronbach alpha of .924 was calculated for the 25 items, and the lowest individual item alpha was .919.

Discussion of Table V. Though the average retention statistics for the High and Low programs appear to be related to the degree of fitness education, a review of individual program scores denies this conclusion:

	<u>Co1</u>	<u>Co2</u>	<u>Co3</u>	<u>Co4</u>
Education Emphasis Score	38%	67%	67%	32%
Retention Statistics	70%	90%	50%	20%

TABLE V
 THE RELATIONSHIP BETWEEN THE EMPHASIS UPON FITNESS EDUCATION
 IN THE FIRM AND RETENTION OF EMPLOYEES IN THE FITNESS PROGRAM

	<u>Companies</u>	
	2&3	1&4
	<u>High</u>	<u>Low</u>
Education Emphasis Score	67%	35%
Retention Statistics	70%	45%

Multivariate F = 2.21 (d.f.2,447), p = .111

	<u>Participant</u> <u>\bar{X}'s</u>		<u>Univariate</u> <u>F's</u> ^a
(35) Nature of FP influences partici- pation decision	3.45	3.23	3.5*
(36) Fitness beliefs and practices stem from FP	2.71	2.74	.0*

^a(d.f.1,448)

*Not significant at level of $p < .05$.

The other two dependent variables from the questionnaire do not reflect significant mean differences between the High and Low groups, nor do they collectively vary at a statistically significant level with fitness education.

No alpha for Hypothesis Ib was calculated, for the two questionnaire variables testing it are not intended as a scale.

Discussion of Table VI. The positive relationship exhibited between fitness education and Participation is further supported by the corresponding trends when looking at individual company statistics (see Appendix I). The perception that the nature of the fitness program influences participation is statistically significant when comparing the two groups. The data therefore support the hypothesis that participation in a fitness program is related to the amount of fitness education, but that other issues are pertinent to the retention of fitness program members.

TABLE VI
 THE RELATIONSHIP BETWEEN FITNESS EDUCATION
 AND THE EXTENT OF EMPLOYEE PARTICIPATION

	<u>Companies</u>		
	2 & 3	1 & 4	
	<u>High</u>	<u>Low</u>	
Education Emphasis Score	67%	35%	
Participation Statistics	36%	12%	
			Univariate
	<u>$\bar{X}'s$</u>		<u>F^a</u>
(35) Nature of FP influences participation decision	3.44	3.16	8.76

^a(d.f.1,736)

Discussion of Table VII. The hypothesized perception is clearly supported by the statistics represented in Table VII. However, upon closer inspection, the relationship hypothesized is not even addressed by Q40. The question really places the respondent in the position of saying "there is no other good reason for corporate sponsorship" than that "the fitness program is a perquisite and fringe benefit." The question leaves

TABLE VII

THE EXTENT OF EMPHASIS UPON FITNESS EDUCATION AND
THE PERCEPTION OF FITNESS PROGRAMS AS A PERQUISITE - HYPOTHESIZED COMPARISON

	<u>Companies</u>		Univariate F^a
	2 & 3	1 & 4	
	<u>High</u>	<u>Low</u>	
Education Emphasis Score	67%	35%	
	<u>$\bar{X}'s$</u>		
(40) FP only a perquisite	2.06	2.52	28.5

^a(d.f.1,736)

unaddressed the degree of perquisite value to personnel, since high perquisite value could expectedly have attendant advantages. Therefore a more appropriate relationship would be to examine Q3 which states "The corporate fitness program is attractive as a benefit for present and prospective personnel." Q41 also poses the fitness program as a preferred "alternative to other possible programs of similar expense" for the organization. The results by groups are presented in Table VIII.

TABLE VIII
 THE EXTENT OF EMPHASIS UPON FITNESS EDUCATION AND THE
 PERCEPTION OF FITNESS PROGRAMS AS A PERQUISITE --
 ALTERNATE METHOD OF COMPARISON

Multivariate $F = 139.3$ (d.f.2,735), $p < .001$

	<u>Companies</u>		Univariate F^a
	2&3 <u>High</u>	1&4 <u>Low</u>	
Q3	4.52	3.36	262.1
Q41	4.50	3.75	113.9

^a(d.f.1,736)

Therefore the hypothesis is supported by the data. The original method for examining the relationship was an invalid one; the alternative presented here is better and demonstrates the hypothesized relationship at a statistically significant level.

Hypothesis II

Discussion of Table IX. Division of the four company programs by the independent variable P-6 (questionnaire item on demographics page asking respondent to state the FP objective or purpose) again places Co2 and Co3 in the "More" group versus Co1 and Co4 in the "Less" group. This division, representing more or less clarity of objectives, is statistically supported by the data for Q9. Eighteen items in the survey had been selected as representing perceived program success. Fourteen of these variables have group means that are significantly different. The fourteen relate to the program directly, or to perceived benefits. A significant difference ex-

TABLE IX

THE RELATIONSHIP BETWEEN CLARITY OF OBJECTIVES IN CORPORATE
FITNESS PROGRAMS AND THE PERCEIVED SUCCESS OF FITNESS PROGRAMS

	<u>Companies</u>		Univariate <u>F^a</u>
	2 & 3	1 & 4	
	<u>More</u>	<u>Less</u>	
(P-6) OBJECTIVE STATED	82%	47%	
(P-6) OBJECTIVE NOT KNOWN OR NO RESPONSE	18%	53%	
	<u>\bar{X}'s</u>		
(9) F.P. objectives clear	3.76	3.54	6.2

^a(d.f.1,736)

Multivariate F = 23.7 (d.f.18,719), p = <.001

	<u>\bar{X}'s</u>		Univariate <u>F's</u>
(1a) Participant relations improve	4.42	3.69	129.1
(1b) Personnel relations improve	3.24	2.84	26.7
(5) Working atmosphere improves	3.91	3.10	106.1
(6) Organization's performance improved	3.71	3.24	34.6
(10) Achieving FP objectives	3.81	2.87	187.6
(11) Terminating FP hurt organization	4.23	3.22	132.5
(16) Well-conducted FP	4.10	3.36	84.2
(19) Company sponsorship effects participation	4.09	3.51	60.8
(20) FP improved participants' health	4.35	3.65	139.8
(21B) Participation increases self-confidence	3.42	3.11	15.6
(22) Participation improves job performance	3.29	3.00	18.5
(28a) Participants have more job motivation	2.99	2.92	.7*
(28b) Participation increases job motivation	3.17	2.97	7.4
(29a) Participants have more ambition	2.87	2.90	.1*
(29b) Participation increases ambition	3.08	2.94	3.4*

(Continued on next page)

TABLE IX (Continued)

(30) Participation improves health	4.27	3.63	122.8
(33a) Program's tangible and intangible benefits exceed costs	3.95	3.48	35.1
(33b) Program's tangible benefits ex- ceed costs	3.50	3.36	3.1*

^a(d.f.1,736)

*Not significant at a level of $p < .05$.

ists on those items where the outcomes relate to health, performance, people relations, working atmosphere, self-confidence, and overall benefit from a fitness program. As in the reports to each company following the individual program studies, successful programs are not generally attributed with increasing motivation, ambition, and such psychological effects--excepting self-confidence. Even with the psychological measures where a significant difference occurs (28B), the absolute levels of the means are in the middle of the scale denying a supportive influence to the hypothesis. The other non-significant difference between the groups' means is the issue of a fitness program's cost benefit, where comments on returned questionnaires elaborated on the unwillingness or inability of respondents to make this definitive statement. The overall significance test of the group of eighteen variables, a multivariate F, indicates that together they distinguish the company grouping as hypothesized.

The eighteen-variable scale was checked by a reliability test. Cronbach's alpha was .901 for the scale, and not lower than .894 for any individual item with the remainder of the scale.

Another method for examining the relationship between clarity of objectives and the eighteen variables individually and collectively representing a successful fitness program is reported in the following table, Table X. This approach segments the total population by the various levels of respondents' perceived clarity on objectives. Q9 accomplishes this clear segmentation, unlike the prior analysis in which company groupings retain some degree of conflicting views within the two groups. This analysis by level of response to Q9 directly focuses on the "perceived success

TABLE X
 THE RELATIONSHIP BETWEEN LEVELS OF CLARITY OF OBJECTIVES
 IN CORPORATE FITNESS PROGRAMS AND THE PERCEIVED SUCCESS
 OF FITNESS PROGRAMS - RESPONSE BREAKDOWN

Multivariate $F = 4.37$ (d.f.72,2818) $p = <.001$

- 1 = Strongly Disagree
 2 = Mildly Disagree
 3 = No Feelings
 4 = Mildly Agree
 5 = Strongly Agree

	<u>\bar{X}'s for response levels to Q9</u>				
	(Clarity of Objectives)				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
N =	31	130	73	316	188
(1a) Participant relations improve	3.90	4.02	3.64	4.17	4.48
(1b) Personnel relations improve	2.32	2.93	2.92	3.18	3.27
(5) Working atmosphere improves	2.87	3.20	3.18	3.72	4.06
(6) Organization's performance improved	2.55	3.19	3.11	3.68	3.90
(10) Achieving FP objectives	2.74	2.85	3.07	3.52	4.11
(11) Terminating FP hurt organization	3.39	3.63	3.63	3.88	4.28
(16) Well-conducted FP	3.03	3.39	3.33	3.91	4.34
(19) Company sponsorship effects participation	3.58	3.85	3.52	3.88	4.13
(20) FP improved participants' health	3.35	3.94	3.62	4.15	4.45
(21B) Participation increases self-confidence	2.71	3.19	3.16	3.34	3.49
(22) Participation improves job performance	2.42	3.03	3.01	3.19	3.48
(28a) Participants have more job motivation	2.16	2.86	2.92	2.98	3.17

(Continued on next page)

TABLE X (Continued)

(28b) Participation increases job motivation	2.19	2.96	3.15	3.14	3.25
(29a) Participants have more ambition	2.16	2.85	2.82	2.88	3.06
(29b) Participation increases ambition	2.29	2.87	3.05	3.09	3.15
(30) Participation improves health	3.45	3.89	3.66	4.06	4.37
(33a) Program's tangible and intangible benefits exceed costs	3.03	3.64	3.36	3.82	4.13
(33b) Program's tangible benefits ex- ceed costs	2.77	3.30	3.19	3.50	3.69

Note: All univariate F's (d.f.4,733) have significance of <.001

of the program" differences by groups having different clarity on what the purposes of their respective fitness programs are. Therefore, this is the only selection distinction, and does not include other corresponding factors. This was not the case in the prior analysis, in which the grouping also had in-house program respondents matched against non-facilities program respondents. The grouping was the same as that for High and Low fitness education.

Table X includes the "3" level column, and the significance tests incorporate it as well, continuing the approximation of the scale of five responses as continuous. By recognizing that the third level response label was "no feelings," it is interesting to review the trends of the mean values for each variable for Q9 response levels 1, 2, 4, and 5. In every item there is a definite ranking of means consistent with the respondent groups' clarity of objectives. Further, all hypothesized relationships of means are statistically significant, for each variable and for their combination. The four items on motivation and ambition (28A, 28B, 29A, 29B) again show low absolute levels despite their trend upward with purpose clarity.

Hypothesis III

Discussion of Table XI. About the clearest distinction for grouping the programs in this study is the financial commitment. With only four programs involved, there is little value in determining the exact dollars invested by program since there is such a clear dichotomy. Co2 and Co3 have in-house fitness facilities with full-time staff and substantial operating budgets. Co1 and Co4 are home programs with little financial

TABLE XI
 THE RELATIONSHIP BETWEEN DOLLAR COSTS OF FITNESS PROGRAMS
 AND THE EXTENT OF PARTICIPATION

	<u>Companies</u>	
	2 & 3	1 & 4
	<u>High</u>	<u>Low</u>
Operating costs/eligible employee	\$ 55	\$ 7
Operating costs/participant	\$185	\$53
Operating costs/company	\$70,500	\$2,100
Audit Costs Dimension	69%	8%

Multivariate F = 20.4 (d.f.3,734), p = <.001

			Univariate <u>F^a</u>
Participation level	36%	12%	
(34) Adequate promotion of FP	3.53	3.08	23.4
(35) Nature of FP influences participation decision	3.44	3.16	8.8
(38) FP expensive considering its impact	2.16	2.68	39.0

^a(d.f.1,736)

support. This distinction precludes the necessity of estimating the value of space and capital investment in the facilities for Co2 and Co3. Therefore the operating budgets have been used to establish the groupings. Calculations are shown where the budget is represented by participants, and also against the total employee base at each location. The audit score is supportive of the division of companies by the "investment/cost levels of fitness programs."

Despite this very clear distinction in funding for the programs, participation levels are not correspondingly determined. Though the table shows average participation levels by the High and Low groups as not supporting the hypothesis, this appears only because of averaging. Though dollar support in the High companies is roughly equal, participation levels are 47% for Co2 and 25% for Co3. Similarly in the low group where funding is identical for both companies, participation levels are 20% and 4% respectively for Co1 and Co4. This information indicates a possible and slight relationship between program funding and participation, but quite clearly other factors are more critical to achieving higher participation. Therefore the hypothesis is supported, since "no significant relationship" is assignable to costs versus participation. If the relationship were considered significant just by the ranking of funding and participation by the companies respectively, then the significance would be contradicted by the dramatic differences in participation levels for programs having comparable funding (Co1 with Co4, and Co2 with Co3).

Three other variables were proposed as being dependent variables for the influence of cost support (Q34, Q35, Q38). Their mean values significantly correspond with the High and Low groupings of companies, as they do

collectively. However, they are not direct measures of participation with funding. It is interesting to note their relationship to costs, but this association is not essential to the specific hypothesis being investigated.

Hypothesis IV

A summary measure for fitness programs resulting in better job performance for participants was constructed by grouping nineteen of the questionnaire items. Selection was based upon those questionnaire items that dealt with individual or organizational performance, or performance related issues. A review of the descriptive labels for the dependent variables in Table XII will demonstrate the basis of selection.

The Cronbach alpha for the nineteen-item scale is high having a value of .903. The lowest alpha for any one item with the scale is .894.

Hypothesis IV does not imply that the response values will differ among the management, participants, and non-participants groups. The purpose for the three parts of the hypothesis is to demonstrate the general belief and support by these distinct groups for the hypothesized perception. Hence, a multivariate analysis of variance is not appropriate, and a composite test of significance was not made. Instead, the individual items means are compared with the middle of the scale, 3.00, which also represents "no feelings." A test of significance is made for the means being different from the mid-point, and therefore actually expressing a group belief.

Discussion of Tables XII, XIII, XIV. For each item in each table, a t-test has been performed to determine those values which have a 95% confidence

TABLE XII
 HOW FITNESS PROGRAMS INFLUENCE JOB PERFORMANCE
 AS PERCEIVED BY MANAGEMENT

	N=343 <u>MGT.</u>
(5) Working atmosphere improves	3.80*
(6) Organization's performance improved	3.69*
(7) Participation requires too much time	<2.25>*
(8) Fitness not related to performance	<2.18>*
(11) Terminating FP hurt organization	4.12*
(12) Employers should sponsor FPs	4.29*
(21B) Participation increases self-confidence	3.41*
(22) Participation improves job performance	3.28*
(24) Participants better workers than non-participants	2.92
(25) Fitness influences job performance	3.98*
(27B) Participation improves job attitude	3.43*
(28A) Participants have more job motivation	3.02
(28B) Participation increases job motivation	3.15*
(29A) Participants have more ambition	2.92
(29B) Participation increases ambition	3.08
(33A) Program's tangible and intangible benefits exceed costs	3.91*
(33B) Program's tangible benefits exceed costs	3.57*
(37) Participation affects personnel decisions	2.37*
(40) FP only a perquisite	<2.00>*

*denotes at least a 95% confidence level that $\bar{X} \neq 3.0$, and therefore supports hypothesis

< > denotes question posed in reverse of hypothesis, therefore <3.0 supports hypothesis.

TABLE XIII
HOW FITNESS PROGRAMS INFLUENCE JOB PERFORMANCE
AS PERCEIVED BY PARTICIPANTS

	N=305
	<u>P.P.</u>
(5) Working atmosphere improves	4.15*
(6) Organization's performance improved	4.00*
(7) Participation requires too much time	<1.74>*
(8) Fitness not related to performance	<1.95>*
(11) Termination of FP hurt organization	4.39*
(12) Employers should sponsor FPs	4.44*
(21B) Participation increases self-confidence	3.63*
(22) Participation improves job performance	3.55*
(24) Participants better workers than non-participants	3.27*
(25) Fitness influences job performance	4.19*
(27B) Participation improves job attitude	3.70*
(28A) Participants have more job motivation	3.31*
(28B) Participation increases job motivation	3.44*
(29A) Participants have more ambition	3.20*
(29B) Participation increases ambition	3.32*
(33A) Program's tangible and intangible benefits exceed costs	4.20*
(33B) Program's tangible benefits exceed costs	3.70*
(37) Participation effects personnel decisions	2.47*
(40) FP only a perquisite	<1.91>*

*denotes at least a 95% confidence level that $\bar{X} \neq 3.0$, and therefore supports hypothesis

< > denotes question posed in reverse of hypothesis, therefore <3.0 supports hypothesis.

TABLE XIV
 HOW FITNESS PROGRAMS INFLUENCE JOB PERFORMANCE
 AS PERCEIVED BY NON-PARTICIPANTS

	N=433
	<u>N.P.</u>
(5) Working atmosphere improves	3.25*
(6) Organization's performance improved	3.22*
(7) Participation requires too much time	<2.84>*
(8) Fitness not related to performance	<2.42>*
(11) Termination of FP hurt organization	3.50*
(12) Employers should sponsor FPs	3.87*
(21B) Participation increases self-confidence	3.08
(22) Participation improves job performance	2.93
(24) Participants better workers than non-participants	2.65*
(25) Fitness influences job performance	3.74*
(27B) Participation improves job attitude	3.08
(28A) Participants have more job motivation	2.73*
(28B) Participation increases job motivation	2.86*
(29A) Participants have more ambition	2.66*
(29B) Participation increases ambition	2.82*
(33A) Program's tangible and intangible benefits exceed costs	3.49*
(33B) Program's tangible benefits exceed costs	3.28*
(37) Participation effects personnel decisions	2.44*
(40) FP only a perquisite	<2.44>*

*denotes at least a 95% confidence level that $\bar{X} \neq 3.0$, and therefore supports hypothesis

< > denotes question posed in reverse of hypothesis, therefore <3.0 supports hypothesis.

level representing a non-random difference from the scale mid-point. For Table XII, four variables did not meet this criterion, while fifteen did. Despite the support for the multi-faceted influences from a fitness program, there was a resistance to saying participants are better workers than non-participants. This acknowledgement is conclusive and judgmental, with only the one variable of participation. Many influences were expressed that lead to this possible opinion, but alone it is recognized as overly simplistic. There is also a social or cultural characteristic that would work against this conclusion being stated. The management perception was not significant in three psychological items, and relates to the discussion for Table XIV. Even where a significant expression is credited for Q28B, the absolute value (3.15) further shows the weak support for the psychological benefits of a fitness program. For all three segments of the population, Q37 shows a significant rejection of the possibility that participation is related to personnel decisions. Supported by many written comments by respondents, this possibility was not a proper consideration for companies. This again allows that fitness programs can influence performance by numerous avenues, but shows a social-cultural rejection of it when openly identified as such through participation being a basis or determinant for personnel decisions, or for participants performing better than non-participants. All items were statistically significant for participants, eighteen of which support the hypothesis (IV-B).

Non-participant mean scores were significant expressions for sixteen of the nineteen items. Ten of these support the hypothesis, while six are significantly contrary to the hypothesized perception. Besides Q37, there is a rejection by non-participants for the psychological benefits (Q28A,

Q28B, Q29A, Q29B). And again, they deny the conclusion that participants are better workers. Rather than collapsing the information from the table into a score, and presuming light support for the hypothesis from ten of nineteen being supportive, it is more meaningful to consider the nineteen items separately. The import of the hypothesis and the collected data is in the support and positive recognition from non-participants for the benefits of a corporate fitness program. The next chapter will further elaborate on the twofold value for companies in (a) the current, positive influence of a fitness program to others in the organization that are not participants, and (b) the positive reaction by non-participants representing a potential market for additional members in some aspects of the program--leading to some of the credited benefits possible for personnel.

Hypothesis V

Discussion of Table XV. The researcher's review of the internal organization, along with interviews for data, resulted in a scored assessment of top management support for the respective fitness programs. This score was used to select two groups of fitness programs--those High in support, and those that were identified as being Low (Co1 = 90%, Co2 = 100%, Co3 = 80%, Co4 = 10%). Top management participation from each organization was determined by the survey, and substantiated the selections by the audit criterion (Co1 = 1/1, Co2 = 16/22, Co3 = 6/8, Co4 = 0/1). Therefore the High group includes Co1, Co2, and Co3; the Low group is Co4. Six items from the survey were proposed as also being representative of the selection criteria. Four of these six are statistically significant as supporting

TABLE XV

THE RELATIONSHIP OF THE LEVEL OF CORPORATE AND TOP MANAGEMENT SUPPORT WITH PARTICIPATION, RETENTION, PERCEIVED VALUE OF THE FITNESS PROGRAM BY PERSONNEL, AND PERSONNEL DECISIONS

	<u>High</u>	<u>Low</u>	
Audit I-11	90%	10%	
Top Management participation (questionnaire)	74%	0%	
Multivariate F = 14.58 (d.f.6,731), p = <.001			
	\bar{X} 's		
	(Col1&2&3) <u>High</u>	(Co4) <u>Low</u>	Univariate <u>F's</u> ^a
(4) Too much corporate emphasis	1.86	2.06	3.0*
(14) FP supported by top management	4.29	3.46	56.1
(15) Top management support of FP is significant	4.37	3.75	32.4
(19) Company sponsorship affects participation	3.94	3.44	18.0
(23) Participants would be active despite FP	3.07	3.78	26.2
(34) Adequate promotion of FP	3.40	3.17	2.4*
^a (d.f.1,736)			
A. Participation level	31%	4%	
B. Retention level	70%	20%	
C. Multivariate F = 2.96 (d.f.27,710), p = <.001			
(1a) Participant relations improve	4.21	3.77	17.5
(1b) Personnel relations improve	3.11	2.99	1.0*
(3) FP is an attractive benefit	4.18	3.51	28.7

(Continued next page)

TABLE XV (Continued)

(5)	Working atmosphere improves	3.69	3.11	20.5
(6)	Organization's performance improved	3.58	3.26	6.5
(7)	Participation requires too much time	2.37	2.48	.6*
(11)	Terminating FP hurt organization	3.93	3.33	17.2
(12)	Employers should sponsor FPs	4.13	3.85	6.5
(13)	FP has cost reducing effect	3.82	3.48	7.3
(16)	Well-conducted FP	3.90	3.33	19.4
(20)	FP improved participants' health	4.16	3.59	34.9
(21b)	Participation increases self-con- fidence	3.34	3.05	6.1
(22)	Participation improves job performance	3.22	2.93	7.9
(25)	Fitness influences job performance	3.93	3.93	.0*
(27a)	Participation improves life attitudes	3.63	3.41	3.8*
(27b)	Participation improves job attitude	3.11	3.34	4.8
(27c)	Participation improves attitude about others	3.30	3.14	2.0*
(28b)	Participation increases job motivation	3.13	2.80	8.2
(29b)	Participation increases ambition	3.05	2.86	2.6*
(30)	Participation improves health	4.10	3.62	26.4
(31)	Participants are healthier	3.56	3.36	2.5*
(32)	Non-participants could improve health by joining	4.00	3.85	2.0*
(33a)	Program's tangible and intangible benefits exceed costs	3.81	3.62	2.3*
(33b)	Program's tangible benefits exceed costs	3.46	3.42	.1*
(38)	FP expensive considering its impact	2.32	2.60	5.1
(40)	FP only a perquisite	2.19	2.51	5.6
(41)	Support continuation of FP	4.28	3.83	15.5

^a(d.f.1,736)

D.

(37)	Participation affects personnel de- cisions	2.47	2.35	1.13*
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*Not significant at level of $p < .05$.

the grouping. Since they were intended as simply being associated with the grouping technique, any absence of support is not interpreted as contradicting that technique. Instead, it indicates a poor choice of association, due to the structure of the statement or else it indicates lack of identification directly with the issue of corporate and top management support.

A test of reliability was made of the six items as a scale. The Cronbach alpha is .300. Again, for this small scale the variation between measures is significant ($F = 158, p < .001$), but so is the variation not explained (nonadditivity $F = 41, p < .001$).

Hypothesis V relates the fitness program's promotion and support with a number of issues. The first issue is (a) participation level, for which the table reflects a strong relationship. The next issue is (b) retention, which again is strongly supportive of the expectation. The third issue is (c) the perceived value of a fitness program. Twenty-seven questionnaire items were proposed to relate to this global measure, and were included in a multivariate analysis of variance. Seventeen have significantly discriminated mean scores, sixteen of which are in the hypothesized direction (Q27B is not). Nine of the other ten items have mean differences in the hypothesized direction, with the tenth not showing any difference by group (Q25). With twenty-five variables differing as predicted in their means and sixteen with a significance level of $p < .05$, the multivariate statistic is significant ($F = 2.96, p < .001$).

This scale of twenty-five questionnaire items has a high reliability coefficient (Cronbach alpha) of .933. Each item has an individual alpha of $> .928$ when related with the rest of the scale.

Upon further review of the set of dependent variables in Table XV part C, it is of concern that the measures individually and collectively are so global. The validity of this association must be questioned, since the perceived value of the fitness program may be influenced by other factors than corporate support. The question remains, therefore, regarding the overpowering influence of more substantial influences which mask the lesser relationship examined here. To consider this problem a reassignment of companies into groups is made (Table XVI). Co2 and Co3 are left in the High group, and Col is made the sole occupant of the Low category. This, of course, is in contradiction to the hypothesized grouping. But the revised table (XVI) reveals an even stronger relationship. Twenty-two of the items significantly support this discrimination, and the multivariate F is highly significant.

This point is demonstrated to emphasize a weakness in the proposed analysis of data. It does not refute the hypothesis, nor even the association of these variables for testing the hypothesis. Other issues are believed to distinguish Col from Co2 and Co3, and yield the distinction presented in Table XVI. Support for the hypothesis, besides that which is presented in Table XV, is clear from the comparison of Col with Co4. This comparison supports the hypothesized difference in perceived value of the fitness program in two organizations whose fitness programs are basically different only in the singular area of top management support. This discussion highlights the need to examine jointly different independent variables, and the need for considerably more research to investigate singular program differences.

TABLE XVI
EFFECTS OF CORPORATE AND TOP MANAGEMENT SUPPORT
UPON VARIOUS PERCEIVED VALUES OF THE FITNESS PROGRAM BY PERSONNEL

Multivariate $F = 16.30$ (d.f.27,629), $p = <.001$

	$\bar{X}'s$		Univariate $F's^a$
	(Co2&3) <u>High</u>	(Co1) <u>Low</u>	
C.			
(1a) Participant relations improve	4.42	3.65	112.5
(1b) Personnel relations improve	3.24	2.77	27.2
(3) FP is an attractive benefit	4.52	3.29	238.2
(5) Working atmosphere improves	3.91	3.10	83.6
(6) Organization's performance improved	3.71	3.23	27.7
(7) Participation requires too much time	2.20	2.70	18.9
(11) Terminating FP hurt organization	4.23	3.16	114.5
(12) Employers should sponsor FPs	4.28	3.76	47.4
(13) FP has cost reducing effect	3.91	3.57	12.8
(16) Well-conducted FP	4.10	3.37	64.9
(20) FP improved participants' health	4.35	3.68	100.8
(21b) Participation increases self-confidence	3.42	3.14	9.6
(22) Participation improves job performance	3.29	3.03	10.8
(25) Fitness influences job performance	3.97	3.83	2.4*
(27a) Participation improves life attitudes	3.73	3.38	16.6
(27b) Participation improves job attitude	3.42	3.22	5.4
(27c) Participation improves attitude about others	3.34	3.20	2.3*
(28b) Participation increases job motivation	3.17	3.04	2.3*
(29b) Participation increases ambition	3.08	2.97	1.5*
(30) Participation improves health	4.27	3.64	94.2

(Continued next page)

TABLE XVI (Continued)

(31)	Participants are healthier	3.68	3.24	21.8
(32)	Non-participants could improve health	4.11	3.71	26.9
	by joining			
(33a)	Program's tangible and intangible	3.95	3.42	33.7
	benefits exceed costs			
(33b)	Program's tangible benefits exceed	3.50	3.33	3.3*
	costs			
(38)	FP expensive considering its impact	2.17	2.71	33.9
(40)	FP only a perquisite	2.06	2.53	22.2
(41)	Support continuation of FP	4.50	3.71	103.6

^a(d.f.1,655)

*Not significant at level of $p < .05$

The last issue in Hypothesis V is (d) the extent to which participation is considered a factor in personnel decisions. The last part of Table XV, part D, shows no support for this relationship. Refer to discussion of Q37 under Hypothesis IV's discussion.

Summary

The previous discussions have focused on the specific relationships hypothesized and the analyses presented. These evolved from the literature and research background reported in Chapter I, and the theory developed in Chapter II. The overall contribution of this research effort is to service the problems and voids in the development of corporate fitness programs. Despite some statistically and substantively significant evidence herein compiled and analyzed, exploratory research in a new field has noted shortcomings. A major deficiency in this survey has already been referenced in the discussion of Hypothesis V-C. The universe of fitness programs is presently without many programs having small distinctions. Therefore a few programs have been researched relative to specific hypotheses. The value in this effort is mostly in providing for better preparation for subsequent research.

The major weakness in the analysis of results has been the use of relatively general perceptions to investigate specific program design implications. This has led to repeated use of numerous dependent variables to assess the effect of several independent variables. And, this was accomplished without a weighting of the influence of one item to others with which it was associated. The reason for this situation is twofold:

- 1) The general perceptions requested by the individual variables are im-

portant to companies as they are presently expressed. Independent of their contribution to this statistical analysis, the survey items provide meaningful information to companies interested in their respective fitness programs. Therefore sophisticated statistical techniques, appropriate with hard data, have been avoided in this analysis. There is value in the straight answers provided, but little advantage in mixing the data for extended interpretations beyond face value. (2) Secondly, the analysis provided and the face value of the information presented is deemed essential and preliminary to further research that can better examine program design implications. This study has been an initial step in a sequence of building blocks which can lead to more definitive, documented recommendations. Appropriate with subsequent research efforts will be the examination of singular influences, such as fitness education alone, or funding alone. The data for this study is valuable when kept intact as representative of the whole programs or constituencies involved. The following summary, Table XVII, is presented to accommodate this concern of keeping the information relative to the whole picture. The general intent of this research is to examine the effects of a variety of program characteristics. Table XVII shows summary measures for each characteristic examined by company program.

The inputs represent the program characteristics in existence for each company. The results of Participation and Retention are considered by many as the key outcomes. By compiling program rankings for each input and output, an interesting relationship unfolds. Not surprising is the composite ranking of the company programs by the inputs; a key factor in the theory, hypothesis, and analysis of this study is the corresponding rank of

each program by the outcomes. This relationship, its inferences, and its questions are the focus of the next chapter.

TABLE XVII

TABLE OF KEY PROGRAM CHARACTERISTICS AND RESULTS

Inputs -	<u>Co1</u>	<u>Co2</u>	<u>Co3</u>	<u>Co4</u>
HYP-I Education Score	38%	67%	67%	32%
HYP-II Clarity of Objectives	41%	83%	80%	60%
HYP-III Funding Support	8%	84%	54%	8%
HYP-V Promotion & Support	<u>90%</u>	<u>100%</u>	<u>80%</u>	<u>10%</u>
Composite Ranking by Company Program	3	1	2	4
Outcomes -				
Participation	20%	47%	25%	4%
Retention	<u>70%</u>	<u>90%</u>	<u>50%</u>	<u>20%</u>
Composite Ranking by Company Program	2/3	1	2/3	4

Examining Participation Bias. In most of the hypothesized relationships, companies are grouped by the independent variables in the same way they would be grouped according to participation levels of their respective respondents. That is, participation levels are highest in companies 2 and 3, which are usually grouped together in the analyses. Consequently, and more seriously, a potential sampling bias arises in that the percentage of fitness program participants who answered the questionnaire is also highest for those two companies. The issue is whether the measured differences that support the hypotheses are due to company differences on the independent variables, or whether they are due to differences between perceptions

of participants from those of non-participants. Participants are expected to perceive program effects differently than non-participants; and this is recognized as a true value to the company in extending the benefits from a corporate fitness program.

However, for the purposes of this research, further analysis was conducted to assure the surveyed perceptual differences were related to fitness program differences, which were the hypothesized relationships. Some of the hypotheses could be expected to elicit responses that had a bias from people who were program participants different from non-participants. Therefore organizations having higher participation levels would be suspect of biased results from the participation level alone, independent of the effect of the fitness program characteristics. For those hypotheses in which this risk occurred and in which significant support of those hypotheses was presented, the data from only non-participant respondents was similarly examined for differences by company groupings. Individual questionnaire item responses by non-participants were reviewed, and demonstrated a difference from one company to another. This difference was not as significant as the difference between item responses from participants versus non-participants. Of the nine hypothesized relationships represented in the tables of results and which are subject to this risk being discussed, seven hypothesized relationships reflected the same distinction between company groupings from the non-participant segment of respective company populations as that represented in the results from those companies' total population data. Therefore it is concluded that the differences by company groupings that have been reported and analyzed are directly related to the differences between respective fitness programs, and that the corresponding alignment of participation levels is a separate and distinct issue.

C H A P T E R V

DISCUSSION AND IMPLICATIONS

Value of research. With the background, theory, hypotheses, research, and results having been thus far presented, a final issue to be considered is: What is the significance or value of the findings? It would be worthwhile, but not sufficient, if the report were only useful in satisfying a doctoral program requirement of demonstrating an acquired ability for performing valid research. This would be insufficient because the research topic is a pertinent one for organizations and the many people that are served and who provide their services.

The bottomline purpose for a business organization, and therefore a dissertation study from a school of Business Administration, is to design policy decisions that better serve the needs of the organization's various constituencies while better meeting the needs of the organization. As already mentioned, a significant area for accomplishing these ambitious pursuits is to improve the environment, condition, and performance of a firm's human resources. One major company Vice-President for Personnel articulated objectives for his corporate fitness program: 1) To improve the self-image and energy levels of personnel, 2) to lead to improved job performance, 3) to elevate employee health, to reduce health maintenance costs, to reduce morbidity and mortality, 4) to provide an upbeat, with-it corporate image among personnel and outside the company as well, 5) to increase the recruiting power of the company to attract top candidates for personnel slots, and 6) to respond to employees' high interest in leisure

time activities and recreation. These aspirations are certainly commendable. But simply stating them does not advance their accomplishment.

Though it is important to know where a company or project is headed, it is equally important to be knowledgeable of the alternatives for getting there. The field of corporate fitness programs is a new one in which most all the programs are created for a particular situation. This fact prevents a particular program characteristic being linked with corresponding effects upon the organization that can be transferred to other corporate settings. A value in corporate policy is to provide an optimum method for accomplishing results via a known, tested alternative. Such is not available in the field of fitness programs. Without a large number of existing programs, and with only a brief history period, companies must devise their own programs. The highly valued service that corporate fitness programs can serve, joined by the absence of legitimizing and evaluative research on programs, provides the rationale for research into the characteristics that lead to program effectiveness with the most efficient use of resources.

The design of a program refers to the distribution of emphasis on the dimensions defined earlier, and the financial backing by the company. With many options available relative to these variables, it is clear that decisions will stem largely from the personal philosophy of the program's instigator. Effective management, however, would have that philosophy expressed via the aspired effects of the program - what the instigator wants to have result from the program - rather than determining the type of program and presuming the results will be as he/she wants. Hence, research that more clearly relates program features with predictable influences is

important. Management would be able to work toward desired effects with knowledge regarding the value of the program alternatives.

The study of program design and corresponding effects is admittedly tenuous at present for two major reasons: (1) The relatively few programs in existence do not provide much opportunity for only few program differences from one organizational setting to another. Therefore substantiation of design and effect relationships is more difficult to assess due to other factors involved. (2) Many fitness programs have not been implemented for a sufficient period of time to be able to make conclusive readings on their organizational and performance influences. This research deals with these two reasons by focusing on individual programs and emphasizing input-output relationships of resources with results within the programs. It is not the intent to make broad generalizations from this study, but to improve the opportunity to evaluate a program and provide worthwhile recommendations for a program to better achieve targeted results. Similarly, the study uses perceived influences of the program according to various personnel categories grouped by age, management responsibility, gender, and length of experience with personal fitness activities. The perceived influences are highly important to management for their analysis, and can be substitutes now for the more objective measures desired that require a longer history to be generated.

Results of study. The literature search is important for what it reveals, and for what it does not show. There is an absence of studies in fitness program effectiveness, but a need for research surfaces due to the beliefs and results of other related and supportive research. The links of a chain

appear to be present, but without research to substantiate what is at the end of the chain. This analogy has the initial links being the development of the physiological sciences, wherein it is clearly evident that certain behaviors result from particular physiological changes. It is further demonstrated that these links are interrelated and synergistic. There is considerable testimonial support for the psychological benefits from these associated physiological changes. Built on these relationships, testimonials abound for the positive influence upon happiness, self-image, personal relationships, and career success that stems from the physiological and psychological links in the chain. Confidence on this development being available to most people has led to corporate fitness programs that function to achieve a wide range of targets.

A personal tour surveying the major examples of corporate fitness programs was accomplished in 1978 (86). Subsequent visits to these and other programs have maintained a current perspective on the practices by fitness programs in organizations. An evolution has been recognized. Newer fitness programs have a broader rationale for existence than just providing a top management perquisite. There is more interest and concern for programs to be justified by other values, and for programs that are managed to best achieve these values. However, this trend has not resulted in significant administrative changes. Management has not become involved with administration nor planning in fitness programs. These critical responsibilities continue to be serviced by the fitness directors, typically exercise physiologists, or the medical directors. Management presses harder for justification, specified results from the program, and higher participation; but, management seldom becomes involved with how to proceed. This

dilemma is exasperated by the communications problem between the business jargon of management and the hard science mentality of the physician or physiologist. And without indications for managers to know how to achieve their objectives for programs, management is not prone to get more involved than in the past. Present administrations of programs, however, are more inclined to perform studies in their own fields of science. Therefore, it is appropriate that this study by the academic business segment serves to provide management with information to more effectively become involved with current developments in fitness programs.

The third phase of this study is analyzed specifically in Chapter IV. The audit of the four programs and the corresponding survey of respective personnel were the steps taken to identify the type of program in each situation, determine the perceptions of the corresponding populations, and provide two sets of reactions. The first reaction was directed at the implications of the specific program to its situation. A complete report was provided in each case that gave the organization summaries of the data with interpretations. Those reports also gave recommendations based on all three phases of the total study. The second reaction to the audit and survey is the attempt in Chapter IV to generalize to other corporate situations.

Overall support for the attributes of a fitness program is provided by the research for Hypothesis IV. The affirmation from program participants is expected. Even the positive recognition from management--those that participate and those that do not--is not surprising. Managers have supported a wide range of organizational development approaches to elicit ascribed, though not documented, performance improvements. The perceptions

of those employees not participating in the fitness programs are of significant interest for management and program directors. These perceptions demonstrate the positive reaction to fitness programs by the whole organization, while simultaneously representing a potential for more participants (through which the health, cost, and performance targets may be better pursued).

Objectives should be clarified. Based on the results of Hypothesis II, companies should be particularly responsive to clarifying and communicating the purpose of the corporate fitness program. There are obvious advantages to any effort having clearly articulated objectives. The data show that personnel will have higher regard for the program when they understand its purposes. Indeed, the concern may well be that the perceived success of a program is limited when the organization is not clear on the program objectives. Aside from program design and available funding, program success can be elevated by identifying and communicating what the program is intended to accomplish. This is further supported by the common sense explanation that understanding the relationship of fitness with physiological and psychological factors, and their interrelationship with stress and role management issues, is valuable in eliciting response to the desired progressions in one's personal fitness program.

The concern that people understand the merits of fitness throughout the many facets of their lives is a main reason for wanting to provide fitness education. Another reason is that people inspired to participate in fitness activities will do so in a manner that obtains the benefit, yet avoid the risks from irresponsibly participating. A personal fitness

program may have some short-term goals, but should always be seen as a permanent lifestyle change. Many people want to become fit too quickly, or get fit so they can end their fitness program. These are but some of the myths that jeopardize the true benefits from a corporate fitness program as being other than a temporary fad. The research results support a variety of reasons for emphasizing those issues reviewed in the Education Dimension of the audit.

Fitness education improves programs. Similar to Hypothesis IV, the data for Hypothesis I-A indicates that personnel perceive the fitness program to be more effective when fitness education is emphasized. Participation is also higher (I-C), and there is a higher perquisite value attributed to the program (I-D) from people being better informed as to what benefit they have available to them. Fitness education is believed to be an important basis for getting people into a personal fitness regimen, and helping them undergo the transition, habit-forming stage lasting from eight to twelve weeks. After that, continuation is mostly due to making one feel better. Mental discipline is not sufficient for changing behavior longterm, as has become acknowledged with dieting. Substitute behavior and current reward mechanisms are needed to achieve a lasting behavior change. This point is more likely the reason research did not support a relationship between fitness education and program retention. Participants in a program are most likely knowledgeable about fitness, whether because of the program's education effort or simply personal experience. Therefore other factors must be more significant in retaining present program members.

The size of financial commitment is not crucial. Much of this report should provide encouragement to those organizations with limited funding support available for a fitness program. The limited support must be limited to strictly the funding issue, and not indicative of less than strong commitment by top management. With high company commitment, a fitness program can still achieve impressive results in participation, retention, and positive perceptions for performance effects without high cost, as demonstrated by Company #1.

Throughout the corporate fitness movement, two related issues are identified as critical to program success. Program leadership is one critical factor, and top management support is the other. Top management is a two-edged sword. It is influential due to the cultural influences provided within the organization, and it facilitates decisions advantageous to the fitness program administration.

Some of the results from this study are helpful in supporting already accepted assumptions, and providing organizational feedback as an objective assessment. Other results reveal new associations that have not been sufficiently exploited in program design in the past. Depending upon the motives for a fitness program, general support is recognized for the following conditions to elevate program success:

1. Top management support that is vocalized and evident by them being role models.
2. Corporate support, obviously coming from top managers' bias, that sees fitness promotion as relevant beyond just a perquisite.
3. Being clear on what objectives the fitness program serves, communicating these throughout the organization, and managing the

program to achieve these objectives--not to just fulfill program design preferences.

4. Fitness education is significant in achieving participation and perceived program success.
5. Funding support is not the limiting nor controlling determinant of program success.
6. Job performance is generally accepted, by all organizational constituencies, as being positively influenced by fitness programs.

Future research recommendations. Research is needed on corporate fitness programs that provides management with the rationale for their commitment and the type of program to design for a company. Companies also need to have methods established for better monitoring of program results--leading to useful feedback for program administration and to documenting the program's value.

One form of necessary research is a continuation of a study of this type. Experience from these four programs is sufficient to refine and reduce the survey instrument. Through use of the audit in evaluating additional fitness programs, the data base can be enlarged and program distinctions correspondingly identified. The value in continued research is to evaluate enough programs to allow comparison of program populations where the program designs have fewer differences. It is the effects of the design differences that are being analyzed; more consistency in other factors influencing the environment of the fitness programs will more strongly associate the effect differences to the design differences. The

evaluation process of the audit and survey will provide a needed service to additional fitness programs. The benefit is a managerial audit of the fitness department that gives Personnel, Medical, and Fitness administrators a common assessment of the program's influence. At the same time, the process allows for recommendations being presented and discussed from an outsider who has familiarity with a number of similar programs.

Other forms of research are critically needed that examine the claimed benefits of fitness programs through direct measures of those benefits. The relationship between fitness programs and absenteeism levels, morbidity rates, mortality rates, health maintenance costs, productivity measures, perquisite values, corporate image, recruiting power, and communications within the organization can be investigated for more definitive justification that leads to business making budgetary decisions as defensible as for other expenses. There is not much opportunity for ex post facto research on these issues due to the lack of proper data structuring, even if a fitness program has existed for five or more years. It is essential that record keeping now be designed to assure this problem will not preclude worthwhile analysis in another five years. The importance of the recording format for researching numerous programs is to hold constant or weed out the many other influences on broad measures. It has been clear in studies so far on absenteeism, for example, that many other factors affect the final results and therefore prevent a clear interpretation of results. Small changes between situations will alleviate this problem, as would extending the study across large populations and many fitness programs.

Future role for Corporate Fitness Programs. History reveals drastic changes in the nature of human existence. Humankind has evolved through stages of hunter-gatherer, farmer, trader, home business and trades, specialized labor and mass production, technological revolution, and economic comfort. These changes have brought widely different lifestyles and needs to be satisfied. The transitions have been difficult when people were slow to recognize the changes or make appropriate adjustments to cope with them. It is believed that change is now occurring more rapidly than ever before. Indeed, our technological developments have far surpassed our ability to accept them. The challenges for society are more significant in the behavioral, soft sciences than in the hard, technology sciences. The next technological revolution is predicted or hoped for in the field of understanding and predicting behaviors. For example, we have a technology level that eliminates any need for paper in communications and provides for instant communication to anywhere in the world. A concern remains for how effectively we actually make that communication person-to-person, person-to-group, country-to-country.

Corporations and the corporate environment are on the leading fringe of changes in society and technology. Our culture has the employer filling an extremely significant dimension in personal lives. At the same time, physiological and psychological sciences are becoming more explicit in understanding human functions and how to optimally develop these functions. These ostensibly unrelated circumstances lead to the opportunity for corporate fitness programs being valuable to the company and to a participant. Basic human needs that heretofore have been accommodated by the natural

processes of living are now unattended by virtue of dramatic changes in our lifestyles due to technological developments. We are finding that taking care of the basic needs in our lives will also serve us better in dealing with the sophisticated dimensions in our lives. And, the sophistication demands are often highest in the corporate setting. Sophisticated demands relate to erratic personal schedules, stress and anxiety that are not vented, exposure and relationships with many other people, travel away from a familiar setting, work that does not often provide immediate rewards nor closure, organizations and products that are beyond one's touch or vision, career and job role changes, reduction in heritage and familial influences, and exposure to information from all over the world. These factors weigh heavily upon the physical, mental, and emotional dimensions of people. This is not a fault but occurs by design. Stress is not to be eliminated from the working environment, but to be dealt with better.

The pace of change is not predicted to slow down. Expectations from employees and society are predicted to become even more diverse. Therefore the need for corporations to provide health and fitness promotion for employees is likely and sound. This function must be performed in a justified manner, for it is well beyond the publicity-sheltered perquisites afforded executives of just a few years back. Corporations will continue their interest in fitness programs. However, they will be seeking justification that is communicable to stockholders, and they will be challenging program administration for these definable accomplishments.

Corporate involvement in fitness can hopefully prevent the present fitness fad from expiring before personal fitness care is recognized as a responsibility. The encouragement and provisions by the employer will

afford the likelihood of that personal responsibility being cared for. Companies wanting to accomplish this must be sure not to similarly participate in the corporate fitness program fad. Publicity advantages from fitness programs present pressures upon major corporations to "keep up." Instead of initiating a program that simply responds to these pressures, a company can elicit ongoing program benefits by clearly determining their objectives for a fitness program. Appropriate plans and program design should be structured based on the articulated objectives. Necessary resources need to be identified and made available, with a commitment for the resources that is sensitive to the aspired benefits. Implementation of the program should include a review process that relates the effects from the program with the objectives and resources. Openness to other corporate experiences and to performance of the corporate program can lead to appropriate refinements.

Corporations should remain alert to the overall purpose of the fitness program. This awareness will lead to promotional support for a broad, social process for fitness promotion. Fitness is a way of life, and for it to be wholly effective it must become a part of our culture. Employees will more likely achieve the benefits of a fitness program where program activities are buttressed by family support and participation, other segments of society supporting fitness concerns, and extensive opportunities made available for proper living habits (e.g., exercise opportunities present in the community, healthy foods available at reasonable prices).

Fitness benefits are a mutual interest between the company and the employee. The organization is best served by responding to needs and perceptions of employees, and working with personnel to accomplish the desired effects.

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APPENDIX I
SUMMARY OF DATA BY COMPANY

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SUMMARY OF DATA BY COMPANY

Audit:	<u>Co1</u>	<u>Co2</u>	<u>%'s</u>	<u>Co3</u>	<u>Co4</u>
Education Dimension	38	67		67	32
Screening Dimension	28	74		75	28
Counseling Dimension	28	91		69	28
Facilities Dimension	16	100		73	14
Costs Dimension	8	84		54	8
Composite	<u>25</u>	<u>83</u>		<u>68</u>	<u>21</u>
Participation	20	47		25	4
Retention	70	90		50	20

Questionnaire: (Total N = 738)

N	182	251	224	81
1. Senior executives	5	22	8	1
Other managers	27	143	124	11
Non-management	145	86	92	67
2. Influence over FP	42	28	12	15
No influence over FP	136	223	211	63
3. Eligible to participate	154	248	214	75
Not eligible	16	3	9	2
ever part. of FP	32	165	133	4
never part. of FP	115	63	66	63
not presently active	99	90	100	55
active <6 months	19	28	16	3
active 6 to 12 months	8	45	15	3
active 1 to 2 years	8	37	27	2
active 2 to 4 years	5	15	20	0
active >4 years	2	25	28	0
4. No outside fitness activity	45	113	90	24
activity outside <6 months	15	14	17	12
activity outside 6 to 12 months	20	18	14	10

activity outside 1 to 2 years	10	17	10	5
activity outside 2 to 4 years	21	16	16	6
activity outside >4 years	59	65	75	19
5. Male	125	171	150	48
Female	41	79	69	24
age <30	53	25	66	25
age 30-39	93	88	64	41
age 40-49	25	91	47	8
age 50-59	2	44	41	2
age 60 or over	0	3	6	1
6. *FP's purpose-personal benefits	29	132	135	32
*-company benefit	11	13	3	0
*-personal & company benefit	27	48	21	1
* - miscellaneous	8	16	20	16
* - "don't know" and blanks	107	42	45	32
* (from coding the open responses elicited)				

< > = question reversed from expected, hypothesized effect

	<u>\bar{X}'_s</u>			
1a	3.7	4.6	4.5	3.8
1b	2.8	3.3	3.3	3.0
2	2.9	3.0	3.0	2.9
3	3.3	4.6	4.4	3.5
<4>	2.3	1.7	1.7	2.1
5	3.1	4.0	3.9	3.1
6	3.2	3.8	3.7	3.2
<7>	2.7	2.2	2.3	2.5
<8>	2.2	2.1	2.3	2.2
9	3.5	3.8	3.7	3.7
10	2.9	4.0	3.7	2.7
11	3.2	4.3	4.2	3.3
12	3.8	4.4	4.2	3.8
13	3.6	4.0	3.8	3.5
14	3.8	4.7	4.2	3.5

15	4.0	4.7	4.4	3.7
16	3.4	4.4	3.8	3.3
17	3.6	4.3	4.1	3.6
18	3.3	3.5	3.6	3.0
19	3.6	4.2	4.0	3.4
20	3.7	4.4	4.3	3.6
21a	3.1	3.3	3.2	3.0
21b	3.1	3.5	3.4	3.1
22	3.0	3.3	3.3	2.9
23	3.7	2.7	3.0	3.8
24	2.9	2.9	3.0	2.7
25	3.8	4.0	4.0	3.9
26	4.4	4.6	4.6	4.5
27a	3.4	3.8	3.6	3.4
27b	3.2	3.5	3.3	3.1
27c	3.2	3.4	3.3	3.1
28a	2.9	3.0	2.9	2.9
28b	3.0	3.2	3.1	2.8
29a	2.9	2.9	2.9	2.8
29b	3.0	3.1	3.0	2.9
30	3.7	4.3	4.2	3.6
31	3.3	3.8	3.6	3.4
32	3.7	4.1	4.1	3.9
33a	3.4	4.0	4.0	3.6
33b	3.3	3.6	3.5	3.5
34	3.0	3.9	3.1	3.2
35	3.2	3.5	3.4	3.1
36	2.7	2.9	2.7	2.5
37	2.6	2.4	2.4	2.4
<38>	2.7	2.1	2.2	2.6
39a	3.5	3.9	3.7	3.5
39b	3.1	3.0	3.2	3.1
<40>	2.5	1.9	2.2	2.5

41	3.7	4.6	4.5	3.8
42	2.9	2.8	2.9	3.0
43	3.6	4.1	3.9	3.5

VERBAL DESCRIPTIONS OF THE COMPANY FITNESS PROGRAMS
THAT CORRESPOND TO THE PROFILES FROM THE AUDIT SCORES

Confidentiality was committed to companies participating in this research. For that reason, limited descriptions are provided here that do not fully present the information gathered on the respective fitness programs. However, it is the intent to present a sense of the individual programs that support the reliability of the audited profiles, and adds to the interpretation of those audit scores.

Company 1. Located in a suburban area adjacent to a major metropolis, this organization is primarily involved with the sales and service business in their region for a large international corporation. The local fitness program was conceptualized and developed by central headquarter's staff personnel. Central staff provided the basics of the program and written materials for use by local administration. Local management selected a volunteer to be the program coordinator. The program coordinator holds a full-time responsible position that is not influenced nor reduced due to the fitness program responsibility. A commitment by management was given that this additional responsibility is to be considered in the annual performance review. The program coordinator is a person highly committed and enthusiastic about fitness and the benefits from a corporate sponsored program.

The program was initiated by a meeting of personnel conducted by central staff and the program coordinator. Film and written materials were used to excite interest and have people learn about a personal fitness program. Literature was reviewed that taught people how to self-

screen and self-prescribe initial activities appropriate for their measured fitness level. Occasionally there are additional meetings on specific fitness and health-related issues, and written materials distributed to promote fitness and proper lifestyling. The program coordinator uses bulletin boards extensively for promoting program concerns, but he must find his own materials to present. No development of the coordinator is available in the area of program administration nor in fitness. There is no effort for expanding membership nor participation in the program, though the organization's manager is an enthusiastic participant who strongly endorses the program and its value to the organization's performance.

Screening is by self-testing on a variety of measures for endurance, strength, and flexibility. An individual compares measurements in these tests with generalized scales that indicates an overall fitness level assignment. There is no direct counseling available to participants from professional fitness personnel. Specific questions can be channeled through the coordinator to professional staff at the central corporate offices. The literature packet provided at the start of the program presents programs for various activities, technique advice, and permits self-prescription according to one's fitness level.

No space nor facilities are provided at the work site. Local facilities that can be personally contracted have been identified by the coordinator. Besides the support and materials from central staff, there is only a few hundred dollars squeezed from other budgets for supporting some activities and incentives throughout the year.

Company 2. This organization is the headquarter's management, administration, and staff for a large company. Located in a pleasant suburban setting, the fitness program provides staff and facilities for use before, during, or after work hours.

Subordinate to the medical director, the fitness staff work closely with the medical department in broad, comprehensive examinations and fitness level assessment. Personal consultation follows the screening to communicate the results and provide interpretation. Individual fitness programs are mutually structured consistent with the interests of the participant. A newsletter goes to all personnel, and promotes fitness, health, and proper lifestyle practices. Bulletin boards further promote fitness program activities and health promotion information. A steady calendar of scheduled activities, presentations, mini-programs or courses, etc. is conducted to educate personnel in general health concerns and for specific issues such as weight control and stop smoking. The fitness program staff keep current in their field through company sponsored literature, conferences, and contacts with other fitness programs. Top management support is publicly verbalized and demonstrated by their participation in the program. Periodic retesting is scheduled and used for monitoring progress and counseling participants.

The testing is conducted with considerable safety precautions available: Staff training, location next to medical department, emergency button for getting security personnel, etc. Test scores are related to tables demonstrating comparative fitness level assessment, and discussed with the individual. A wide variety of tests are used that examine pos-

ture, strength, flexibility, body density, and heart rates before, during, and after exercising at designated intensities.

The program's staff mix extensively with participants in a social way as well as professionally. The staff do their exercise activities with other participants, and create opportunities for personal counseling and reviewing participation records. Help is provided to those participants that travel so that they know how to sustain their program when away from the in-house facilities. Personal counseling is also provided on particular skills and techniques on special activities, while group programs are provided to address special issues. A wide range of activities are available through the program for exercising indoors or outside. The equipment and facilities are top quality, well maintained, and organized attractively and effectively for usage. Accessibility is not restricted during work hours. Showers, clothes storage, and laundry services are well provided. A nominal membership charge is made to insure respected utilization of the program, but clearly insufficient to fully pay for the program and its services.

Program staffing is by two full-time professionals, plus graduate student interns. Additionally, other experts and resource persons are brought in to present special sessions or programs to add to the range of services available to participants and non-participants. The fitness program staff is involved in decisions relative to the program. The fitness director manages the facility to a budget, and contributes to the capital budget decisions.

Company 3. The type of organization and the nature of location are highly similar to Company 2. Having both indoor and outside facilities for exer-

cise, the program is led by two full-time staff members that report directly to the company Medical Director.

Participants enter the program by initial meetings with staff members to educate them on the program and on fitness. The person's interests are also discussed, leading to program prescription that is compatible. A comprehensive medical exam is required, and combines with a range of fitness tests for ascertaining safety of program initiation and for proper prescription of activities. Safety precautions are well provided for in the screening phase. Retesting occurs in six months, and similarly examines exercise stress performance, strength, flexibility, and body composition measures. Scores are interpreted relative to standards and target measures.

Bulletin boards and newsletter articles are used to communicate fitness and program issues to all personnel. Occasionally special presentations or programs are available to any employees. The fitness staff are afforded the opportunity for maintaining skills and keeping in touch with other corporate fitness programs. Top management support is vocalized, but participation is not clearly evident to other participants. This was explained by one executive to reflect disappointment with opportunities primarily available for the highly active or sports-minded fitness enthusiasts, and not for the majority of people not so inclined.

The staff review participants' reporting charts weekly to monitor progress and result in useful counseling. The staff exercise with participants, and maintain a social atmosphere within the facilities to contribute to its appeal. The equipment and accommodations afforded in the facilities are well maintained and clean, but little attention had been

given the attractiveness level. Limited lockers and shower facilities caused some restrictions in facilities access, but the company encouraged participation at any time before, during, or after work hours. Little was expected of the program leader for administrative controls for budgets, nor for innovative programming and increasing participation. The primary responsibility was for program and facilities maintenance that met the minimal requirements of upper management. Personnel changes in positions higher in the organization will undoubtedly lead to expectations that will be different.

Company 4. The fitness program for Company 4 is intended to be identical to that for Company 1. Both organizations are in the same company, and their programs were designed and initiated from the same central staff operation. Company 4 is located within a metropolitan area. Differences with Company 1 are mostly due to different people filling corresponding roles relative to the fitness program. The program coordinator is equally committed to the counterpart in Company 1. However, the top manager for this organization has not substantially supported the program. The manager's lifestyle conflicts with a good role model for health promotion, further denying clear support for the values of the program and encouragement for personnel to participate.

The program coordinator does not have as much exposure and rapport with personnel as the coordinator for Company 1. The Company 4 coordinator also is more narrow in fitness philosophy, such that discouragement with low participation leads to less effective energies in program administration. A high value for this individual to have accepted this re-

sponsibility was to facilitate a personal discipline to his own program. A philosophy was strongly voiced that people are inclined to participate or not, independent of the nature or promotion of the fitness program itself. This philosophy influenced the manner in which this person performed in the role of program coordinator.

APPENDIX II
PROGRAMMATIC AUDIT

APPENDIX II

PROGRAMMATIC AUDIT

possible
pts. (max)

I. Education/Promotion Phase

- (10) 1. Is there a general indoctrination to new fitness program participants as to the purpose and influence of the various tests and activities they will be doing in the program?
- (15) 2. Is there a preliminary or subsequent indoctrination for participants on the concept of fitness -- what it is, why it is important, and the potential benefits?
- (10) 3. Is there a general information presentation(s) to non-participant (and even ineligible) employees regarding fitness -- what, how and why?
- (10) 4. Are there a number of other informational/educational offerings for personnel pertaining to other dimensions or aspects of fitness (i.e. smoking, alcohol, drugs, nutrition, weight control, ...)?
- (10) 5. Are there special materials or coaching presentations available to provide assistance in peoples' particular activities (i.e., pointers on jogging, cycling...)?
- (10) 6. Are there promotional and general information bulletins (or teasers or communiques or whatever) distributed throughout the company building(s) or to personnel directly?
- (10) 7. Are there a variety of information sources available to the program directors relative to fitness developments, other corporate experiences, appropriate journals, and personal ties to impact ongoing emphasis for idea and interest distribution?
- (15) 8. Is there a specific effort made to inspire new memberships and participant retention, to have the fitness program operating at its capacity?
- (5) 9. Are general counseling services available to company personnel, and emphasized with program leadership as one of their priorities?

- (5) 10. Is there an exchange made with external entities, for communicating expertise and experiences outside the company, and also to attract experts which complement the effort of program leadership?
- (10) 11. Is top management support of the program demonstrated or evident?
- (15) 12. Is retesting of screening techniques fed back to participants in manner capitalizing on this opportunity for education?

possible
pts.(max)

II. Screening/Evaluation Phase

- (15) 1. Is a comprehensive medical exam required within six months prior to entrance consideration? Does the exam cover medical and family history questions, and does it include an array of the basic laboratory tests?
- (10) 2. Is a history of the individual's medical records reviewed along with the singular, recent medical examination?
- (15) 3. Is there an examination of the individual's lifestyle, to determine the relationship of the anticipated fitness program within the activities and stress dimensions otherwise existent?
- (10) 4. What method of fitness level assessment is conducted? Are there a variety of tests/indicators used? If so, are they combined into a singular assessment "score," or do they stand independently as simply data for consideration?
- (10) 5. What safety precautions are available during the fitness testing?
- (10) 6. What re-examination and re-testing frequency is maintained?
- (15) 7. What are the variety of fitness tests provided: Stress test, strength test, flexibility measures, body composition?
- (10) 8. Are the tests compared to averages, standards, or target measures? If so, are these comparisons shared with the individual?

possible
pts.(max)

III. Personal Programs and Counseling Phase

- (15) 1. Following preliminary testing, screening, and feedback, is there a specific counseling session conducted with the new participant to mutually determine a personal program for him/her?
- (10) 2. Does the personal program determination consider the interests of the participants, and provide a variety of aerobic exercise options?
- (15) 3. Are there periodic reviews of the program prescription for monitoring (a) its fit for the individual's ability and interests, (b) its necessitated revision with fitness improvement, and (3) maintaining a shared personal attention to the program by a professional counselor (reinforcement of the commitment)?
- (10) 4. Are written materials and forms used to reinforce and complement the personal sessions in educating and controlling activities?
- (10) 5. Is counseling available on teaching, demonstrating, or improving techniques for various activities?
- (10) 6. Is there a mix of staff and participants doing the activities? Is there direct contact periodically between staff and participant during the activities, to provide "hands-on" counseling?
- (15) 7. Is individual or group counseling available on periphery dimensions of the fitness center (i.e., stop smoking, weight control, etc.)?
- (15) 8. Is periodic review made of the participant's reported activities to provide desired follow-up, feedback, or encouragement?
- (10) 9. Is the personal program designed or amended to include program continuity for the individual while he/she is not accessible to corporate facilities (while at home, on business trips, etc.)?
- (5) 10. Are counseling sessions conducted in a manner and setting professionally conducive to the clientele involved.

possible
pts. (max)

IV. Facilities Phase

- (15) 1. Is there a diverse range of equipment available for activities that differ by user preference?... that differ by the various exercising purposes (flexibility, strength, endurance)?
- (10) 2. Is the equipment assembled in an orderly fashion, facilitating the flow from one activity to another?
- (5) 3. Is sufficient equipment available to minimize queing?
- (10) 4. Are the facilities attractive and convenient for the particular targeted clientele (with music, mirrors, plants, reading materials, etc.)?
- (10) 5. Are shower facilities sufficient, and maintained in a manner encouraging attendance and use?
- (10) 6. Are laundry facilities available? And is service promoted on shoes, clothes, etc.?
- (5) 7. Are both outdoor and indoor facilities provided (where possible) to permit variety and an activity schedule responsive to weather opportunities?
- (15) 8. Are the facilities maintained in a clean and sanitary manner? Are bulletin boards kept current and maintained with "fresh" items? Is the facility redecorated periodically or decor items added or changed, to keep it appealing and alive? Is equipment maintained attractively and in proper working order?
- (10) 9. Are the facilities available - by virtue of location and operating hours - in a way that accomodates utilization?

possible
pts. (max)

V. Investment/Expense Level

- (20) 1. Ascertain general range of capital dollars in space, facilities, and equipment.
- (10) 2. Find out general range of annual operating budget for equipment, maintenance, supplies, and services.
- (30) 3. Determine estimated staff costs and number of staff members (with their particular skill areas).
- (5) 4. Is sponsorship of personal fitness materials, clothing or complimentary/outside memberships available?
- (10) 5. What periphery support funding is available (i.e., staff development, bringing in outside resources to add to program, active membership in AAFDBI, etc.)?
- (15) 6. Is there a basis for determining expenditure levels for the program? Is there accountability required for past expenditures? Is the program's staff involved in budget development, control and accountability?

APPENDIX III
COVERING LETTER FOR SURVEY OF PERSONNEL



DEPARTMENT OF MANAGEMENT
SCHOOL OF BUSINESS ADMINISTRATION
AMHERST, MASSACHUSETTS 01003

APPENDIX III

COVERING LETTER FOR SURVEY OF PERSONNEL

January 4, 1980

Dear :

Everywhere throughout our society an emphasis is being made for exercise and health. Running, walking, swimming, and cycling are promoted along with other activities to get people attentive to taking better care of themselves. The corporate environment is also becoming attentive to the concern for health and fitness. Employers are being looked to more and more for a contributory role in the quest for encouraging participation in fitness activities and education.

...YOUR OPINION IS SOUGHT...

You have been selected to anonymously respond to a survey on (name of company) corporate fitness program. The attached questionnaire is expected to take about ten minutes to complete, after which you are asked to enclose it in an envelope and send it to me, Dick Pyle, at (designated place).

Though there has been considerable and significant research on the physiological effects of fitness programs, little has been done to provide guidance in the structuring of fitness programs in organizations for individual or group effectiveness. This questionnaire is part of research being conducted from the University of Massachusetts evaluating corporate fitness programs.

Please take the few minutes necessary to assist this effort. Summary results will be provided by the Medical Department and the fitness lab. You can be given information on the study's results within several weeks by asking at either of those two places. Thank you for your help...

Sincerely,

Richard L. Pyle
Assistant Professor of Management

Enc.

QUESTIONNAIRE

Circle the appropriate number(s) for each statement:

1. My corporate position is

3	Senior executive
2	Management
1	Non-management

2. I have some degree of decision-making influence over the corporate fitness program.

2	Yes
1	No

3. I am eligible to participate in the corporate fitness program

2	Yes
1	No

(If "no", go to #4)
 If "yes", have you ever participated regularly in the program (averaging at least two sessions weekly for at least 2 months)?

2	Yes
1	No

I have been participating

6	not at all, presently
5	for less than six months
4	for 6 to 12 months
3	from 1 to 2 years
2	from 2 to 4 years
1	over 4 years

4. I maintain a fitness activity on my own, outside the company program

6	not at all, presently
5	for less than six months
4	for 6 to 12 months
3	from 1 to 2 years
2	from 2 to 4 years
1	over 4 years

5. I am

2	Male	and am	5	under 30 years old
1	Female		4	30-39 years old
			3	40-49 years old
			2	50-59 years old
			1	60 or over

6. The following is what I understand to be the purpose of this company's fitness program: _____

The following questionnaire is to be completed regarding your perceptions of the corporate fitness program and its effects upon people and the organization. Please try to provide a response to each and every statement, avoiding the use of "no feelings" (3) if at all possible. Any additional comments you wish to provide are encouraged, and can be written inbetween the typed statements or at the end of the questionnaire. Please circle the appropriate numbered response for each question.

5 = Strongly Agree
 4 = Mildly Agree
 3 = No Feelings
 2 = Mildly Disagree
 1 = Strongly Disagree

1.	The fitness program has had a positive influence upon the relations of					
	a. its participants	5	4	3	2	1
	b. <u>all</u> individuals within this organization - participants and non-participants	5	4	3	2	1
2.	There is a sense of exclusiveness exhibited by fitness program participants.	5	4	3	2	1
3.	The corporate fitness program is attractive as a benefit for present and prospective personnel.	5	4	3	2	1
4.	The organization places too much emphasis on fitness and the corporate program.	5	4	3	2	1
5.	The corporate fitness program improves the working atmosphere within the organization.	5	4	3	2	1
6.	The corporate fitness program has a positive effect on the organization's performance.	5	4	3	2	1
7.	Participation in a fitness program requires too much time.	5	4	3	2	1
8.	Though the fitness program can impact on a person's fitness level, a change in fitness level does not relate to job performance nor organizational performance.	5	4	3	2	1
9.	The purpose of the company fitness program and its intended effects are clear.	5	4	3	2	1
10.	The corporate fitness program is achieving its objectives.	5	4	3	2	1
11.	To terminate the fitness program would negatively impact upon the organization.	5	4	3	2	1
12.	Employer organizations are appropriate sponsors and promoters of fitness programs.	5	4	3	2	1
13.	The corporate fitness program will have a cost reducing effect upon turnover, replacement, and medical costs for the company.	5	4	3	2	1

14.	The corporate fitness program has the committed support of top management.	5	4	3	2	1
15.	Top management support is a significant factor in the success level of a corporate fitness program.	5	4	3	2	1
16.	Our corporate program is conducted as well as any could be for this organization.	5	4	3	2	1
17.	Participants in the fitness program have increased their physical energy level.	5	4	3	2	1
18.	Participants have a higher energy level (as revealed on their job) than non-participants.	5	4	3	2	1
19.	The level of participation in fitness activities is affected by the corporate sponsorship of the fitness program.	5	4	3	2	1
20.	The corporate fitness program has had a positive effect upon the health of participants.	5	4	3	2	1
21.	Participants have more self-confidence (answer a and b)					
	a) than others, whether or not as a result of their fitness activities.	5	4	3	2	1
	b) than before they initiated their involvement with the program, and therefore presumably due to their participation.	5	4	3	2	1
22.	Participants' job performance has improved since their involvement with the program.	5	4	3	2	1
23.	Participants would be doing fitness activities even without the corporate program.	5	4	3	2	1
24.	Participants are better work performers than non-participants, whether as a result of their participation or not.	5	4	3	2	1
25.	The fitness level of a person influences their job performance.	5	4	3	2	1
26.	Any individual can improve their fitness and health.	5	4	3	2	1
27.	Participants have a more positive attitude (answer a, b and c)					
	a. <u>about life</u> than before they participated in a fitness program.	5	4	3	2	1
	b. <u>about their job</u> than before they participated in a fitness program.	5	4	3	2	1
	c. <u>about others</u> than before they participated in a fitness program.	5	4	3	2	1

28.	Participants in general have more job motivation than								
	a. others in the firm.	5	4	3	2	1			
	b. before joining the program.	5	4	3	2	1			
29.	Participants have higher aspirations and are more ambitious than								
	a. others in the firm.	5	4	3	2	1			
	b. before they were in the program.	5	4	3	2	1			
30.	Participants have improved their health since joining the program.	5	4	3	2	1			
31.	Participants are healthier than others not in the fitness program.	5	4	3	2	1			
32.	Non-participants would improve their health if they were to join the program.	5	4	3	2	1			
33.	The corporate fitness program costs are exceeded by the (answer a and b)								
	a. <u>tangible and intangible</u> benefits from performance and health improvements.	5	4	3	2	1			
	b. <u>tangible</u> benefits alone, from performance and health improvements.	5	4	3	2	1			
34.	The information on and promotion of the corporate fitness program is adequate.	5	4	3	2	1			
35.	The style and quality of our corporate fitness program were significant influences in my decision to participate or not participate.	5	4	3	2	1			
36.	My attention to fitness, and my appreciation of its influence on an individual's well-being and health, resulted from my exposure to the corporate fitness program and the publicized philosophy of my company.	5	4	3	2	1			
37.	Participation in the corporate fitness program has had an effect upon job changes, promotions, and/or compensation decisions in this organization.	5	4	3	2	1			
38.	The corporate fitness program is expensive relative to the impact upon the organization and the eligible employees.	5	4	3	2	1			
39.	There is a valid, legitimate rationale for the fitness program (answer a and b)								
	a. to the corporation's stockholders.	5	4	3	2	1			
	b. to the personnel that are not eligible to participate.	5	4	3	2	1			

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|-----|---|---|---|---|---|---|
| 40. | I feel the fitness program is a perquisite and fringe benefit, with no other good reasons for corporate sponsorship. | 5 | 4 | 3 | 2 | 1 |
| 41. | I personally support the continuation of the corporate fitness program, recognizing it as an alternative to other possible programs of similar expense the company could otherwise provide for organizational impact. | 5 | 4 | 3 | 2 | 1 |
| 42. | My wife (husband, or closest social contact) is an avid fitness exerciser, maintaining her/his own set of activities routinely. | 5 | 4 | 3 | 2 | 1 |
| 43. | My wife (husband, or closest social contact) is supportive of my present level of fitness activities | 5 | 4 | 3 | 2 | 1 |

