A functional analysis of employee fitness through an assessment of shared views.

Sydney Cappe
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LA THÈSE A ÉTÉ MICROFILMÉE TELLE QUE NOUS L'AVONS RÊCU
A FUNCTIONAL ANALYSIS OF EMPLOYEE FITNESS
THROUGH AN ASSESSMENT OF SHARED VIEWS

by

Sydney Cappe
B.P.H.E., University of Toronto, 1975

A Thesis
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Appreciation must go as well to my typist, Mrs. Joyce Popovich.
DEDICATION

To David and Clara
My Parents.
ABSTRACT

A FUNCTIONAL ANALYSIS OF EMPLOYEE FITNESS THROUGH AN ASSESSMENT OF SHARED VIEWS

by

Sydney Cappe

Employee Fitness is recognized as an area of current interest to health professionals and businessmen in North America today. It is essentially involved with the health or well-being of the individual in the work setting. Unavoidably it is also involved with the enterprise of the companies in which it has found a place. As a result there is a question about the role of fitness in business and industry.

This paper follows from the work of American business researcher Richard Pyle who has suggested the need for a 'bridge' between business and human movement. In his research he discovered a general lack of awareness, on the part of fitness personnel, to the needs of business.

A directed examination of Employee Fitness was undertaken by making use of Merton's guidelines for functional analysis, expressed in the form of a questionnaire. It was hypothesized that there would be differences in response to questions on the "reasons for implementing Employee Fitness programmes" on the basis of occupation (academic, corporate, government, labour, Employee Fitness practitioner - five main areas of Employee Fitness involvement). The subjects were also grouped on the basis of background
(training), type of involvement with Employee Fitness (direct or indirect), length of time involved and nationality (Canadian or American).

The results indicated that differences existed between occupational groups and to a lesser extent, groups divided by the other measures as well. Because subjects were also made to distinguish between Employee Fitness as they saw it (belief), and the way they thought it should be (attitude), it was possible to determine what was viewed as acceptable and where change should take place. Consensus was almost unanimous on the need for training of practitioners. The content areas that it was thought the general Employee Fitness practitioner should be versed in included: exercise physiology, health and lifestyle education, leadership training and coaching, and recreation. Business-related concerns followed.

There was high consensus on the belief that Employee Fitness was growing as an area of specialized practice. This particular point lent importance to the need for establishing clear and practical professional objectives.

Finally implications for curriculum development were discussed. Directions for further investigation were suggested.
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CHAPTER I INTRODUCTION
The reservations held by the Luddites on the effect of industrialization, have been substantiated in many ways since the start of the Industrial Revolution. In fact man's fear of losing his work to a machine is still very real today. In the interim there have been great and sometimes difficult adjustments made to accommodate the ever-changing means of production.

In 1850, human muscles provided nearly one third of the energy used by workshops, factories and farms, and today the comparable figure is less than one percent. (Collis, 1977, page 6)

Concerns for the well-being of the worker in the work setting have been advanced by humanitarians like Lord Shaftesbury who filled his days with "the drudgery of aiding over-driven women and children in mill and mine". (Johnson, 1968, p. 101). A hundred years ago there was a tremendous need to counter-balance the dehumanization of factory work.

Although the quality of working life has improved considerably during the last century the results are varied and uneven. Furthermore, the workplace has become more complex and new hazards have arisen. (Health and Welfare, 1977, p. 1)

Humanitarian reasons may still motivate some individuals to feel concern for the worker, but more often work-related problems are of a contemporary nature typifying post-industrial society. Problems ranging from the impact of industry on the environment to the rising costs of health care to society as a result of job-site injuries and
illnesses, are dealt with largely under the heading of Occupational Health and Safety.

The health and well-being of the worker, insofar as it is a social concern, is the domain of Employee Fitness. As a branch of the Federal Government, Employee Fitness falls under the Fitness and Amateur Sport Branch of the Department of National Health and Welfare. In actual practice EMPLOYEE FITNESS has not always been so easy to identify.

Firstly, Employee Fitness is generally recognized to be a new concept developing from a number of different sources such as the spillover of the growing fitness movement (Pyle 1978, McCallum 1979), and the need to counter an aggravated state of lifestyle-related health problems (Banister 1978). Yet Employee Fitness has, for a long time, been common practice in several countries, most notably, Sweden and Japan (Pascale 1978). In North America, companies like Phillips Petroleum have been involved in comprehensive physical fitness-recreation programmes for thirty years, and 'recreation' programmes have been in existence for many more. "The first may have been started by the National Cash Register Company in Dayton in 1904" (Yarvotte 1974, p. 595). Though the distinction has been made between 'recreational programmes' and those supplying the degree of physical activity needed to prevent disease and maintain health (Duggar and Swengros 1969), the term, Employee
Fitness, has often been used in reference to a spectrum of related and sometimes unspecified activities.

Almost thirty years ago coronary heart disease was found to be related to the physical activity of work (Morris 1953). Since physical activity has since been substantially supported as a requirement for healthful living, and work generally occupies one third of an individual's waking time in North America, (Tutko 1978), then it is easy to see the kind of role Employee Fitness could play in the workplace (regardless of what technical Employee Fitness operations are selected in a particular setting). A necessary consideration however, is the objective of the business in its use of any Employee Fitness programme. Recent research has attempted to link Employee Fitness to the business operation by demonstrating decreases in absenteeism (Donoghue 1977), increases in productivity (Banister 1978), decreases in health costs (Minister of State 1979), and improved workplace ambience and company loyalty (Pascale 1978). Along with the potential savings involved in prolonging the lives of chief executives (Time 1979), there now exist a great number of reasons for becoming interested in the concept. Whereas each of these concerns may require a different mode of programme implementation and in lieu of the fact that the transfer of information about all of this, has been stunted by the absence of any single clearing house for information, there could easily be substantial differences of opinion on what should be done, where and how, with regards to Employee
Fitness. In fact American business researcher Richard Pyle (1979) has suggested a 'bridge' between health and fitness specialists, and business. His examination of Employee Fitness programmes has led him to be skeptical of the ability of the fitness personnel to blend in with the business operation.

Ultimately the objectives of business and of the fitness specialists are the same with regards to the implementation of programmes. That is, to provide employees with an opportunity for acquiring and maintaining healthful lifestyles. On route to that end however, there may exist essential differences in perspective that must be reckoned with. The intent of this research was to seek out those differences and in so doing, provide a context for understanding today's Employee Fitness.

Statement of the Problem

Employee Fitness in North America, is presently undergoing considerable growth. It is also seeing transition from the early stages of conceptual acceptance to the beginning of social entrenchment as a recognized specialty area (The American University now offers a master's level programme in this area). In the course of this transition Employee Fitness has been provided with a number of different raison d'être; from the need to combat cardiovascular disease to the development of a prompt and productive workforce. Although many of these concerns are not mutually
exclusive, neither are they all-inclusive. Therein lies a potential for confusion and failure.

The purpose of this research was to assess differences of perspective on Employee Fitness by polling involved occupational areas: academic, government, corporate, labour and Employee Fitness practitioners. Background training, length of time that one has been involved with Employee Fitness and whether involvement has been direct or indirect will also be examined for differences in perspective.

Hypotheses

1. There will be differences in response to questions on Employee Fitness on the basis of occupation: Academic, Corporate, Employee Fitness Practitioner, Government, Labour.

   \[ H_1: X_A \neq X_C \neq X_E \neq X_G \neq X_L \]

   \[ H_0: X_A = X_C = X_E = X_G = X_L \]

2. There will be differences in response to questions on Employee Fitness on the basis of background: Business, Human Movement, Labour, Other.

   \[ H_2: X_B \neq X_H \neq X_L \neq X_O \]

   \[ H_0: X_B = X_H = X_L = X_O \]

3. There will be differences in response to questions on Employee Fitness on the basis of degree of involvement: direct, indirect; four years or more, less than four
years.

\[ H_3: \ X_D \neq X_I \quad H_4: \ X_{GTE} \neq X_{LT} \]

\[ H_0: \ X_D = X_I \quad H_0: \ X_{GTE} = X_{LT} \]

4. There will be differences in response to questions on Employee Fitness on the basis of nationality: Canadian, American.

\[ H_5: \ X_{CAN} \neq X_{AM} \]

\[ H_0: \ X_{CAN} = X_{AM} \]

Delimitations

1. This study includes the field of Employee Fitness in Canada and the United States.

2. It includes developments in Employee Fitness taking place prior to August 31, 1979 and will focus primarily on the previous five years.

3. Subjects will include those individuals who have had some prior involvement with Employee Fitness in that they have at least attended a conference on that theme.

Limitations

1. Since corporate research is kept confidential all potential sources of information may not have been exhausted.

2. The ability of the subjects to appropriately respond to the research tool.
3. The possibility of bias or unwitting influence in the material sent to subjects.

Assumptions

1. That the design of the research tool can adequately represent and/or elicit the main themes of Employee Fitness today.

2. That the subjects are knowledgeable on the area being investigated.

3. That subjects were not influenced by corporate obligation and responded freely on the basis of their own experience and opinions.

Definition of Terms

Academic - refers to the category of subjects whose involvement with Employee Fitness has been through the university, by means of teaching related subjects, participating in related research, or providing resource material to the community.

Business - refers to the context or setting in which an Employee Fitness programme may exist.
- those individuals who occupy and control these settings, referred to collectively.
- the formal training one may undergo to better understand the operation.
Corporate - refers to the category of subjects who are generally upper management business personnel and who have shown an interest in, worked on or with an Employee Fitness programme in the course of their duties.

Degree of Involvement - refers to the proximity of an individual to the central issues of Employee Fitness, and measurable in terms of the number of years this involvement has spanned and whether participation was direct (planning or executing) or indirect.

Employee Fitness - is a group of beliefs and practices concerned with the physical and/or social well-being of individuals who are involved with a business, trade or office by means of employment, and in the context of that employment.

Employee Fitness Practitioner - refers to the category of subjects whose occupation involves the planning, consulting and/or executing Employee Fitness programmes.

Employee Fitness Programme - refers to an enterprise undertaken in the context of business (or employment in general) with the objective of providing employees with opportunities (and facilities) for improving their physical and/or social state of well-being.
Government - refers to the category of subjects whose government occupation has involved them with Employee Fitness in the course of their duties.

Human Kinetics - refers to the area of specialist preparation and to the specialists involved with, physical activity, fitness, health and recreation.

Human Movement - refers to those areas of study and training that deal with the human body through all range of non-pathological examination.

Labour - refers to the category of subjects whose involvement with Employee Fitness has been through their employment in the labour force.

Specialty - (1) The systematized study and accumulated knowledge with reference to clearly delineated interest areas and specific target phenomena; and (2) the type of professional activity directed toward these specific objects.

(Verwoedt 1977, p. 328)

Justification

The establishment and proliferation of a professional specialty area in Employee Fitness appears to be a desirable objective. From the evidence presented to date, directed development of this field would benefit society at large both in improved health and in the diminished financial burden of health care costs (Banister 1978). It has been said that the state of this body of knowledge is inadequate (Human Performance 1978, Proceedings of the National Conference 1975). In the past there has been limited opportunity and limited facility for the exchange of infor-
mation. Channels have been rapidly forming to gather and dispense information however. This is evidenced by the creation of bodies like the Canadian Centre for Occupational Health and Safety Research (Canada 1978) and the American Association of Fitness Directors in Business and Industry, as well as the establishment of a graduate level programme in Employee Fitness at The American University (January 1980).

By generating a functional analysis of Employee Fitness a number of issues can be addressed. Firstly a rough picture of the field can be drawn with reference to: the objectives of programme implementation, the suitability of certain forms of programme implementation, the need for, and the extent of training that should be required of practitioners as well as the type of background knowledge demanded. These are all important questions upon which no prior work had been done. At the very least this present research is intended to provide insights into the directions that future research might take.

The main thrust of this research deals however with a perceived disparity in the preparation of practitioners to date (Pyle 1979). With specialists entering the field having a solid background only in select components of their jobs, some programmes are doomed before they begin.

The development of this field depends on the ability of well-prepared practitioners to be sensitive to the needs of the particular work setting. This research was aimed at
determining the possibility of differences in perspective on Employee Fitness — if the Human Kinetics personnel are more sensitive to 'bio-physiological man'; the corporate personnel more interested in 'productive man' — and how large it is. The existence of such a rift could eventually impede any future development of the field of Employee Fitness.
It should be stated at the outset that this study is based on an assumption of methodological individualism wherein beliefs, attitudes, decisions and the actions of individual people (may be used) to describe and explain social, political or economic phenomena. (Sloman 1977, p. 387)

In this way, the 'shared views' of the subjects may be taken to represent larger constructs.

**Functional Analysis:**

Dewey's 'instrumentalism' (1933) is a conception in which "the significant factor of a thing is its value as an instrument". (Gove 1961). In this doctrine, the utility of an idea determines its truth so that

the instrumentalist looks at the problems the concept is used to deal with, and at the ways in which it contributes to the solution of those problems.

(Kaplan 1964, p. 46).

Insofar as Employee Fitness exists as a solution to the problems of the workplace, it can be viewed as an instrumentalist construct. If, however there are facets of its development or practice that lead one to question its utility, then its value in terms of Dewey's concept is not as clear. It would be ideal if Employee Fitness were an example of pure instrumentalism and this research will attempt to see how close it comes to that objective.

Functionalism and specifically 'functional analysis' provides the key for assessing the nature of Employee Fitness.
Functionalism is a broad intellectual movement and social scientists think of functions with differing degrees of precision and stringency. At its broadest 'function' is synonymous with use.  

(Jones 1967, p. 2)

Merton wrote that "structure affects function and function affects structure" (McEwen 1963, p. 204). For him the "central orientation of functionalism" is expressed in the practice of interpreting data by establishing their consequences for larger structures in which they are implicated.  

(Merton as quoted in McEwen 1963, p. 204)

With this as his basis Merton wrote "A Paradigm for Functional Analysis in Sociology" (Merton 1968, p. 104). Merton's outline provides the components for functional analysis that are used in this research.

**Employee Fitness**

In our technologically-advanced society, men and women are finding fewer opportunities available for physical activity. Sport and exercise facilities should be available at places of work.  

(Nutrition 1973, p. 121)

In 1976 a representative of Recreation Canada called for a "Canadian law forcing corporations who employ people in sedentary jobs to supply space for them to work out." (Steward 1977, p. 42). Such a law had just been passed by the West German government. This lends credence to Beaubien's (1975) belief that sedentary occupations are "not natural". Our lifestyles are influenced greatly by the occupations we choose (Tutko 1978). Conversely, employment is an essential component of human well-being (Mach 1979).
Morris, in studying postal workers (1953) and busmen (1966) found a greater incidence of heart disease in those workers - in both cases - that had sedentary jobs, than with those whose jobs were more physically active. Montoye (1972) discovered a similar relationship between habitual physical activity (of work) and blood pressure.

The effect of work has been said to have upset the healthy lifestyles of North Americans in a number of ways. Cardiovascular disease (Kreitner 1976, Kavanagh 1975) leads the list of killers, but stress (Gupta and Beehr 1979, Beehr and Newman 1978, Howard, Cunningham and Rechnitzer 1978, Selye 1975), alcoholism (Corneil 1979), overweight and smoking (Collis 1977), also wear down the workforce. Nutrition is a problem (Popkin 1978, Nutrition 1975) that contributes to the employee malaise as well. These and other factors translate into increased absenteeism (Banister 1978, Donoghue 1977), employee turnover (Sanderson 1978), increased health care costs to business (DiGiusti 1979, Minister of State 1979), decreased job satisfaction (Sanderson 1978, Department of Health and Welfare 1977), and decreased productivity (Banister 1978).

Much of the skepticism that surrounds Employee Fitness focuses on its ability to solve the problems of employee well-being and display the evidence "on the bottom line".

The question which has to be addressed is whether employee fitness is a philanthropic venture on the part of the employer, or a shrewd investment in protecting the human resources of the company or organization.

(Collis 1978, p. 28)
In attempting to answer the question of cost benefit uncertainty in Employee Fitness, researchers have looked to other countries.

The Japanese, according to a recent (U.S.) federal survey, lead the world in three related categories: productivity, employee health programs, and length of the worker's life.

(Conklin 1978, p. 1)

The cultures are different and so are the management styles (Cheveledayoff 1979) but researchers have reason to believe that the Japanese example provides a basis for understanding the situation in North America. In a recent study comparing Japanese- and American-managed companies in the United States, it was concluded that:

As a general rule, Japanese firms do expend more resources per employee in nonpayroll areas, and as a general rule employees at Japanese firms perceive themselves as more satisfied and productive.

(Pascale 1978, p. 613)

In search of a North American answer other than 'paternalism' (DiGiusti 1979), Dr. R. Shephard recently completed work on the Employee Fitness and Lifestyle Project (Minister of State 1979) in which relationships were reported between the fitness of employees, job satisfaction and absenteeism. Shephard's programme included measures of lifestyle assessment and education as well as fitness testing and exercise classes. Other studies have been done in which the focus was primarily on raising the fitness levels of the employees (Yuhasz and Halliday 1978, Yrvote 1974). Some of the desired objectives have been achieved:
enhanced productivity, decreased absenteeism, decreased employee turnover and increased employee longevity (though none have been measured unequivocally).

The success of one programme or another has provided the impetus for considerable growth in Employee Fitness in recent years (Dyment 1978, Hopper 1979). Labour unions have picked up on the idea (List 1979). Executive programmes are suddenly 'in vogue' (McCallum 1979, Time 1979).

Unfortunately there doesn't seem to be any body of specialists ready to meet the demand. According to R. W. Makepeace, this is attributable to:

... labour suspicions, management apathy, legislative confusion and unpreparedness of the Health professionals with respect to training, unity of purpose or official recognition of their professional specialty...

(Human Performance 1978, p. 34)

With the future development of Employee Fitness, successful practitioners (programme leaders and consultants) should be well versed in areas of exercise physiology, fitness and health, and business (Pyle 1979). It is Pyle's observation and concern that the greatest imbalance existing presently in this young field, is the lack of sensitivity to, and knowledge of the business enterprise within the ranks of Employee Fitness personnel. This study addresses that concern with an attempt to determine the nature and focus of Employee Fitness today.
Merton's "Paradigm for Functional Analysis in Sociology" (1968, p. 104) was used as a guide to the generation of the research tool for the functional analysis of Employee Fitness. The instrument (appendix B) was assigned to provide descriptive information on the nature of Employee Fitness with regard to: concerns to incite action, courses of action, practitioner preparation and the growth of the field. It was decided that this information could best be determined by polling individuals who were either actively involved or actively interested in the development and implementation of programming in this field. At the same time, the prospective subjects - being from different areas of professional orientation, background training, involvement with Employee Fitness, or even of different nationality - could be used as representatives of their respective positions in determining what differences, if any, existed between them (on the basis of perspective).

The opinionnaire that was produced included a number of demographic questions in order to stratify the population on the measures mentioned above. Also, the questions included on "reasons for establishing Employee Fitness programmes" were designed to be sensitive to possible differences in opinion. It was for this reason that subjects were instructed to weight their responses to questions one and three, while having to exclude some response options.
CHAPTER III METHODOLOGY
This provided the basis for assessing within group and between group differences. It was seen as necessary to distinguish between belief and attitude as well. In this way views on what was believed to exist and what was felt should exist could be clearly recorded. Furthermore, the differences between belief and attitude could provide information on the direction of possible trends of thought.

The response options selected for questions one and three were drawn from the available literature on the subject of "establishing Employee Fitness programmes". Clearly the most prominent issues stated, they were "the need to:

a) alleviate the workday routine (workday), b) enhance company loyalty (loyalty), c) relieve excess stress (stress), d) provide health/lifestyle education (educate), e) combat cardiovascular disease (CV disease or CVD), f) satisfy job-demands (job-specific), g) provide a workday context for recreational interests and healthful activity (context)."

With the items selected, the format was pilot tested on a group of people naive to Employee Fitness (N=16). Subjects were provided with one of four printed manipulations (appendix A) each of which represented a different position on Employee Fitness. Two presented a business perspective and two, a Human Kinetics perspective. One each of the business and Human Kinetics manipulations were factual or indicative of belief and the other two were representative of attitudes.
The purpose of the test was to see if individuals sharing fixed or limited ideas on the subject, would score the question items similarly, while those provided with alternative information would score differently. The results of the test clearly indicated that the selected question items reflected a range of responses and that differing views could be discerned.

The categories selected for subdividing the test population were identified by their close ties with the concerns of Employee Fitness - occupation: academic, government, corporate, labour or Employee Fitness practitioner - by their likely areas of training and education - background: business, human movement, labour, other (including medicine, psychology, etc.) - and by their degree of involvement with the field. The occupational divisions of academic, government and corporate were clearly required as they were the major areas of resource information. Labour was added because of the growing interest that seemed to be taking place in that sector (List, 1979). Employee Fitness practitioners were the individuals who were putting these ideas into action. As this is a young field it was thought necessary to assess the views of the practitioners in relation to those of the rest. Only in this way could the ideas being applied, be measured alongside of those ideas intended.

The subgroups chosen for background training and education were business and human movement because of the
crossover nature of Employee Fitness in both of these areas. Labour was added in the event that subjects with this background held distinct viewpoints. And 'other' was added to accommodate all subjects with related backgrounds such as medicine or psychology but who could not easily categorize themselves under one of the three stated headings. This was to insure the integrity of the stated background alternatives.

In order to assess how well acquainted they were with the area of Employee Fitness, subjects were asked to indicate whether their involvement as planners or executors of actual programmes had been direct or indirect and also whether their interest and activity had spanned four years or more, or less than four years. The choice of four years as the division between high and low involvement was made because of the significance of those years to the development of the field and because two landmark events in the institutionalization of Employee Fitness - the first Canadian conference on the subject and the creation of the American Association of Fitness Directors in Business and Industry - had taken place in 1975. Finally, because subjects were either Canadian or American, this difference (nationality) was also examined.

The completed opinionnaire included: a general definition of Employee Fitness so that all subjects could appreciate the area being examined, open-ended
questions for the provision of alternatives to those suggested in the text, questions on motivation, programming, training of practitioners - including possible content areas for curriculum (drawn from the literature) and means of training - and the growth of Employee Fitness as an area of specialized practice. Together with the questions on 'reasons for programme implementation', the major components of the field were covered.

Subjects were drawn randomly from the manifests of four Employee Fitness conferences: National Conference on Employee Physical Fitness (Ottawa, 1974), Human Performance in Business and Industry (Burnaby, British Columbia, 1978), Canadian Conference on Employee Fitness (Halifax, 1978) and Total Fitness: The Payoff for Business and Industry (Chicago, 1979). Involvement in any one of these events was taken as a sign of serious interest in, or commitment to, the development of Employee Fitness. Four hundred opinionnaires were sent with a cover letter (appendix B) and a stamped, addressed return envelope. Eight more were administered to a group of subjects of the United Auto Workers' American headquarters in Detroit, Michigan.

Ninety-six responses were received by mail. Others were accounted for (up to approximately 40 per cent) but were unanswered for a number of reasons. For a few, it was against company policy to respond. It was suggested that the questions bordered on corporate
research and therefore made response a sensitive issue. Also, a number of potential subjects were no longer available at the particular corporate address (had left, been promoted or were on vacation) and the material was returned.

The completed opinionnaires (N=104) were coded by their demographic information (appendix C), and the information was punched onto computer cards. The SAS (Statistical Analysis System) 1979 computer programme was used for the data analysis. Frequencies were computed for all measures and analysis of variance was done on the scores from questions 1 and 3. Analysis of variance also operated on the scores regrouped by all classification measures to determine what differences existed between them. Time involvement with Employee Fitness (greater than or equal to four years/less than four years) was used as an objective measure by which the sample could be evaluated in greater detail. Analysis of variance by cases of time involvement was done as well. Finally paired T-tests were carried out on the differences between belief and attitude scores at all levels.

On all other test items, response frequencies were recorded for descriptive purposes. Lists of 'expected' responses to the open-ended questions were prepared. This was done partly to see how accurately the field had been assessed (if the responses were vastly different, the judgment on the setting of other opinionnaire items would be called into question) and partly to provide some basis for assessing
the scope of the respondents in their views (to determine which suggestions were mainstream and which, entirely esoteric). The open-ended responses were tabulated and then checked against the predicted responses.

In the final process of data analysis, questions 6, 7, 9 and 11 had to be omitted because of confusion on the part of the subjects as to how they should be answered. Although questions 7 and 9 had been successfully pilot tested, on eight returns the word least had been crossed out and most written in. As a result no responses could be scored with any certainty of how the questions had been interpreted.
CHAPTER IV  RESULTS AND DISCUSSION
The first part of this section deals with the scores from questions one and three which provided the basis for assessing belief and attitude (respectively) about Employee Fitness. The sample population was subdivided by demographic measures of occupation, background training, length of time involved with Employee Fitness and type of involvement, and by nationality. The sample means were recoded to a ten point scale from zero to nine.

The highest scores in each section are noted and discussed. Then the results of one-way analysis of variance are reported (where they are significant at the .05 level or better). Also the results of a second analysis of variance test done by cases of time involvement are noted.

Finally, each segment concludes with the results of paired T-Tests on the 'belief' and 'attitude' scores. These indicate suggested directions for future change in the areas defined by each of the seven scoring measures.
### Table 1

**Means, and Significance of Differences Between Means, for Belief and Attitude Variables**

<table>
<thead>
<tr>
<th></th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief N=104</td>
<td>0.865</td>
<td>1.16</td>
<td>1.69</td>
<td>1.82</td>
<td>2.31</td>
<td>1.24</td>
<td>0.875</td>
</tr>
<tr>
<td>Attitude N=104</td>
<td>0.788</td>
<td>0.298</td>
<td>2.048</td>
<td>2.875</td>
<td>1.98</td>
<td>0.875</td>
<td>1.125</td>
</tr>
<tr>
<td>Significance of Differences</td>
<td>0.50</td>
<td>0.0001</td>
<td>0.0031</td>
<td>0.0001</td>
<td>0.073</td>
<td>0.01</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Beginning with the total sample, Table 1 illustrates the mean values for all the belief variables, all the attitude variables and the significance levels of the differences between the two. Across the test population, 'combating cardiovascular disease' received the highest mean score for belief. Thus the fight against cardiovascular disease was believed to be the most prominent reason for implementing programmes of Employee Fitness in the past. The need for health and lifestyle education, stress management and the meeting of job-specific demands, follow in that order of believed prominence.

The attitude scale shows 'health and lifestyle education' to have the highest mean score. Thus the whole group felt that health and lifestyle education was the reason for Employee Fitness programme implementation that should receive
the most attention. Stress management and combating cardiovascular disease followed in descending order of importance. The differences between belief and attitude are easy to see in Table 1. On the matter of using Employee Fitness as a way to enhance company loyalty the difference is considerable. Though subjects indicated that to some degree company loyalty has been an issue in the past, they apparently did not feel that this should be the case. The variable 'stress' elicited a difference on belief and attitude responses that indicates a felt need for more emphasis here. The same is clearly true for health and lifestyle education. On the other hand, programming to satisfy job specific demands may already be receiving too much emphasis. Surprisingly too, the need to combat cardiovascular disease comes very close to the .05 level of significance, indicating that it may have received more attention in the past than the test population believed it currently warranted.

Occupation

The test population was stratified by occupation and fell under headings of: academic, corporate, government, labour, and Employee Fitness practitioners or practice. Table 2 provides the scoring breakdown for the belief variables by occupation.
<table>
<thead>
<tr>
<th>Occupation</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic N=17</td>
<td>1.35</td>
<td>1.23</td>
<td>1.41</td>
<td>1.29</td>
<td>2.64</td>
<td>0.94</td>
<td>1.11</td>
</tr>
<tr>
<td>Corporate N=30</td>
<td>0.63</td>
<td>1.30</td>
<td>1.53</td>
<td>2.33</td>
<td>2.00</td>
<td>1.10</td>
<td>1.03</td>
</tr>
<tr>
<td>Government N=16</td>
<td>0.81</td>
<td>1.31</td>
<td>1.37</td>
<td>1.43</td>
<td>1.75</td>
<td>2.56</td>
<td>0.75</td>
</tr>
<tr>
<td>Labour N=11</td>
<td>0.36</td>
<td>1.27</td>
<td>2.36</td>
<td>1.09</td>
<td>3.54</td>
<td>0.90</td>
<td>0.45</td>
</tr>
<tr>
<td>Practitioners N=30</td>
<td>1.03</td>
<td>0.86</td>
<td>1.93</td>
<td>2.10</td>
<td>2.30</td>
<td>0.96</td>
<td>0.80</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.865</td>
<td>1.16</td>
<td>1.69</td>
<td>1.82</td>
<td>2.31</td>
<td>1.24</td>
<td>0.875</td>
</tr>
</tbody>
</table>

Three out of five groups scored 'cardiovascular disease' highest. Academic, labour and practice demonstrated a belief that this cause was the prominent one in past Employee Fitness programming. Corporate believed that the need to provide health and lifestyle education had been the main directive in the past, while government thought the same of the need to satisfy job specific demands.

One way analysis of variance yielded a number of differences between occupation groups. Academic and labour scores indicated disparate beliefs (.04) about the extent to which programmes had been used to alleviate the effects of workday routine. Academic believed that more had been done in the
past on this matter. Labour and government differed on 'stress' (.05) with labour believing that more had been done here. Corporate believed more had taken place out of a need for health had lifestyle education, than did labour (.05). On the issue of cardiovascular disease, labour believed more had been done for this reason than did government (.01) or corporate (.01). Finally on the matter of satisfying job-specific demands, government held a belief significantly different from those held by all other occupation groups (overall: .03, academic .008, corporate .008, labour .01, practice .004).

With groups subdivided by cases of time involvement (less than four years: equal to or greater than four years), analysis of variance allowed more differences to be seen. Of those subjects involved with Employee Fitness for less than four years, significant differences existed between: labour and practice on the variable 'workday' (.05); corporate and government (.04), labour (.04), practice (.05), or the variable 'loyalty'; labour and practice (.05) on health and lifestyle education; labour and government (.007), corporate (.003), practice (.002) on cardiovascular disease (overall .02); government and corporate (.04), practice (.03), on 'job-specific'. These differences are predictable in that to an extent they demonstrate perspectives of vested interests. Labour for example, may be concerned about workday boredom. This was reflected in the low belief score (and substantiated later in attitude) and taken to mean
not enough has been done to alleviate boredom. Practitioners new to the field, believed that this issue had been addressed in good measure. Corporate subjects believed that rightly or wrongly loyalty to the company had been a concern in the initiation of Employee Fitness and to the contrary, subjects with less than four years of involvement from government, labour and practice did not appear to recognize this factor. In time however, the groups on both sides of this particular issue seemed to eclipse each other (evident in the overall belief scores for loyalty that are not drastically different from one occupation to the next). Perhaps in recognizing its own occupational role, practice believed that more had been done in the area of health and lifestyle education, than did labour.

Still regarding the subjects recently involved, the labour belief that much had been done out of a need to combat cardiovascular disease may have been an indication of the public image that is tied to Employee Fitness. Government, corporate and practice shared beliefs significantly different from labour on this point and they are all areas that have been involved with cardiovascular fitness programming. They likely believe that this area of concern is just beginning to develop.

The need to satisfy job-specific demands, was a point on which government differed significantly from all other occupations in the total sample, and from corporate and
practice amongst the recently involved. At face value this could be interpreted as a belief that in the past, employee fitness was provided primarily and perhaps to some extent exclusively for the purpose of satisfying job-specific demands. Where this belief can be judged neither true nor false it can be understood through the historical perspective of government involvement with occupational health and safety. Subjects in other occupations may have been less aware of this particular focus or in any event less inclined to score it of great importance.

Subjects that have been involved with Employee Fitness for four years or more, differed on fewer points. Academic believed more had been done for 'workday' than did corporate (.05). Corporate believed more had been done for health and lifestyle education than did academic (.03). These two differences seem to complement each other in an obvious way (both believing that significantly more prominence had been given to the domain of the other, in the past).

Government again differed on 'job-specific'. Experienced academic (.04) and labour (.03) subjects shared the dissimilar belief on this.

Finally, experienced subjects from academic and practice held disparate beliefs (.05) on how much the need to provide a work context for recreational activity had influenced programme implementation in the past. This difference, and all other differences as well, are due in part, to the varying levels of exposure to the programme
implementation situation, between the occupation groups.

TABLE 3

MEAN SCORES OF ATTITUDE VARIABLES BY OCCUPATION

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic (N=17)</td>
<td>0.41</td>
<td>0.47</td>
<td>1.64</td>
<td>2.94</td>
<td>2.52</td>
<td>0.88</td>
<td>1.05</td>
</tr>
<tr>
<td>Corporate (N=30)</td>
<td>0.53</td>
<td>0.40</td>
<td>2.06</td>
<td>3.10</td>
<td>2.06</td>
<td>0.66</td>
<td>1.16</td>
</tr>
<tr>
<td>Government (N=16)</td>
<td>0.81</td>
<td>0.18</td>
<td>2.43</td>
<td>3.06</td>
<td>0.87</td>
<td>1.25</td>
<td>1.37</td>
</tr>
<tr>
<td>Labour (N=11)</td>
<td>1.45</td>
<td>0.00</td>
<td>2.27</td>
<td>2.00</td>
<td>2.18</td>
<td>0.90</td>
<td>1.18</td>
</tr>
<tr>
<td>Practitioners (N=30)</td>
<td>1.00</td>
<td>0.26</td>
<td>1.96</td>
<td>2.83</td>
<td>2.10</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Total Sample</td>
<td>0.788</td>
<td>0.298</td>
<td>2.048</td>
<td>2.875</td>
<td>1.98</td>
<td>0.875</td>
<td>1.125</td>
</tr>
</tbody>
</table>

The scores in Table 3 are the mean values representing the emphasis that the groups felt should be placed on the reasons provided for Employee Fitness programming. With the exception of labour, all groups indicated that the need for health and lifestyle education should be the top priority. Labour scored 'stress' highest. For labour subjects then, relieving stress in the workplace is the priority.

It is interesting to note that programming to enhance company loyalty scored consistently low, drawing no response
from labour. It is of absolutely no importance (or perhaps irrelevant) to labour subjects that companies use Employee Fitness programmes as a means of encouraging their loyalty.

Analysis of variance demonstrated that once again labour and academic held disparate views (.02) on the variable 'workday'. Alleviating the effects of workday routine such as boredom were of some importance to labour while of little importance to academic. Corporate also differed with labour (.02) on this point.

The need to combat cardiovascular disease was felt to be of importance to all groups but government (overall .03: academic .003, corporate .01, practice .01). Perhaps the government subjects felt that the workplace needn't be a battleground for cardiovascular disease but rather that Employee Fitness should meet more work related needs. This was evidenced in their scoring.

Among those subjects newer to Employee Fitness the only difference in attitudes was between corporate and practice (.04) on 'workday'. The practitioner thought workday routine to be more of a reason for programme development than did their corporate counterparts.

Of the subjects with more experience the differences on the variable 'workday' were more pronounced. None of academic (.01), corporate (.01) or practice (.01) shared labour's view on this matter. It is likely that these differences are more a reflection of labour's self-interest here than it is a general lack of concern on the part of
the other subjects.

Health and lifestyle education was scored considerably more important to corporate than to labour (.02). This is indicative of the emphasis placed throughout by corporate, on the need to increase awareness in these areas.

The need to combat cardiovascular disease again caused a rift between government and all other groups from among those with four or more years experience. Academic (.003), corporate (.01), labour (.03) and practice (.02) felt that this particular variable deserved greater emphasis.

TABLE 4

SIGNIFICANCE OF DIFFERENCES BETWEEN BELIEF AND ATTITUDE - BY OCCUPATION (RESULTS OF PAIRED T-TESTS)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Workplace</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>0.0026</td>
<td>0.09</td>
<td>0.48</td>
<td>0.0007</td>
<td>0.8018</td>
<td>0.84</td>
<td>0.89</td>
</tr>
<tr>
<td>N=17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate</td>
<td>0.47</td>
<td>0.0062</td>
<td>0.013</td>
<td>0.06</td>
<td>0.86</td>
<td>0.16</td>
<td>0.73</td>
</tr>
<tr>
<td>N=30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>1.0</td>
<td>0.03</td>
<td>0.009</td>
<td>0.001</td>
<td>0.017</td>
<td>0.007</td>
<td>0.12</td>
</tr>
<tr>
<td>N=16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour</td>
<td>0.02</td>
<td>0.02</td>
<td>0.75</td>
<td>0.24</td>
<td>0.08</td>
<td>1.0</td>
<td>0.16</td>
</tr>
<tr>
<td>N=11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practitioners</td>
<td>0.86</td>
<td>0.05</td>
<td>0.85</td>
<td>0.06</td>
<td>0.50</td>
<td>0.69</td>
<td>0.43</td>
</tr>
<tr>
<td>N=30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sample</td>
<td>0.50</td>
<td>0.0001</td>
<td>0.0031</td>
<td>0.0001</td>
<td>0.073</td>
<td>0.01</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Note: Subscript B indicates Belief score was higher. Subscript A indicates Attitude score was higher.
The difference between belief scores and attitude scores are presented in Table 4, stratified by occupation. On the first variable 'workplace', the differences between the views held by academic and labour, and mentioned before, are illustrated. Both groups registered high measures of significance while shifting in opposite directions. On the variable 'loyalty', the almost unanimous shift away from the belief scores indicates that groups had no difficulty accepting the suggestion that 'enhancing company loyalty' was a reason for Employee Fitness programming in the past. They do not feel though, that such a reason warrants serious consideration in the future. Both corporate and government scored 'stress' significantly higher on the attitude measures than on belief, reflecting a feeling that more should be done for this reason than has been the case in the past.

Where the need for health and lifestyle education is considered, both academic and government registered highly significant shifts. This represents a call for greater emphasis on education in the future.

Government scored combating cardiovascular disease lower on the attitude scale than on belief. This reveals a sentiment that perhaps too much is being done in Employee Fitness for the cause of cardiovascular disease and not enough attention is being paid on other essential areas. Government also suggested the same for satisfying job-specific demands, as indicated by their similar scoring difference in that category.
Overall government scores changed the most between belief and attitude. The net effect of this was to focus attention that was 'believed' spread over all seven variables to primarily two 'attitude' variables: 'stress' and 'health and lifestyle education'.

Background

The sample population was stratified by background under the headings: business, human movement, labour, and other (which included medical personnel, psychology, etc.) Table 5 provides the scoring breakdown for the belief variables by background.

TABLE 5

MEAN SCORES OF BELIEF VARIABLES BY BACKGROUND

<table>
<thead>
<tr>
<th>Background</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business N=25</td>
<td>0.68</td>
<td>1.32</td>
<td>1.36</td>
<td>1.76</td>
<td>2.24</td>
<td>1.36</td>
<td>1.24</td>
</tr>
<tr>
<td>Human Movement N=47</td>
<td>1.08</td>
<td>1.23</td>
<td>1.70</td>
<td>1.80</td>
<td>2.10</td>
<td>1.23</td>
<td>0.82</td>
</tr>
<tr>
<td>Labour N=9</td>
<td>0.44</td>
<td>1.33</td>
<td>2.66</td>
<td>1.11</td>
<td>3.44</td>
<td>0.44</td>
<td>0.55</td>
</tr>
<tr>
<td>Other N=23</td>
<td>0.78</td>
<td>0.78</td>
<td>1.65</td>
<td>2.21</td>
<td>2.39</td>
<td>1.43</td>
<td>0.69</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.865</td>
<td>1.16</td>
<td>1.69</td>
<td>1.82</td>
<td>2.31</td>
<td>1.24</td>
<td>0.875</td>
</tr>
</tbody>
</table>
Unlike the scores for the occupation groups, all background groups scored cardiovascular disease highest. This meant that all groups believed that the need to combat cardiovascular disease was the most prominent reason in the past for the implementation of programmes of Employee Fitness. All groups but labour scored health and lifestyle education as the second most important reason. Labour scored stress as being the second most prominent reason for programme implementation in the past.

One-way analysis of variance turned up fewer differences by background stratification than it did for occupation. There were two sets of differences generated from the figures in Table 5. On the variable 'stress', labour scored significantly higher than the rest (business .01, human movement .04, other .05). Labour therefore, saw stress as a greater cause for programme implementation in the past than did any of the other groups. Also, on cardiovascular disease, labour and human movement (.05) held differing views. Labour believed that more emphasis has been attributed to combating cardiovascular disease than did human movement. This can be explained perhaps as a reflection of the popular notions on fitness and health regarded by labour as opposed to the more technical awareness developed through training in human movement.

When analysis of variance operated on the background groups subdivided by time involvement, more differences came up. Again, as in the previous stratification, those
subjects with less than four years of involvement differed more often than subjects involved for four years or more.

On the variable 'loyalty', recently involved subjects from business and human movement differed significantly (.05). Business subjects demonstrated a belief that more programmes had been implemented for reasons of enhancing company loyalty than did the human movement subjects.

On the variable 'stress', low time involvement subjects differed overall (.002). Human movement thought it to be a more prominent reason for past programming than did business (.02). And labour scored higher than all of the other groups (business .0004, human movement .02, other .002). This would indicate that labour, apart from the rest (and human movement, apart from business), has recognized stress as a problem area that has been addressed by the implementation of Employee Fitness.

Finally, on the variable 'job specific' differences appeared in both low and high time involvement. Subjects with less than four years experience in Employee Fitness in the 'other' group scored higher on this variable than business (.05) and human movement (.03). This was somewhat reversed amongst those subjects with four or more years experience. In that category business scored higher than labour (.03) and other (.03). Although this suggests a change in perception with experience, that is not surprising. Subjects with business backgrounds may have become more
aware with experience, of the utility of having employees stay fit to satisfy job-specific demands. It could also reflect an older but lingering belief that less experienced subjects are unaware of. The high score of the less experienced 'other' group, likely represents the most obvious facet of Employee Fitness. That is: providing employees with a means to maintain fitness so as to better perform their jobs. This is the most pragmatic of all the stated applications.

**TABLE 6**

**MEAN SCORES OF ATTITUDE VARIABLES BY BACKGROUND**

<table>
<thead>
<tr>
<th>Background</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business N=25</td>
<td>0.48</td>
<td>0.44</td>
<td>1.76</td>
<td>3.04</td>
<td>2.32</td>
<td>0.80</td>
<td>1.16</td>
</tr>
<tr>
<td>Human Movement N=47</td>
<td>0.80</td>
<td>0.25</td>
<td>2.02</td>
<td>2.91</td>
<td>1.74</td>
<td>1.08</td>
<td>1.14</td>
</tr>
<tr>
<td>Labour N=9;</td>
<td>2.00</td>
<td>0.00</td>
<td>2.55</td>
<td>1.77</td>
<td>2.22</td>
<td>0.22</td>
<td>1.22</td>
</tr>
<tr>
<td>Other N=23</td>
<td>0.60</td>
<td>0.34</td>
<td>2.21</td>
<td>3.04</td>
<td>2.00</td>
<td>0.78</td>
<td>1.00</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.788</td>
<td>0.298</td>
<td>2.048</td>
<td>2.875</td>
<td>1.98</td>
<td>0.875</td>
<td>1.125</td>
</tr>
</tbody>
</table>

Table 6 represents the emphasis that the background groups felt should be placed on the reasons for Employee Fitness programme implementation. Except for labour, all groups felt that health and lifestyle education was the most important reason for programme implementation. Labour scored
the need to relieve excess stress the highest. This is consistent with a labour emphasis on stress throughout the results.

One-way analysis of variance illustrated the differences between labour and the rest on the variable 'workday' (.004 overall: business .0004, human movement .003, other .001). Clearly the labour subjects demonstrated concern for their own well-being by placing such importance on the need to alleviate workday routine.

These differences held for analysis of variance by time involvement. For subjects involved for less than four years, business (.05) and 'other' (.04) differed from labour's view. The same was true for the whole group involved with Employee Fitness for four years or more (overall .007: business .001, human movement .002, other .01).

The variable 'health and lifestyle education' caused all groups with high time involvement to score significantly greater than labour (business .02, human movement .04, 'other' .04). This was probably due not so much to a lack of interest here on the part of labour, but to the need to recognize issues of greater personal priority such as stress and cardiovascular disease. The other three groups may have given education the top priority because of its potential for favourably influencing all other variables.

Of those subjects with high time involvement, the variable 'job specific' brought out an overall difference (.008). Subjects with business background scored this
variable significantly more important than subjects with 'other' background (.04). And subjects with human movement background scored it higher than both labour subjects (.04) and 'other' subjects (.002). This means that experienced subjects in human movement and business generally felt that providing employees with fitness and health to satisfy job specific demands is of some importance. It was of less importance to experienced subjects with labour and 'other' background.

TABLE 7
SIGNIFICANCE OF DIFFERENCES BETWEEN BELIEF AND ATTITUDE - BY BACKGROUND - (RESULTS OF PAIRED T-TESTS)

<table>
<thead>
<tr>
<th>Background</th>
<th>Work-Day</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business N=25</td>
<td>0.2326</td>
<td>0.0131B</td>
<td>0.0961</td>
<td>0.0066</td>
<td>0.8462</td>
<td>0.0696</td>
<td>0.8558</td>
</tr>
<tr>
<td>Human Movement N=47</td>
<td>0.1402</td>
<td>0.0010B</td>
<td>0.0917</td>
<td>0.0002</td>
<td>0.1170</td>
<td>0.4920</td>
<td>0.0538A</td>
</tr>
<tr>
<td>Labour N=9</td>
<td>0.0081A</td>
<td>0.0497B</td>
<td>0.7599</td>
<td>0.3466</td>
<td>0.1710</td>
<td>0.5943</td>
<td>0.2815</td>
</tr>
<tr>
<td>Other N=23</td>
<td>0.2951</td>
<td>0.0862</td>
<td>0.0291A</td>
<td>0.0921</td>
<td>0.3917</td>
<td>0.0917</td>
<td>0.4895</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.5</td>
<td>0.0001B</td>
<td>0.0031A</td>
<td>0.0001A</td>
<td>0.073B</td>
<td>0.016B</td>
<td>0.1</td>
</tr>
</tbody>
</table>

The difference between belief scores and attitude scores are presented in Table 7, stratified by background. On the variable 'workplace', labour differed significantly in favour of attitude. That is, the labour subjects felt
that more should be done for reasons of alleviating workday routine, than is presently the case. On the variable 'loyalty', business, human movement and labour all indicated that less emphasis should be so placed. Only 'other' subjects felt that significantly more programming should be directed by the need to relieve excess stress. Both business and human movement subjects felt that much more should be done out of a need to provide health and lifestyle education. Finally, human movement alone felt that significantly more programmes should be developed out of a need to provide a workplace context for recreational interests and healthful activity. As with this last point, most differences demonstrated particular, self-serving interests.

TABLE 8

MEAN SCORES OF BELIEF VARIABLES BY TYPE OF INVOLVEMENT

<table>
<thead>
<tr>
<th>Involvement</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect N=42</td>
<td>1.04</td>
<td>1.28</td>
<td>1.73</td>
<td>1.16</td>
<td>2.28</td>
<td>1.61</td>
<td>0.80</td>
</tr>
<tr>
<td>Direct N=62</td>
<td>0.74</td>
<td>1.08</td>
<td>1.66</td>
<td>2.24</td>
<td>2.33</td>
<td>0.98</td>
<td>0.91</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.865</td>
<td>1.16</td>
<td>1.69</td>
<td>1.82</td>
<td>2.31</td>
<td>1.24</td>
<td>0.875</td>
</tr>
</tbody>
</table>

Type of Involvement: Indirect/Direct

In Table 8, the subjects are divided by the type of involvement they have had with Employee Fitness. Both the indirectly involved subjects and those directly involved
scored cardiovascular disease as the most prominent reason for the establishment of programmes in the past. The two groups differed on the second ranking. Here the indirect group scored stress as the next reason for past programming while the direct group focused on health and lifestyle education. It should also be noted that the direct group had a higher concentration of scores on fewer items than the indirect subjects.

Analysis of variance turned up a highly significant difference (.002) on the 'education' variable. Direct placed a much greater value on the past involvement of health and lifestyle education in Employee Fitness, than did indirect.

A similar difference (.001) appeared when analysis of variance operated on cases of low time involvement. Subjects directly involved scored health and lifestyle education higher.
<table>
<thead>
<tr>
<th>Involvement</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect N=42</td>
<td>1.02</td>
<td>0.35</td>
<td>2.19</td>
<td>2.50</td>
<td>1.95</td>
<td>1.04</td>
<td>0.92</td>
</tr>
<tr>
<td>Direct N=62</td>
<td>0.62</td>
<td>0.25</td>
<td>1.95</td>
<td>3.12</td>
<td>2.00</td>
<td>0.75</td>
<td>1.20</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.788</td>
<td>0.298</td>
<td>2.048</td>
<td>2.875</td>
<td>1.98</td>
<td>0.875</td>
<td>1.125</td>
</tr>
</tbody>
</table>

Table 9 represents the attitude scores for type of involvement. Both groups felt that 'education' should be the most important reason for programming. The second most important factor for the indirect group was 'relieving excess stress'. Cardiovascular disease was the second most important choice for the direct subjects. One-way analysis of variance, yielded no reportable differences either by whole population nor by cases of time involvement.
### TABLE 10

**SIGNIFICANCE OF DIFFERENCES BETWEEN BELIEF AND ATTITUDE - BY TYPE OF INVOLVEMENT - (RESULTS OF PAIRED T-TESTS)**

<table>
<thead>
<tr>
<th>Involvement</th>
<th>Work-day</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect N=42</td>
<td>0.9072</td>
<td>0.0008&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.0203&lt;sub&gt;A&lt;/sub&gt;</td>
<td>0.0002&lt;sub&gt;A&lt;/sub&gt;</td>
<td>0.2996</td>
<td>0.0125&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.6345</td>
</tr>
<tr>
<td>Direct N=62</td>
<td>0.4171</td>
<td>0.0004&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.0600</td>
<td>0.0011&lt;sub&gt;A&lt;/sub&gt;</td>
<td>0.1438</td>
<td>0.2657</td>
<td>0.1317</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.50</td>
<td>0.0001&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.0031&lt;sub&gt;A&lt;/sub&gt;</td>
<td>0.0001&lt;sub&gt;A&lt;/sub&gt;</td>
<td>0.073&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.01&lt;sub&gt;B&lt;/sub&gt;</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Table 10 illustrates the significance levels of differences between belief and attitude scores when the population was divided by type of involvement. Both groups demonstrated a clear view that much more has been done out of a need to enhance company loyalty than should be the case. Indirect scores suggested that stress play a more prominent role in future Employee Fitness programming. Both indirect and direct felt that health and lifestyle education should play a larger role in the future. Finally, indirect indicated that less should be done out of a need to satisfy job-specific demands.

**Nationality**

Subjects were either Canadian or American and Table 11 shows belief scores arranged by nationality. The two groups differed surprisingly in the way in which they ranked the
belief variables. Canadian subjects scored 'education' highest, followed by cardiovascular disease and stress. American subjects believed more had been done in the past out of a need to combat cardiovascular disease. This was followed by 'stress' and then education. By themselves, these scores illustrate the differences that have existed in the approach to Employee Fitness in the two countries.

**TABLE 11**

**MEAN SCORES OF BELIEF VARIABLES BY NATIONALITY**

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian N=55</td>
<td>1.16</td>
<td>1.18</td>
<td>1.52</td>
<td>2.21</td>
<td>1.72</td>
<td>1.30</td>
<td>0.83</td>
</tr>
<tr>
<td>American N=49</td>
<td>0.530</td>
<td>1.142</td>
<td>1.87</td>
<td>1.38</td>
<td>2.97</td>
<td>1.16</td>
<td>0.91</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.865</td>
<td>1.16</td>
<td>1.69</td>
<td>1.82</td>
<td>2.31</td>
<td>1.24</td>
<td>0.875</td>
</tr>
</tbody>
</table>

One-way analysis of variance highlighted differences on three belief variables. 'Workday' routine was considered by Canadians (.009) to have had a much greater influence in the past. American subjects scored the same variable lower than all the rest. 'Education' was thought to have played a larger role in the view of Canadians than with Americans (.02). Canadian subjects however unlike their American (.0005) counterparts believed that cardiovascular disease was of
much less importance in the past.

By cases of high time involvement, one-way analysis of variance turned up similar results. Again Canadian and American subjects differed on 'workday' (.02), 'education' (.04) and 'cardiovascular disease' (.001).

**TABLE 12**

**MEAN SCORES OF ATTITUDE VARIABLES BY NATIONALITY**

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian N=55</td>
<td>0.89</td>
<td>0.38</td>
<td>2.07</td>
<td>2.90</td>
<td>1.45</td>
<td>1.07</td>
<td>1.2</td>
</tr>
<tr>
<td>American N=49</td>
<td>0.67</td>
<td>0.20</td>
<td>2.02</td>
<td>2.83</td>
<td>2.57</td>
<td>0.65</td>
<td>1.04</td>
</tr>
<tr>
<td>Total Sample N=104</td>
<td>0.788</td>
<td>0.298</td>
<td>2.098</td>
<td>2.875</td>
<td>1.98</td>
<td>0.875</td>
<td>1.125</td>
</tr>
</tbody>
</table>

Table 12 shows the attitude responses divided by nationality. Here the two groups appear to have been more in agreement as both felt that 'health and lifestyle education' should provide the impetus for future programming. 'Combating cardiovascular disease' is the second priority for American subjects while Canadian scores point to 'stress' as the alternative.

One-way analysis of variance confirmed the differences between Canadian and American subjects on 'cardiovascular disease' (.0002). By cases of high time involvement that difference is more pronounced (.0000).
Table 13 represents the significance levels of the difference between belief and attitude with the population divided by nationality. Canadians and Americans both felt that less programmes should be implemented for reasons of enhancing company loyalty than has been the case in the past. Canadians indicated that more should be done out of a need to relieve excess stress. Both groups thought that much more emphasis should be placed on the area of health and lifestyle education. Finally, American subjects believed that more had been done out of a need to satisfy job specific demands, than should be the case in the future.
**TABLE 14**

**MEAN SCORES OF BELIEF VARIABLES BY LENGTH OF TIME INVOLVED**

<table>
<thead>
<tr>
<th>Time Involved</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than four years</td>
<td>0.91</td>
<td>0.93</td>
<td>1.71</td>
<td>1.78</td>
<td>2.36</td>
<td>1.26</td>
<td>0.97</td>
</tr>
<tr>
<td>N=46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Four years or more</td>
<td>0.82</td>
<td>1.34</td>
<td>1.67</td>
<td>1.86</td>
<td>2.27</td>
<td>1.22</td>
<td>0.79</td>
</tr>
<tr>
<td>N=58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sample</td>
<td>0.865</td>
<td>1.16</td>
<td>1.69</td>
<td>1.82</td>
<td>2.31</td>
<td>1.24</td>
<td>0.875</td>
</tr>
<tr>
<td>N=104</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Time Involvement**

Scores were assessed in places throughout the results, by cases of time involvement. Table 14 displays belief scores arranged by time involvement alone. It is somewhat surprising to note that subjects with less than four years involvement and subjects involved for four years or more both rank 'cardiovascular disease', 'education' and 'stress' in that order as the top three reasons for past programming. In fact there is very little difference between the groups throughout the table.
Table 15, illustrating attitude scores by time involvement is also surprisingly free of any great differences. The two groups both rank 'education' as the greatest priority in future programme implementation. Those subjects with less than four years of involvement scored 'cardiovascular disease' and 'stress' followed by 'cardiovascular disease' should receive the second and third most attention.

Analysis of variance turned up no differences when time involvement was assessed alone. When it was stratified further by various measures, however, certain subgroups seemed to eclipse each other, shifting from low to high scores (or vice versa) on a particular item, with a change in time involvement.
TABLE 16

SIGNIFICANCE OF DIFFERENCES BETWEEN BELIEF AND ATTITUDE - BY LENGTH OF TIME INVOLVED - (RESULTS OF PAIRED T-TESTS)

<table>
<thead>
<tr>
<th>Time Involved</th>
<th>Workday</th>
<th>Loyalty</th>
<th>Stress</th>
<th>Educate</th>
<th>CVD</th>
<th>Job Specific</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than four years</td>
<td>1.0</td>
<td>0.0048&lt;sup&gt;B&lt;/sup&gt;</td>
<td>0.0620</td>
<td>0.0013&lt;sup&gt;A&lt;/sup&gt;</td>
<td>0.3023</td>
<td>0.0545&lt;sup&gt;B&lt;/sup&gt;</td>
<td>0.9256</td>
</tr>
<tr>
<td>N=46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Four years or more</td>
<td>0.3757</td>
<td>0.0001&lt;sup&gt;B&lt;/sup&gt;</td>
<td>0.0234&lt;sup&gt;A&lt;/sup&gt;</td>
<td>0.0002&lt;sup&gt;A&lt;/sup&gt;</td>
<td>0.1329</td>
<td>0.1456</td>
<td>0.0686</td>
</tr>
<tr>
<td>N=58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sample</td>
<td>0.50</td>
<td>0.0001&lt;sup&gt;B&lt;/sup&gt;</td>
<td>0.0031&lt;sup&gt;A&lt;/sup&gt;</td>
<td>0.0001&lt;sup&gt;A&lt;/sup&gt;</td>
<td>0.073&lt;sup&gt;B&lt;/sup&gt;</td>
<td>0.01&lt;sup&gt;B&lt;/sup&gt;</td>
<td>0.13</td>
</tr>
<tr>
<td>N=104</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The scores in Table 16 represent the significance levels of the differences between beliefs and attitude, divided by time involvement. Both groups believed that more had been done for reasons of enhancing company loyalty than should be the case. The high time involvement subjects felt that more should be done out of a need to relieve stress than has been the case in the past. Both groups felt that more emphasis should be placed on the need to provide health and lifestyle education. Lastly, subjects with less than four years of involvement thought that the need to satisfy job specific demands received more attention in the past than it presently should.
Five questions (number 2, 4, 8, 10 and 13) provided the subjects with an opportunity to add expressions of their own views. Among those who made use of this option, there was evidence of shared concerns on certain issues. These responses are detailed in the appendices. As well, suggestions that had been expected are noted.

Question five (answers in Appendix D) dealt with the problem of motivation or "why the workforce would choose to participate in Employee Fitness programmes". The highest scoring answer was "to gain better fitness and health". The second ranking answer "for social benefits" scored considerably lower. The next three items had to do with extrinsic sources of motivation. They were: "to get something for free", "convenience of the workday/workplace", "to get away from (boring) work". When responses such as "peer pressure", "superiors' expectations" and "because management does it" are grouped under the single heading of 'the expectations of others', the total score ranks third on the overall list of motivations. It should be noted here that "weight loss", "relief of stress", "vanity", "enjoyment", and other 'positive' motivations, were also listed though their scores were considerably lower.

Questions 12 to 15 dealt with the preparation of specialists in the area of Employee Fitness. All subjects except for one indicated, in question 12, that the training of practitioners was necessary. Questions 13 to 15 were answered
by 103 subjects.

In question 13 subjects were asked to respond to the issue: "What content areas should the general Employee Fitness practitioner be versed in?" The following percentages indicate the scores in favour of each of the suggested items: Business Management 44%, Economics 11%, Ethics and Law in Employee Fitness 49%, Exercise Physiology 93%, Facility Design 52%, Health and Lifestyle Education 90%, Leadership Training and Coaching 71%, Marketing 27%, Psychology 65%, Public Relations 66%, Recreation 67%, and Research Design 17%.

On the basis of the above scores, it was not surprising to record, in question 14, evidence of substantial belief that such training was already being provided. Though programmes of instruction in Employee Fitness per se are just now (1980) becoming available, the curriculum areas indicated above have been components of Human Kinetics and other courses of formal education for some time. Twelve percent of the respondents made a point of recording a belief that no vehicle of training and education for Employee Fitness had been available to that point in time. Others believed that training and education had been provided through: clinics - as a form of on the job training (14%), clinics with certification (9%), community college diploma (12%), university bachelor's degree (19%), university master's degree (14%), university Ph.D. degree (20%).
In question 15 subjects were asked, "By what means should expertise in Employee Fitness be provided?" The scoring broke down as follows: clinics - as a form of on-the-job training 7%, clinics with certification 18%, community college diploma 13%, university bachelor's degree 28%, university master's degree 28%, and university Ph.D. degree 5%. It should be noted that 61% of the respondents favoured training and education in the university. Scoring in question 14 illustrated wide discrepancies on the belief of the conveyance of expertise in Employee Fitness and to some extent, questioned its current existence. The results of question 15, with its emphasis on bachelor's and master's levels of expertise, may suggest a change in existing programmes or a need to create new university programmes in this area.

Not all of the subjects felt that Employee Fitness was undergoing growth as an area of specialized practice. The overwhelming majority (98 to 6) however, did. Of the main reasons cited as evidence of this growth (see Appendix D), "the increasing number of interested companies" scored the highest. Also receiving measures of concerns were increases in: the number of conferences on this subject, programme participation, the number of publications; the growth of public information and the recent establishment and rapid growth of the American Association of Fitness Directors in Business and Industry.
CHAPTER V SUMMARY AND CONCLUSIONS
The opinionnaire questions on "reasons for implementing an Employee Fitness programme" were used to establish a framework for illustrating the ways in which the field was viewed. The results indicate that differences existed between groups within the sample when it was subdivided on the basis of occupation. Disparate views were also demonstrated by divisions of background, nationality and degree of involvement with the area of Employee Fitness. Overall there was a greater number of differences on what was believed to exist than on what was felt should exist. Fittingly, while viewing the situation from a variety of perspectives this may be seen as an indication of sharing common objectives. Nevertheless, the number of differences enumerated in the results could be regarded as evidence of a lack of clear focus in Employee Fitness.

The differences between 'belief' and 'attitude' are to be noted as well. The emphasis, in the realm of what should be, was placed firmly on awareness or 'health and lifestyle education'. 'Stress' ranked second. Consensus on what was currently of greatest importance however, placed 'combating cardiovascular disease' at the top of the list. This suggests a considerable change in the future basis for Employee Fitness programming.

Generally the reasons for implementing Employee Fitness programmes dealt with factors that were in the best interests of the employee. This does not mean that the workforce
would make use of Employee Fitness options that could be provided. It was for this reason that the subjects were asked about motivation. On the basis of those results (Appendix D) it would appear that there is a need for further examination of this area. Answers offering as motivation the suggestion that one should choose to participate because such action is an appropriate response to the expectation of others, rank very high. Other forms of motivation such as "getting fit" may betray a lack of understanding for those, in the work force, who have never been fit. To "get fit", in and of itself is certainly an objective but less clear as a motivation.

Consideration must also be given to the matter of what exactly is in the 'best interests of the employee'. Programming of this nature can always be viewed as a corporate desire to develop a 'better' employee so that the ends of business may meet with fewer human obstacles. This point brings to light the ethical problems of Employee Fitness that have never been thoroughly examined.

The opinionnaire questions on the training of practitioners demonstrated disparate views on the dimension of Employee Fitness today. Some subjects scored in such a way as to indicate that this is a new and unique specialty area in which a proper means of training has still to be developed. Others scored these questions to the effect that exercise physiology and recreation and the related areas are synonymous with Employee Fitness and have been in the university setting at least long enough to include a doctoral level. The Employee Fitness practitioner as viewed by the latter group of subjects,
would be prepared to join the workforce as a company employee, hired to perform exercise tests and provide guidance on these matters. According to some subjects however, the trained practitioner should be sensitive to the business environment and in this way may choose to act autonomously, perhaps as a consultant. The lower scores on items of business management, ethics and law, facility design, marketing, and research design are evidence that the position of Employee Fitness practitioner is only marginally viewed as a role in which a command of these areas is necessary or relevant.

These results suggest two things. Firstly, that attention should swing away from combating cardiovascular disease which may be viewed as an effect, to the instruction of health and lifestyle education and stress management which can be seen as the areas of cause. This is socially significant because it reflects a growing awareness of the state of our lifestyle and approaches the source of our well-being problems today.

The results also suggest a role for the Employee Fitness practitioner that is not entirely consistent with the demonstrated objectives. The practice of this specialty appears to be focused on those elements related almost exclusively to the area of human movement. To this end, exercise may be used as a cure-all to counter the effects of all (work-related problems. Even in so doing, no sensitivity to the demands of the workplace, nor to the ways and means of business was strongly suggested. So it was generally felt that physical activity in its various forms adequately directed the mandate of Employee Fitness while at the same time the two most prominent objectives suggested less activity and more awareness.
This discrepancy provides evidence for Pyle's view that individuals involved in Employee Fitness today don't recognize the need for business training although often fitness personnel fail to integrate their activities with corporate objectives.

Employee Fitness should be essentially involved with this process of integration if it is to evolve as a unique specialty.

Implications for Future Research

In the training and education of future professionals in Human Kinetics, the demands of the corporate marketplace will likely play a larger role. On the basis of this examination of Employee Fitness specifically, it is clear that because of existing differences of perspective and the fixed nature of professional roles, some distance lies between the task objectives and practice. Follow up research should be conducted on the analysis of work environments and their incumbent demands on practitioner sensitivity to those situations. Study should be conducted on further defining the mandate of Employee Fitness. In this way curriculum can more accurately reflect the skills and knowledge required of the professional.

Research and curriculum development are needed in the area of lifestyle awareness. A thorough investigation is needed in the area of programme compliance. That particular problem area could be the key to the future development of the field. Many individuals provided evidence for the growth of Employee Fitness, but in many cases (i.e., growing
demand, more company involvement, etc.) little attempt has been made to examine why this is taking place. Perpetuation of Employee Fitness as a professional specialty will rely on the answer to that question.

Finally, study should be conducted on the overall effectiveness of the different routes of Employee Fitness. Such research might set out to measure fitness, or exercise-involved firms, against companies with active recreation programmes. By examining a range of parameters from comprehensive health assessment to job satisfaction, it is possible that the less fitness-intensive firms would come out ahead. This would reinforce the need for developing clear professional objectives.
PILOT TEST MANIPULATIONS AND QUESTIONS

Employee Fitness

Banister, a Canadian researcher, has estimated that "on any one day, roughly 5.4% of the workforce is absent from work". Absenteeism costs the Canadian Gross National Product billions of dollars each year and casual absence (absence due to minor illness or personal reasons) accounts for the greatest number of days lost. Over the past decade a number of scientists have reported relationships between workplace ambience, employee-company loyalty, absenteeism and productivity. By examining Japanese management styles researchers have determined that higher levels of productivity and decreased absenteeism go hand in hand with company allegiance.

North American firms that have invested heavily in various types of Employee Fitness programmes, have measured long term rewards not only in productivity and diminishing health costs, but also in the form of enhanced employee job satisfaction. "Healthy" companies have fewer problems with employee turnover as well.

It is clear that the fit individual can perform his daily tasks with greater ease than his unfit counterpart. This is especially true where jobs demand high levels of physical ability.

Employee Fitness has been introduced to the work environment in a variety of different forms. Of these, exercise testing and prescription, and recreation programmes are perhaps the most widely known.

From the business perspective, Employee Fitness can be seen as an investment in human resources, good will or a straightforward employee benefit. It must however, be treated with the same consideration as other business decisions. Choices must be evaluated in terms of cost effectiveness and with regard for the normal operation of the business enterprise. To this end, American business researcher Richard Pyle, stresses the importance of close corporate involvement on the part of the specialized Employee Fitness personnel. He states that "leadership and consultant roles in this field should be filled by individuals who have a solid business background". Employee Fitness after all should not be an intrusion, rather it should provide a healthy and helpful addition to the work environment.

Key: 1:1 = Belief, Business Manipulation
Employee Fitness

Concern for the well-being of the worker in the work setting was brought to prominence by Lord Shaftesbury in England over a century ago. Since then, the workplace has become progressively more civilized. Still, most jobs tie employees to a desk or a single spot for a large portion of each workday. As a result, physical activity is restricted or limited to a fixed set of movements. This is reflected in less than satisfactory levels of health and fitness in North America today.

Over twenty years ago, Morris, an English scientist, discovered a relationship between high levels of physical activity in work, and decreased incidence of cardiovascular (heart) disease. He noted that bus conductors, constantly running up and down the stairs of the double-deckers, had fewer health problems than the drivers who sat in one place all day, fighting traffic.

Similar studies have been conducted more recently in North America. The results show however, that there are very few jobs that have a positive effect on the employees. Cardiovascular disease has been a leading killer in North America for a long time and scientists believe that it will remain so until such time as we become more physically active. Because our work heavily influences the lifestyles we choose, it is through the workplace that researchers feel we can make the greatest gains towards improved levels of health.

Fitness experts view the work setting as being well suited for educating people about good health and healthful lifestyles. It is the prime battleground for combating cardiovascular disease through the provision of fitness and recreation opportunities in the course of the workday.

Employee Fitness experts armed with their knowledge of exercise physiology and health education are finding themselves in greater demand today than ever before.

Key: 1:2 = Belief, Human Kinetics
Manipulation
Employee Fitness

Many business executives in North America today feel that the problems facing industry are closely tied to sagging productivity. On closer examination some see the employee malaise taking hold in the form of casual absenteeism from work, unnecessary health care expenditures and employees physically and mentally incapable of handling the rigors of their jobs. There is however a bright light on the horizon.

In recent years, the health fad had begun to spill over into the business setting and it seems to be having some effect. Some businessmen, wary of the 'job' influence, have seen surprising results in the way of cost effective recreation programmes stimulating the work environment. Employees begin to show improved attitudes towards the company and towards their work where Employee Fitness concerns have been attended to. Former skeptics have claimed to see marked increases in productivity, sometimes in conjunction with similar decreases in absenteeism. If this trend continues we may soon see health care costs dropping as well.

Wide scale acceptance of Employee Fitness still, is a thing of the future, though it shows signs of becoming a part of the business enterprise. The 'money men' are waiting for an indication from the so-called 'Employee Fitness experts' that they will more closely align themselves with the concerns of business instead of trying to turn the world into their gym class. It is one thing to sponsor a few executives into a health club. It is quite another to lay out millions of dollars for a fitness and recreation facility.

Businessmen are always looking for cheaper and less intrusive ways to stimulate the work setting. Whatever the alternative though - and there are many - it would be wise for Employee Fitness experts to acquaint themselves with the specific needs of business. This could guarantee a bright, healthy and productive future for all.

Key: 2:1 = Attitude, Business Manipulation
It is not surprising that health and fitness are becoming topics of concern in the business setting. A hundred years ago human muscles provided nearly one-third of the energy used by factories, workshops and farms and today the comparable figure is less than one percent. With the decrease in our reliance on our physical strength and an increase in the number of implements invented to make our lives 'easier', we are rapidly becoming a weak species. Moreover, we are vulnerable to a variety of illnesses, social stresses and the biggest killer of them all, cardiovascular (heart) disease.

North Americans spend large chunks of their waking hours in the workplace, where 'structured physical inactivity' is generally the rule. Eight hours a day, five days a week, most of us sit at desks or stay close to a particular spot moving only as required by the task and usually very little.

It should be incumbent upon the employers to provide opportunities for some form of physical activity or recreation in the course of the workday. Since a great many North Americans are employed in company settings, programmes of health and lifestyle education could be easily adapted to reach large portions of the population. With such a captive audience Employee Fitness experts could perform exercise testing procedures and prescribe physical activity programmes to many more people than they would likely have access to in the community at large.

Business has begun to accept Employee Fitness into its realm. It is opening tentatively to the concept by having executives participate and some companies have even invested in large scale fitness and recreation programmes. If the trend continues we may soon see a return to healthier days. With fitter employees the companies are bound to benefit too. It seems that in a number of ways, Employee Fitness may provide the answer to problems that have been getting more serious with each passing year.

Key: 2:2 = Attitude, Human Kinetics
Manipulation
Pilot Test

Opinions of Employee Fitness

Employee Fitness: is a group of beliefs and practices concerned with the physical and/or social well-being of individuals who are involved with a business, trade or office by means of employment, and in the context of that employment.

These questions have been designed to determine your opinions on two levels: - what you believe is the case. - what you believe ought to be the case.

I  Shared concerns that are given as reasons for an Employee Fitness programme appear to be the need to:

a) alleviate the workday routine (i.e., to make the job more tolerable, to decrease absenteeism, to increase productivity)

b) enhance company loyalty

c) relieve excess stress

d) provide health/lifestyle education

e) combat cardiovascular disease

f) satisfy job-specific demands (i.e., firemen)

g) provide a workday context for recreational interests and healthful activity.

1. Given 50 points, with no less than 10 or no greater than 30 points assigned to a single item (from the above a-g), weight accordingly what you believe to have been the main reasons for establishing any Employee Fitness programmes in the past.
   a) b) c) d) e) f) g)  
   Total: 50

2. Using 50 points and the same rules, weight the main reasons for establishing an Employee Fitness programme according to what you feel they should be.
   a) b) c) d) e) f) g)  
   Total: 50

II  Some of the ways in which businesses attempt to enhance the well-being of the employee in the workplace are:

a) exercise testing and prescription

b) fitness classes
c) physical activity options (i.e., free activity like cross-country skiing, weight training, etc.)

d) lifestyle campaigns (i.e., quit smoking, Participation).

e) nutrition classes

f) competitive sport programmes

g) stress management programmes

h) lecture or concert series

i) recreation rooms and lounges

j) employee libraries and art galleries

3. Alloting 50 points, with no less than 10 or no greater than 30 points to be assigned to a single item, weight accordingly those choices which you perceive as least effective in achieving the objectives for which they were made.

a) b) c) d) e) f) g) h) i) j) 

Total: 50

4. Weight using the rules and points given, the choices that you feel would be the least effective in achieving the desired ends.

a) b) c) d) e) f) g) h) i) j)

Total: 50

5. What content areas should the general Employee Fitness practitioner be versed in? Check those that you feel are appropriate: Business Management __, Economics __, Ethics and Law in Employee Fitness __, Exercise Physiology __, Facility Design __, Health and Lifestyle Education __, Leadership Training and Coaching __, Marketing __, Psychology __, Public Relations __, Recreation __, Research Design __, Others __________

___________________________________________
Opinions of Employee Fitness

Employee Fitness: is a group of beliefs and practices concerned with the physical and/or social well-being of individuals who are involved with a business, trade or office by means of employment, and in the context of that employment.

These questions have been designed to determine your opinions on two levels: - what you believe is the case. - what you believe ought to be the case.

I Shared concerns that are given as reasons for establishing an Employee Fitness programme appear to be the need to:

a) alleviate the workday routine
b) enhance company loyalty

restrain excess stress
d) provide health/lifestyle education
e) combat cardiovascular disease
f) satisfy job-specific demands (i.e., firemen)
g) provide a workday context for recreational interests and healthful activity.

1. Given 50 points, with no less than 10 or no greater than 30 points assigned to a single item (from the above a-g), weight accordingly what you believe to have been the main reasons for establishing any Employee Fitness programmes in the past.

a)  b)  c)  d)  e)  f)  g) 

Total: 50

2. Are there any other factors, not stated above and of equal or greater importance to your heaviest weighting, that have operated in establishing Employee Fitness programmes? Please list several: _________________________________

3. Using 50 points and the same rules as before, weight the main reasons for establishing an Employee Fitness programme according to what you felt they should be.

a)  b)  c)  d)  e)  f)  g) 

Total: 50
4. Are there any other factors not stated here that you feel should be considered as a reason for establishing an Employee Fitness programme? Please list several:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

5. Please list several reasons why the workforce would choose to participate in Employee Fitness programmes:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

6. Which of the above concerns is/are unique to Employee Fitness (i.e., could not easily be placed under other headings relevant to the business operation)?

________________________________________________________________________

II Some of the ways in which businesses attempt to enhance the well-being of the employee in the workplace are:

a) exercise testing and prescription

b) fitness classes

c) physical activity options (i.e., free activity like cross-country skiing, weight training, etc.)

d) lifestyle campaigns (i.e., quit smoking, Participation)

e) nutrition classes

f) competitive sport programmes

g) stress management programmes

h) lecture or concert series
i) recreation rooms and lounges
j) employee libraries and art galleries

7. Allotting 50 points, with no less than 10 or no greater than 30 points to be assigned to a single item, weight accordingly those choices which you perceive as least effective in achieving the objectives for which they were made.

   a) b) c) d) e) f) g) h) i) j)  Total: 50

8. Are there any other options, not stated here, that you have seen in operation? Please list several:

   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

9. Weight using the rules and points given, the choices that you feel would be the least effective in achieving the desired ends.

   a) b) c) d) e) f) g) h) i) j)  Total: 50

10. Are there any other options, not stated here, that you feel could be put to effective use? Please list several:

   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

11. Which of the above options is/are unique to Employee Fitness (i.e., could not easily be placed under other headings relevant to the business operation)?

   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

12. The training of practitioners of Employee Fitness (i.e., those involved in leadership, programme design or consulting) is necessary  unnecessary .

   (If training is considered unnecessary, omit Questions 13-15).
13. What content areas should the general Employee Fitness practitioner be versed in? Check those that you feel are appropriate: Business Management, Economics, Ethics and Law in Employee Fitness, Exercise Physiology, Facility Design, Health and Lifestyle Education, Leadership Training and Coaching, Marketing, Psychology, Public Relations, Recreation, Research Design, Others

Training and education may be provided through:

a) clinics – as a form of on the job training
b) clinics with certification
c) community college diploma
d) university bachelor’s degree
e) university master’s degree
f) university PhD degree

14. By what means is expertise in Employee Fitness being provided?
   a) b) c) d) e) f)

15. By what means should expertise in Employee Fitness be provided?
   a) b) c) d) e) f) (CHECK ONE ONLY)

16. In the past decade Employee Fitness had become an area of increasing public interest. As an area of specialized practice, do you feel that Employee Fitness is undergoing growth today?
   yes ___ no ___

17. If yes, what indications evidence this belief?
   ____________________________________________
   ____________________________________________
   ____________________________________________

18. Employee Fitness is a comparatively new idea. Please indicate below, the period of years which you have been familiar with its main tenets.

4 years

Less Than: | More Than:
19. Similarly individuals have been directly involved in the implementing of Employee Fitness programmes. Please indicate your degree of participation as a planner or executant.

Direct ___________ Indirect ___________

20. In terms of your involvement with Employee Fitness in the course of your occupation, which branch below, would describe your affiliation?

Academic ___________ Government ___________ Corporate ___________

Labour ___________ E.F. Practitioner (Leader, Consultant) ___________  
(CHECK ONE ONLY)

21. Please indicate below which area of training best describes your own background.

a) Business ___________ b) Human Movement ___________

c) Labour ___________ d) None of the above  
(CHECK ONE ONLY)
### DEMOGRAPHIC BREAKDOWN OF SAMPLE POPULATION

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<tr>
<th></th>
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<th>Less than 4 years Involvement</th>
<th>4 or More Years Involvement</th>
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SUMMARY LIST OF OPEN-ENDED RESPONSES
- RESPONSES ARE LISTED BY RANKING: FROM HIGH TO-LOW
(NP = response not predicted by Author)

Question Two
Other factors that have operated in the establishment of Employee Fitness programmes are:
- reduction in absenteeism
- increase in productivity
- improvement in employee relations
- top management interest in exercise NP
- health care cost containment
- awareness of need for more exercise NP
- eager employees NP

Question Four
Other factors that should operate in the establishment of Employee Fitness programmes are:
- reduction in absenteeism
- increase in productivity
- improvement in employee relations
- improvement in job satisfaction
- health care cost containment
- improvement in self image NP
- improved health/lifestyle
- preventive measure
Question Five

Why would the workforce choose to participate in Employee Fitness programmes?

- to gain better fitness and health
- for social benefits
- to get something for free
- convenience of employment site/workday time
- to get away from (boring) work
- to lose weight
- others do it peer pressure
- for a sense of well-being
- enjoyment - pure recreational value
- vanity - physical appearance
- lifestyle education
- superiors' expectations
- improvement in work performance
- competitive outlet
- management does it
- (cardiovascular) disease prevention
- current "popular" fitness interests

Question Eight

Other ways in which businesses attempt to enhance the well-being of the employee in the workplace are:

- no consensus on any items other than those suggested in the opinionnaire.
Question Ten

Other ways in which businesses attempt to enhance the well-being of the employee in the workplace should be:

- no consensus on any items other than those suggested in the opinionnaire.

Question Thirteen

What other content areas should the general Employee Fitness practitioner be versed in?

- no consensus on any items other than those suggested in the opinionnaire.

Question Seventeen

What indications evidence growth in Employee Fitness?

- the increasing number of interested companies
- the increasing number of conferences on this subject
- increase in programme participation
- growth of public information
- increase in the number of publications (and published articles)
- the establishment and rapid growth of the American Association of Fitness Directors in Business and Industry (and the National Industrial Recreation Association)
- increase in demand for programmes
- increase in employee interest and demand
- more sophisticated college curriculum in this area
- increase in the number of public inquiries
- increase in interest from government agencies
- more extensive use of trained professionals
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