

## Investigation of the effect of selected aerobic programs on improving vocational relationships

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### ABSTRACT

The new millennium has commenced with an increase awareness of precious value of human resources. Many large firms have increased to use new human resources mobilization policies and the importance of human potential in business has developed, dramatically. There different methods to help human resources increase their potentials such as providing recreational centers, athletic facilities, etc. In this paper, we study the impact of providing exercise facilities on improving the efficiency of employees in management level in the biggest steel producers in Iran called Mobarakeh Steel Complex. In this company, there were about 85 middle level managers and supervisors and the proposed study selects 30 people, randomly and divides them into two equal groups. In the first stage of the study, questionnaire of vocational relation are distributed among the participants of our experiment and we measure some important factors, which could improve vocational relationships. Next, the experimental groups are invited to take part in some selective aerobic programs for 8 weeks and 3 sessions per week and 1 hour and 15 minutes per session, regularly. Finally, we repeat the same experiments after the aerobic programs end and compare the results with the first one. The preliminary results indicate that there is a meaningful difference between the healthcares of these two groups.

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## 1. Introduction

During the past two decades, many large firms have started to use new human resources mobilization policies and the importance of human potential in business has developed, dramatically. There are many organizations trying to develop their human capital as much as possible and motivate employees in order to face challenges. Therefore, employees are considered as the key success at different levels in terms of productivity, competitiveness not only through the knowledge they can contribute but also by the value they could add to client relationships, product quality, and so forth. The employee is a valuable asset for the companies and in some cases the employees are the only true competitive advantage for a company (Storey and Sisson, 1993; Delery and Doty, 1996; Bolwijn and Kumpe, 1996; Becker and Gerhart, 1996). Pichot et al. (2009) performed an empirical survey to study

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the impact of practicing sports, commonly known as a pastime or leisure activity on highlighting human agent as an organizational resource and pulling force.

The study also determined how it could lie within the framework of general employee management policies. In their study, a sample of people who worked for ten different enterprises was selected and questionnaire was distributed among them. The study showed that sport at companies could take on multiple functions and forms of structures in situ, events, company sporting associations, sponsorship, and so forth. Sport has different functions and they are often correlated and integrated into human resources management in terms of training and motivational tools, or both internal and external communication policies. Furthermore, they could also contribute to the social policy of the company. They concluded that sport in business could be a contributor to company's identity by highlighting intangible and human resources.

Coulson et al. (2008) studied the impact of exercising at work on the performance of the employee. In their study, they showed that that workday exercise could improve white-collar workers' mood and self-reported performance on days when they exercise at work for several days when they do not. There are clear implications not only for employee's healthcare, but also for competitive advantage and motivation by increasing opportunities for exercising at work. Thompson (1997) presented a case study on how one small company started a health care program for employees in an attempt to avoid higher health-care expenditures and to improve employee morale. The paper explained the process of developing the program, and its success in detail to increase employees' ability to work better.

Chikuji et al. (1999) studied the effects of low intensity aerobic training on the physiological indexes and the quality of life in middle-aged white-collar workers. They studied the effect of prolonged whole-body low-intensity exercise on blood lipids, skeletal muscle adaptations and aerobic fitness. They selected seven male subjects and asked them to complete a 32-day crossing of the Greenland icecap on cross-country skies and they measured before and after this arm or leg cranking on two separate days. They also executed some biopsies from arm and leg muscle, and venous blood. They concluded that the exercise could improve the people's performance since an improved blood lipid profile and thus metabolic fitness appeared after prolonged low-intensity training and this occurred despite a decreased aerobic fitness and an unchanged arm and leg muscle hormone-sensitive lipase activity (Helge et al., 2008)

Einspruch (1996) explained how challenge of providing rehabilitative services at relatively low price could help companies increase their productivities. They study also explains that if there is a link between the company' objectives and customer satisfaction, it is imperative to evaluate quality or customer satisfaction in the context of the patient's experience and described the quality function deployment system and how it could lead to a better understanding of the customer's needs and wants. In this paper, we study the impact of providing exercise facilities on improving the efficiency of employees in management level in the biggest steel producers in Iran called Mobarakeh Steel Complex.

In this company, there were about 85 middle level managers and supervisors and the proposed study selects 30 people, randomly and divides them into two equal groups. In the first stage of the study, questionnaire of vocational relation are distributed among the participants of our experiment and we measure some important factors, which could improve vocational relationships. Next, the experimental groups are invited to take part in some selective aerobic programs for 8 weeks and 3 sessions per week and 1 hour and 15 minutes per session, regularly. Finally, we repeat the same experiments after the aerobic programs end and compare the results with the first one. This organization of this paper first explains details of the implementation of our experiments in section 2 and then we perform statistical analysis on the proposed method in section 3. Finally, concluding remarks are given at the end to summarize the contribution of this paper.

## 2. Research method

The aim of the study is to investigate of the effects of selected aerobic programs on improving vocational relationships of managers in Mobarakeh Steel Complex (MSC). MSC is Iran's second biggest steel plant, built in the mid-1990's. It is located 65 km southwest of a well-known city called Esfahan, near the city of Mobarakeh, and they both are located in Esfahan province, Iran. MSC is Iran's largest steel maker, and one of the largest industrial complexes operating in Iran.

The company owns the successful football club, Sepahan. The team competes in Iran's top flight known as Persian Gulf League (PGL) and holds most of the records in the PGL under their belt. Sepahan is the latest champions of the PGL in 2010-11 seasons for the record third times in the ten-year PGL history. Sepahan is also the first and the only club to own the title of back-to-back seasons (2009-2010 and 2010-2011). They became the first non-capital city based team to win the title in the 2002-03 seasons.

As we can see, sport is one of the most important issues not only for promoting MSC's brand but also for contributing to Iranian society. The management team of the company was interested in contributing more to its human resources by expanding its recreational facilities in its different plants.

The proposed study of this paper selected some well organized swimming programs to study their impacts on improving performance of employees in MSC firm. We first divided the participants into two groups and gathered some necessary information through questionnaire. The first group belongs to those who take part in our program and the second group belongs to the people who do not participate in our survey called control group. The information are collected from two groups once the selected group members finish their exercise.

### 2.1 Statistical society

The statistical society of this study includes all male intermediate grade of Mobarakeh steel who worked for the company during the fiscal year of 2007. Based on the statistics we gathered from human resource department, there were 85 people working as middle level management. Once the exercise program was announced, 200 individuals (men) were interested in participating in our survey. We have selected 30 people as our sampling and divided them into two groups of 15 people based on primary drug and completed testimonial form of the study.

### 2.2 Method of performing research

Selected programs of swimming included different activities presented by variable results due to physical capabilities and level of learning of the people who took part in our study. Practical sessions were regulated by level of heartbeat and in the first session, training swimming was noteworthy and so low severity of practices gradually were added to severity of exercises in the next session. In primary sessions heartbeat was maximum 75 beat/min and gradually in the last session reached to 140-160 beat/min and severity was additive from the first session to last session.

The first sessions were training course and last sessions were focused on more practice and improvement of skills. For all sessions we used various and attractive plays and entertainment programs. In other words, we assigned the first six sessions for training purposes, the next six sessions were assigned for practice and entertainment, and 12 sessions were also devoted for a combination of both with trains of swimming skills focused on breast crawl. The swimming program was designed for 8 weeks, every session took 1 hour and 15 minutes, and some respective experts provided some selected and extended swimming programs.

### 3. The results

In this section, we present the results of the information we gathered from both groups who either participated in our exercise program or not.

#### 3.1 Validity and reliability of questionnaire

In order to validate the results of our experiments we have used Cronbach Alpha (Cronbach, 1952) for small number of test results, which yielded 89%. This number highly validates the results of our experiments. Next in order to determine the reliability of our questionnaire, we gathered the mean and standard deviations scores of some five referees and compared them with the information we gathered from the participants using Candle correlation test. The result indicated a 83% correlation between these two samples which is highly acceptable number and it confirms the reliability of our test.

#### 3.2 Statistical test method

In this study, inference statistical method is used to analyze the gathered information. Table 1 summarizes the mean and the standard deviation of two groups who participated in our test and those who did not, which include the mean and standard deviation before and after performing the extended swimming program.

**Table 1**

The mean and standard deviation scores of pre and posttest and vocational relations

Group	mean	Standard deviation	mean	Standard deviation
Control	26.46	6.22	21.33	4.8
Experimental	31.73	2.65	21.73	3.97

As we can observe from Table 1, the mean scores of pretest in control and experimental groups are 21.33 and 21.73, respectively. Once the session practices were held, the score of pretest in control group was 21.46 while the average score for the experimental group was increased to 31.74, which shows a substantial increase in the performance of the people who participated in our exercise swimming program.

**Table 2**

The mean and standard deviation of the data related to working conditions after decreasing scores

Group	Mean	Standard deviation
Control	14.252	0.744
Experimental	20.214	0.744

As we can observe from Table 2, there is a significant increase on the mean scores of the experimental data while there is no difference between the standard deviation of these two groups. In order to understand whether there is statistically a meaningful difference between our results before and after execution of the program, we performed analysis of variance (ANOVA) test. Table 3 summarizes the results of the ANOVA test.

**Table 3**

ANOVA test for mean and standard deviation scores of post test in control and experimental group

Statistical indexes	Observed Power	Eta	P-value	F test
Improvement of vocational relations	1.000	0.651	0.000	42.90

As we can observe from Table 3, the results of P-value and F-test indicate that there is a meaningful difference between the results of two groups. In other words, the aerobic program could substantially improve health conditions of the people who participated in our exercise program.

**Table 4**

Comparison of mean scores relating to improve working relationships after decreasing scores

Group	Mean	Standard deviation
Control	21.89	0.982
Experimental	31.31	0.982

Table 4 summarizes the results of our survey where we can observe that the mean score of control group is well below the mean score of experimental group and there is no difference between the standard deviation of these two groups.

The results of this survey emphasize the fact that a routine swimming exercise could improve healthcare and work performance.

#### 4. Conclusion

In this paper, we have presented an empirical study to learn the effects of the aerobic programs on improving the healthcare performance of middle level managers who worked for the biggest Iranian steel industry. The proposed study divided the people into two groups and measured some data for both groups. Next, the study asked the second group to participate in an aerobic program and the tests were repeated for both groups after the program was terminated. We then compared the results and realized that there was meaningful difference between the healthcare conditions of the people who participated in our program compared with the people who did not. The proposed study of this paper would indicate that recreational programs play important role on increasing people's potential work.

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