

## **An Empirical Study Based on the SPSS Variance Analysis of College Teachers' Sports Participation and Satisfaction**

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**Abstract:** The study on University Teachers' sports participation and their job satisfaction relationship for empirical research, mainly from the group to participate in sports activities situation on the object of study, investigation and mathematical statistics analysis SPSS. Results show that sports groups participate in job satisfaction higher than those in groups of job satisfaction; sports participation, different job satisfaction is also different. Recommendations for college teachers to address their life and the characteristics of their own conditions choose to suit your participation, improve psychological and physiological health, timely adjust the mood state, to positive psychological state of work, high job satisfaction. Different organizations accord to their occupation characteristics and available resources and actively guide the organization members form a more scientific and reasonable habits and ways of life, fully mobilize the enthusiasm of participating in the fitness activity, to create a more intense fitness culture atmosphere, in order to improve internal cohesion and centripetal force, improve job satisfaction.

**Keywords:** Job satisfaction, sports participation, teachers

### **INTRODUCTION**

Young people are the mainstay of social production, their sports alienation, which is not conducive to China's labor main body health status. It is not conducive to the national long-term physical improvement. Number of teachers in Colleges and universities in the period of black prime of life, with the development of society, this group in the life and work pressure is growing. Their social and family also plays a dual role, so they need through reasonable, the Science Channel relieve all kinds of pressure, to improve the quality of life and job satisfaction. Many domestic and foreign research findings that physical activity can alleviate many from the pressures of work and life, is beneficial to improve the quality of life and work. Our country renowned psychologist Chen Zhonggeng argues that Weiqun (2002), in had already discovered can reduce the individual life stress factors. Two factors are the most prominent, namely social support and physical exercise (Da-Wei, 2002); Participating in physical exercise, increased social interactions and thus easier to obtain social support. Ji Liu thinks, physical exercise can be used as a "buffer", reduce individual stress life events caused by the stress level. The modern psychology research results also indicate that, anxiety and tension strength along with the movement of the body to strengthen gradually reduced (Tonghua, 2001), the intense emotions often during physical exertion weakens gradually, until the peace. Job satisfaction in organizational behavior is an important variable, as a kind of attitudes of employees; job satisfaction has always been the research emphasis. Rock thinks that job

satisfaction is defined as "comes from the members of the organization to work or work experience assessment of a positive emotional state" (Ming, 2003). That is to say, job satisfaction organizational members have to work a kind of attitude and work on an emotional reaction. Job satisfaction refers to the employees on the work satisfaction degree. In our country, the study of job satisfaction in recent years is beginning to receive attention. Mainly is concentrates on demographic variables (e.g., gender, age, education), personality, job stress and job satisfaction in the relationship to explore, try from one or several aspects to seek the reason of work satisfaction, change and more and more studies show that job satisfaction is through improvement of the related factors and improved. But in the field of sport on job satisfaction study is few, the Japanese scholar Fujiwara Kenko in its "sports on people's attitudes, awareness and labor concept effect" in the study pointed out, occupation group participating in physical activity can reduce fatigue, improve the satisfaction degree (Sun *et al.*, 1997). South Korean researchers Kim Jee-Youn and Byun Won-Tae in its "different recreational activities on the occupation personnel job satisfaction effect" also confirmed the sports activities on job satisfaction have positive influence (Ming, 2002).

This study argues that physical activity as a means of entertainment in fitness, people obtain the health, at the same time and the mood of people has an active regulatory role. It can improve people's job satisfaction. So we choose University Teachers' sports participation situation and job satisfaction are investigated and study. From an empirical perspective explore the relationship between the two. In order to make people a better

understanding of the important role of physical education teachers (Jerry, 2000), to improve the organization and individual's attention to sports, promote the development of sports and provide a theoretical basis for the follow-up study.

### **THE OBJECT STUDY AND METHOD OF STUDY**

**The object study:** According to the research needs and questionnaires feasibility, we choose Liaoning province college teachers, in order to describe the use of convenient direct teachers to describe.

**Research methods:** Refer to the relevant research results at home and abroad and the literature, understand the research situation, the research study laid the foundation and theoretical basis.

According to the research, this study selects the national mass sports questionnaire survey column statistics factors, participation in physical activity condition factors and selection of existing common Job Satisfaction scale (JDI) drawn up. In this study, the questionnaire is divided into three parts: First, university teacher's basic statistical factor 9. Second, participation in physical activity status 8. Third, job satisfaction scale, according to the preparation of revised into job description scale (Job Description Index, JDI). This research selects the common Job Satisfaction scale (JDI), has good reliability and validity; in this study job satisfaction scale the split-half reliability was 0.74, that in this study the scale has a good reliability (Jee-Youn, 2003).

The questionnaire by random cluster sampling, in Liaoning Province, a random sample of 10 universities, each release 50 questionnaires; the recovery rate is 94.4%, effective rate was 89.6%.

Application of SPSS13.0 for windows statistical package for the social science of the original data analysis, the concrete application of a frequency analysis of descriptive statistics, the mean and standard deviation of the comparative, analysis of variance, correlation analysis and other statistical analysis method Spearman.

### **RESULTS AND ANALYSIS**

**Samples of basic statistics and analysis;** As you can see from in a sample of male teachers are 177 people, accounting for 41.9% of the total number of samples; female teacher are 246 people, accounting for 58.1% of the total valid samples, samples of a total of 423 people. From the degree distribution, due to the development of education, the teachers' educational level in continuous are improving. From the view of overall marital status, married people are more than unmarried people. The age distribution, the teacher groups in the 35 years following the teachers have the highest proportion.

From the perspective of teacher groups in length of service, 5 years following the most people (Jerry, 2000).

**Sports participation situation analysis:** The young man has enough energy, subjective exercise consciousness is not strong; and career is at its peak and is the home of the pillar. Dual work and family burden to exercise initiative by the objective conditions of the restrictions. The group participating in physical activity is always the emphasis and difficulty of physical work. In fact, the middle-aged is life's golden age, but the body's physiological function has begun to decline, sports can effectively delay the decline process. The teacher groups only have strong ability to work better, imparting knowledge and educating people and to ensure that the happy family.

From the percentage distribution (this will be a year of sports participation of more than 1 times more people into participating in group) can be seen, sports participation rates were above 60%. The study thinks; appear the reason of this phenomenon is, teachers belonging to the brainworker, stable work and life has the law, a higher cultural level, on the value of sports to have deeper cognitive, subjective exercise consciousness strong. They take part in physical exercise, entertainment fitness and improve their work, quality of life. At the same time, accelerate the pace of life, so that more people will sports as a kind of emotional adjustment, vent pressure means, they are willing to spare time to participate in sports activities to alleviate the multifarious services bring mental and physical exhaustion. Youth and women more, beauty and fitness has become the basic requirements of modern people. As a result of the need, they are willing to participate in physical exercise.

The sports participation frequency is divided into five grades, for sports participation frequency were percentage number statistics.

Five different participation frequency ranks: teacher groups in the weekly activities 1-3 times the most people, 32.8% of the total share of its population. There is an 82.4% person more than one times the monthly activities. According to the theory of sports fitness, exercise frequency too low to reach good effect of fitness, exercise frequency high physical fatigue is not easy to recover, under the influence of a sports performance and daily life. For general fitness, take the practice is good exercise frequency, so as to achieve a good fitness effect, but also can recover because of exercise induced fatigue, can be better for the next movement.

This study will participate in time is divided into five different levels, to 30 minutes for its class interval.

Movement of 30-60 min: Accounting for largest proportion is 45%. Effect of physical activity participation of time is one of the important factors.

People in sports activities, according to their constitution and sports features, select the appropriate exercise duration and intensity. Generally, 30 min of moderate activity for 30 -60 min of exercise effect is good.

This study will participate in strength are divided into five classes.

Gets proportion was 31.3%; this shows that sports participants, most people's exercise intensity close to moderate intensity, can achieve good effect of fitness. Intensity of exercise is to ensure that the motion effect and safety are important indicators, according to scientific research, low intensity physical activity (such as walking) and has the functions of preventing fitness function. However, according to the medicine and physiology of sports research, sports participants in order to enhance physical fitness, improve heart and lung function; it must be moderate intensity exercise. Due to the moderate intensity exercise, muscle power is through aerobic (with oxygen to burn body fat and glucose) sources. In the aerobic exercise can be good to body and mental health effect.

As you can see personal exercise is participating in the main form of sports population, illustrate the amateur, voluntary, dispersed activities form remains participants preferred, which is conducive to realizing the person to exercise effect. Friends and colleagues of exercise and exercise together with family selected ratio is also higher, stronger family sports value conception and the importance of family sports; in units of the organization form is also involved in the form of physical exercise. Now choose to take sports counseling Station and the club less visible, organized, scientific fitness entertainment also waits for further development. In addition, in the sports project, or in the traditional sports projects, some of the emerging sports project did not become daily fitness entertainment. Activities of the project are mainly concentrated in the long run, walk, jump, swim, Ping Yu movement and foot basket Pai and other traditional project, one is because of the project development and promotion better, people are more familiar with; on the other hand is the result of these items is simple to learn, the venue and equipment requirements is not high, the economic investment is little.

### **GROUPS OF TEACHER'S SPORTS PARTICIPATION AND JOB SATISFACTION**

**Sports participation and job satisfaction:** The following groups of teachers' sports participation situation and job satisfaction relationship by using the average value and standard deviation and statistical methods such as analysis of variance test. Test results as shown in Table 1:

As you can see from Table1, teachers sports participants in 295, 128 of non-participants. The variance in the overall satisfaction, job satisfaction,

career development and supervisor satisfaction dimensions were significant differences in salary, meet and satisfy but there was no difference. Sports participation in the overall meet 249.01>groups non-participating in the 235.67 general meeting, in job satisfaction, promotion to meet and boss meet three dimensions also showed this change, although the salary is to meet and satisfy the variance difference was not significant, but the satisfaction rate of the mean is still involved in groups than in groups.

**Level of participation and job satisfaction and their correlation analysis:** The following will further study of sport participation (involved in the frequency, participation time, involved in strength) and job satisfaction relationship. This study from the overall satisfaction (work satisfaction) and different job satisfaction dimensions were analyzed separately, first adopted the Spearman correlation analysis on the degree of involvement and job satisfaction for analysis.

As you can see participation frequency and participation time and overall satisfaction (satisfaction) have a very significant correlation ( $P<0.01$ ), to participate in strength and job satisfaction is not significant ( $p>0.05$ ). In different dimensions, participation frequency and job satisfaction, career development, salary satisfaction have significant correlation ( $p<0.05$ ) and satisfy with very significant correlation ( $p<0.01$ ) and the boss is not significant ( $p>0.05$ ) meet. In time and satisfy have significant correlation ( $p<0.05$ ) and job satisfaction, career development has very significant correlation ( $p<0.01$ ) and salary satisfaction and boss meet are not significantly correlated ( $p>0.05$ ). Participate in strength and job satisfaction has no significant correlation and the various dimensions also exhibit this feature. Can be thought to participate in strength of the relationship between job satisfaction and close. Under the different frequency of involvement, participation times, involved in the strength of job satisfaction were analyzed.

**Job satisfaction in frequency domain:** In order to further understanding of sports participation of teachers job satisfaction, analyzes different sports participation degree of job satisfaction, the first analysis of sports participation frequency relationship with job satisfaction, as shown in Table 2:

Teacher group with participation frequency of different satisfaction also showed different changes, which in the overall satisfaction, job satisfaction and supervisor satisfaction has significant differences, while in the promotion, salary and colleagues satisfaction meet no significant difference.

With the overall situation is slightly different, although the first two movement frequencies under the satisfaction level is higher, but the teachers satisfaction is the highest value in "1-3 times one month", which

Table 1: The sports participation and job satisfaction analysis table

|                        | Involvement in groups non (N = 295) M S.D. | Involvement in groups (N = 128) M S.D. | p     |
|------------------------|--|--|-------|
| Overall satisfaction   | 249.01±27.24                               | 235.67±21.79                           | 0.01  |
| Job satisfaction       | 60.48±9.46                                 | 56.16±6.54                             | <0.01 |
| Promotion satisfaction | 26.73±4.86                                 | 24.47±4.49                             | <0.01 |
| Wage satisfaction      | 28.84±5.77                                 | 27.84±4.81                             | >0.05 |
| Boss satisfaction      | 65.38±7.79                                 | 62.16±8.23                             | <0.05 |
| Colleague satisfaction | 67.57±7.86                                 | 65.04±8.87                             | >0.05 |

Table 2: The frequency of involvement and job satisfaction analysis table

|                        | More than 3 times one week M S.D. | 1-3 times one week M S.D. | 1-3 times 1 month M S.D. | 1-3 times one quarter times M S.D. | Less than 10 one year M S. D. | p     |
|------------------------|-----------------------------------|---------------------------|--------------------------|------------------------------------|-------------------------------|-------|
| Overall satisfaction   | 247.28±19.77                      | 251.28±30.05              | 256.33±26.88             | 240.83±23.30                       | 229.64±30.27                  | <0.05 |
| Job satisfaction       | 58.79±8.56                        | 61.67±9.34                | 63.06±9.18               | 59.75±9.35                         | 52.64±9.77                    | <0.05 |
| Promotion satisfaction | 27.38±4.98                        | 27.02±5.54                | 27.08±4.84               | 24.33±2.54                         | 25.36±2.94                    | <0.05 |
| Wage satisfaction      | 28.55±4.32                        | 28.47±6.68                | 30.08±6.15               | 28.83±3.93                         | 27.00±5.85                    | <0.05 |
| Boss satisfaction      | 63.93±8.24                        | 66.65±6.11                | 67.78±6.71               | 61.50±7.75                         | 60.64±11.92                   | <0.05 |
| Colleague satisfaction | 68.62±6.61                        | 67.47±7.95                | 68.33±9.04               | 66.42±6.87                         | 64.00±7.51                    | <0.05 |

Table 3: Participation time and job satisfaction analysis table

|                        | Under 30 min M S.D. | 30-60 min M S.D. | 60-90 min M S.D | 90-120 min above M S. D. | 120 min above M S. D. | p     |
|------------------------|---------------------|------------------|-----------------|--------------------------|-----------------------|-------|
| Overall satisfaction   | 244.52±28.25        | 244.53±26.69     | 259.06±26.66    | 254.90±24.06             | 234.00±0.00           | <0.05 |
| Job satisfaction       | 57.41±11.55         | 60.03±7.82       | 62.94±9.83      | 62.80±10.08              | 63.00±0.00            | <0.05 |
| Promotion satisfaction | 25.67±3.68          | 25.97±5.08       | 28.79±4.38      | 27.60±6.26               | 22.00±0.00            | <0.05 |
| Wage satisfaction      | 27.81±5.41          | 28.73±5.60       | 30.41±6.44      | 27.20±5.16               | 26.00±0.00            | <0.05 |
| Boss satisfaction      | 66.15±8.68          | 63.83±7.36       | 68.03±7.95      | 64.20±5.14               | 58.00±0.00            | <0.05 |
| Colleague satisfaction | 67.48±8.01          | 65.97±7.15       | 68.88±8.83      | 73.10±5.76               | 65.00±0.00            | <0.05 |

Table 4: Participation strength and job satisfaction analysis table

|                        | No feeling M S.D. | Body slightly fever M S.D. | Sweat slightly M S.D. | Secondary Sweat M S.D. | Sweating profusely M S.D. | p     |
|------------------------|-------------------|----------------------------|-----------------------|------------------------|---------------------------|-------|
| Overall satisfaction   | 234.00±0.00       | 252.63±27.93               | 245.27±22.18          | 254.83±26.51           | 243.00±34.28              | <0.05 |
| Job satisfaction       | 63.00±0.00        | 61.53±10.49                | 60.24±8.08            | 62.43±9.29             | 56.63±10.16               | <0.05 |
| Promotion satisfaction | 22.00±0.00        | 27.53±4.87                 | 26.54±4.34            | 27.03±4.61             | 25.83±6.05                | <0.05 |
| Wage satisfaction      | 26.00±0.00        | 28.10±5.39                 | 28.24±5.44            | 30.80±4.56             | 28.04±7.83                | <0.05 |
| Boss satisfaction      | 58.00±0.00        | 65.70±8.43                 | 64.34±6.71            | 66.69±8.90             | 65.17±7.13                | <0.05 |
| Colleague satisfaction | 65.00±0.00        | 69.77±5.86                 | 65.90±7.72            | 67.89±9.55             | 67.33±7.46                | <0.05 |

may be related to teachers' working space, time. Teachers are in school work, they often extending into the spare time such as, preparation, visit parents and supplement their knowledge. This makes teachers increase pressure at the same time, not only to their job, but also pay attention to their own health, such as to give dual attention to the good relationship between the two, will coordinate your time well, so that the work and life of harmonious development. Five working dimensions also show different characteristics, 1-3 times one month salary satisfaction, job satisfaction, supervisor meet the highest; more than 3 times one week promotion satisfaction, satisfy is highest.

**Participation time and work satisfaction:** The following sports participation time relationship with job satisfaction for the mean and standard deviation of the comparison and analysis of variance, Table 3:

According variance analysis, in the promotion to meet the dimension have the remarkable difference in the other dimension, there were no significant differences between the. Meet with general participation time increasing, when involved in time to reach 60-90 min, satisfaction levels up to 259.06 and then as time

increases with the decrease of participation, participation in the time to 120 minutes or more, the lowest level of satisfaction 234. In job satisfaction, promotion, salary and boss meet dimension, showed a trend. In satisfy in time in 90120 min when the highest satisfaction is 73.10, 60-90 min in 68.88 by sec.

**The intensity and job satisfaction:** The following sports participation intensity relationship with job satisfaction for the mean and standard deviation of the comparison and analysis of variance, Table 4:

According the variance of overall satisfaction and five working dimensions meet showed no significant difference ( $p>0.05$ ). From the data in Table 4 also can be seen, in strength and satisfaction between no obvious regularity. We can think, in different participation strength between groups there was no significant difference in job satisfaction. In the middle of sweating intensity when the job satisfaction is highest.

From the above analysis we can see that, in groups of teachers, sports participant job satisfaction higher than non-participants in job satisfaction and with different degree of job satisfaction of sports participation is also different. The teacher groups in the participation

frequency 1-3 times one month, participation time 60-90 min, secondary sweating intensity when the highest job satisfaction.

Engaged in teacher's occupation personnel, have carried on a large amount of education investment. They receive many years training. And they refine on and dedicated work to pursue their own high expectations, with science, technology development, the occupation of social status and economic status has been improved. Job satisfaction not only affects the emotion of teachers', but also affects their teaching work. The teacher through the participation in physical activities in social contact, through physical activity to build social support, train their hobbies, entertainment and physical and mental health and psychological, in the release of pressure at the same time, can make people to establish a good mood, it will make the teacher open thinking, thinking agile, solve a problem quickly, the precise content of teaching the teaching language, emotional, high work efficiency, conversely, teachers working in low, depressed mood will thought blocking, slow thinking, there is no innovation, teaching effects. Teachers in time to get a good job after feedback information will increase the job involvement and occupation identity, then in the benign circulation to improve job satisfaction.

The teacher groups in the sports activities in improving social support increase the social network size, interpersonal opportunities also increased. According to Hertz Berg's two factor theory, relationship with colleagues as a factor in health care, not as motivating factors like increased satisfaction, but to prevent worker dissatisfaction, the work has a better relationship with colleagues, to the job satisfaction of employees to produce good effect. The other teachers are women, under the influence of traditional concepts, the female except for jobs, to take care of the family, children and old people, which bear the dual pressures of work and life. But at the same time the teacher culture resources possession advantage, they have more cultural capital, research has shown that the mental health of teachers is good, stable personality, outgoing, optimistic, cheerful things to the outside world feeling better, to the sports function understanding is deep, sports bodybuilding, balance and coordination, in the family and fitness of the relationship between the three, choose a monthly Sports 1-3, through participation in physical activity mediates stress in work and life, the spirit of relaxation, pleasure and thereby achieve a higher job satisfaction. According to this study, teachers' group by participating in sports activities, to choose a suitable frequency of involvement, participation time and participate in strength, in good physical and psychological effects at the same time, reduce stress, relieve stress, improve job satisfaction.

### CONCLUSION

- Teachers' sports groups participating in job satisfaction higher than those in groups without

participation. In job satisfaction, promotion satisfaction, salary satisfaction, the boss satisfaction and colleague's satisfaction were higher than that in group work satisfaction

- Sports participation frequency and participation time and job satisfaction have significant correlation. Sports participation, job satisfaction is also different. Among them, participation and frequency in job satisfaction value is greater than the low participation frequency population; when in time to reach 60-90 min satisfaction level is the highest; every movement achieved moderate sweating intensity when their satisfaction with highest value
- The teacher groups in the time in 60 - 90 min one time satisfaction level is the highest, which participate in the frequencies of 1 to 3 times one month, participate in intensity in the close to medium level highest satisfaction.

### SUGGESTIONS

- The teacher groups according to their occupation and the characteristics of their own conditions choose to suit your participation frequency, participate in the duration and intensity of exercise, improve the psychological and physical health status and timely adjust mood state. In order to positive psychological state of work, high job satisfaction
- The different organization according to their available resources, strengthen the sports culture construction. Actively guide the organization members form a more scientific and reasonable habits and ways of life, fully mobilize the enthusiasm of participating in the fitness activity, in the community and unit to create more intense fitness culture atmosphere, to enhance the internal cohesion and centripetal force, improve job satisfaction
- The study for research funding and research conditions, in a sample selected geographical coverage is small, only for University and college teachers in Liaoning Province group conducted a preliminary attempt to study, to further expand the study sample, related to the introduction of intermediate variables, experimental research, in-depth study of sports participation and job satisfaction relationship.

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