# Evaluating the Decision-making System in Prison Sport Based on Online Survey: Improving Network Performance

Tuojian Li

*School of Physical Education and Sports Science, Qufu Normal University,
273100 Qufu City, China
lituojian2727@sina.com*

## *Abstract*

*With the development of information construction and the abundance of network information resources, the load of sports information resources in the network becomes distribution, variety, great capacity, and then influences people to have fast and accurate access to online information. Network information resource is important in prison, because prison police is a very special social groups, therefore strengthening the prison sports is particularly important. In this paper, we test the prison sport based on network information resources, using a questionnaire survey of 200 prison police and make statistics analysis. The main purpose of this research is to understand the status and problem of prison sports, and provide related suggestions in order to promote prison sports activities, thereby contributing to sports development in prisons system.*

*Keywords: Network Information Resources; Prison Sport; Evaluation System; Hierarchical Tree*

## 1. Introduction

With the development of information construction and the abundance of network information resources, the load of sports information resources in the network becomes distribution, variety, great capacity, and then influence people fast and accurate access to online information. Therefore, the study on the network environment of sports information resources has important significance on the development and utilization of sports information resources in the basic characteristics and evaluation methods. The rapid development of information network in the field of political, economic, military, cultural, social and other produced a profound impact, causing the changes in many aspects of people living habits, working mode, mode of thinking and values, resulting in remarkable social and economic benefits [1]. Accelerate the construction of information network has become the world's consensus and efforts direction. In such a high-speed development of the network environment, sports information has become an important network resource, the world's top ten search topics, sports ranked in the sixth place. With the development of information technology and network technology, it provides the technical and feasible platform environment for the network of sports information resources. Information network currently has been advocated all over the world, which has five application fields [2], including e-government, e-commerce, distance education, telemedicine and electronic entertainment, sports information already penetrate the constituted the characteristics of sports information resources.

Network with highly unstructured, making a series of contradiction is placed in front of us. The contradiction between the limited network sports information resources and user needs, the contradiction between the network sports information resources, openness and user requirements of the scientific [3], between the accuracy of the network sports information resources of timeliness and user demand contradiction, which give users of sports information resources brought a lot of problems, such as network disorientation,

time-consuming consumption force. Especially in China, Internet users are growing rapidly, but because of the difficulty of information inquiry, the slow transmission rate and the high cost of the Internet, it has influenced the popularization and utilization of Internet in China [4]. The use of sports network information resources evaluation system can achieve the following goals understand and are familiar with the sports network information resource, distribution master obtain resources from the network path [5]. It can according to the demand to guide readers to use network resources or the preparation of online guidance system, network resource indexing select and arrange the information on the Internet, eliminate and refused to damage and redundant information, maximize use effective information organization and download information about network, establish the core resources of the unit network.

Network sports study is more important for the prison, prison police is a very special social groups, not only shouldering the criminals for prison custody, education and transformation of the task, but also to safeguard national security and people's lives and property the main force. Prison facing greater challenges and pressures on the quality of all aspects of prison police put forward higher requirements, especially the quality of the physical aspects of their physical and mental health, not only affect the individual's work, but also affect the security of the whole society. Therefore, strengthening the study of the prison police physical exercise is particularly important. In this paper, we test the prison sport based on network information resources, using a questionnaire survey of 200 prison police conducted a questionnaire survey and statistical software with spss17.0 collected 195 valid questionnaires statistics analysis, the main purpose is to understand the status of prison police physical exercise and problems, combined with the geographical environment feasibility of the proposal is given to provide a reference for the promotion of prisons and relevant departments to further carry out sports activities, thereby contributing to sports development in prisons system.

## 2. Literature Review

The problem of the information resources on the network has already arisen a research upsurge. Abroad, especially in the research and exploration of the network information resources evaluation, is practical and academic field at the same time and achieved some progress [6], the evaluation of network information resources has upon the establishment of a separate research institutions and organizations and some researchers also this question carrying out a comprehensive study. Most of the studies began to review and comment on the Internet information resources [7-8], the annual assessment on the quality of network information content, covering organization structure, appearance design, and evaluation of academic websites. With the correlation of some of the network information resources evaluation indicators, foreign researchers put forward relatively perfect evaluation index system[9-11], some scholars in the research and analysis of network information resources based on the 11 standards ,as : (1) can be retrieved and availability; (2) information resources identification and verification; (3) author identification; (4) author's authority; (5) information structure and design; (6) information content and scope; (7) content of correctness; (8) content of accuracy and impartiality; (9) navigation system; (10) quality; (11) beautiful effect. The evaluation system takes into account the user group, information content, organization and the degree of utilization, and Gustafsson (2014) puts forward the evaluation criteria and the evaluation criteria from different aspects [12]. In the comprehensive evaluation of network information resources, most of the qualitative evaluation methods are used, and the research and application of quantitative evaluation method is relatively slow.

Yuejun (2011) put forward the network information resources evaluation index summarized as "content", "confidence", "critical thinking", "copyright", "citation", "inertia", "censorship", "connectivity", and have principles as confidence, accuracy,

rationality and support [13]. The evaluation system of the network information resources can be generally divided into three levels, as shown in the Table 1.

**Table 1. The Situation of Questionnaires Release and Recycling**

| Index level | Content | Scope of application |
|---|---|---|
| First level | Basic requirements | All of the network information resources evaluation, as the basic quality requirements. |
| Second level | Subject areas | specific subject areas, such as medical information, environmental information and sports information, etc. |
| Third level | User project | subject areas, such as medical academic information, environmental science research information and sports academic research information, etc. |

The first level is suitable for evaluating the general index of all network information resources. These general targets mostly reflect the technical features of the network resources and belong to the comprehensive evaluation of the information resources. The second level, which is applied to all information resources in specific subject areas, such as all medical network information resources evaluation index, sports network information resources evaluation index, which belongs to the individual evaluation of subject information resources. The third level, in order to meet the specific needs of the special subject resources evaluation, such as sports scientific researchers for sports science and academic information resources evaluation needs. Whether it is domestic or foreign studies are mainly focused on the evaluation of the first level, from the perspective of society or the state of overall information resources or categories of information resources evaluation, as a basis for decision making and to the information-based level of our country have a rough estimate. Primarily by the relevant experts as the level of evaluation index, evaluation criterion and research work, mainly studies the information resources influence on social and economic development and value, long time to study, study on the subject of authority, and the research results have been more perfect[14]. The second and third levels of evaluation, mainly from the perspective of enterprise or individual, the information resources projects, information technology, information products and services, etc. Due to the information resources and information products and services of their value and utility, mainly studies the information resources of the production and business operation entity value obtained is concerned by enterprises or individuals, so the general on the theory of value based, value is information resources of their own survival and development of the utility. Problems existed in the evaluation process of the second and the third level is the analysis of the necessity of evaluation is not perfect enough, evaluation of the service object is not specific, evaluation indicators of the scope of application of chaos and lack of strict screening and identification, evaluation criteria is not perfect.

## 3. Sports IR Evaluation Model

In order to measure the effect of the information resources and provide convenience for determining the weight of the index, a quantitative description of the evaluation index system of the sports network information resources is carried out by using the analytic hierarchy process. First ,we let U as the index set, and U= $\{U_1, U_2, U_3, U_4\}$, the U1 represents the page design index, U2 represents operation using index, U3 represents the information content index, U4 represents safety and cost index.

For the index $U_i$(i=1,2,3,4) and $U_1$= $\{u_{11}, u_{12},…, u_{16}\}$, $u_{1i}$(i=1,2,…,6) represent the second indicators as overall structure, web level, interface, layout, multimedia design and open; $U_2$= $\{u_{21}, u_{22},…, u_{24}\}$, $u_{1i}$(i=1,2,3,4) represent the second indicators as transmission

speed, stability and search function ;$U_3$= {$u_{31}$,$u_{32}$,…,$u_{36}$}, $u_{1i}$(i=1,2,…,6) represent second indicators as number, quality, authority, novel, characteristic and richness of two six grade index;$U_4$= {$u_{41}$, $u_{42}$},$u_{1i}$(i=1,2)　represent second indicators as the safety and cost .As shown in Figure 1.
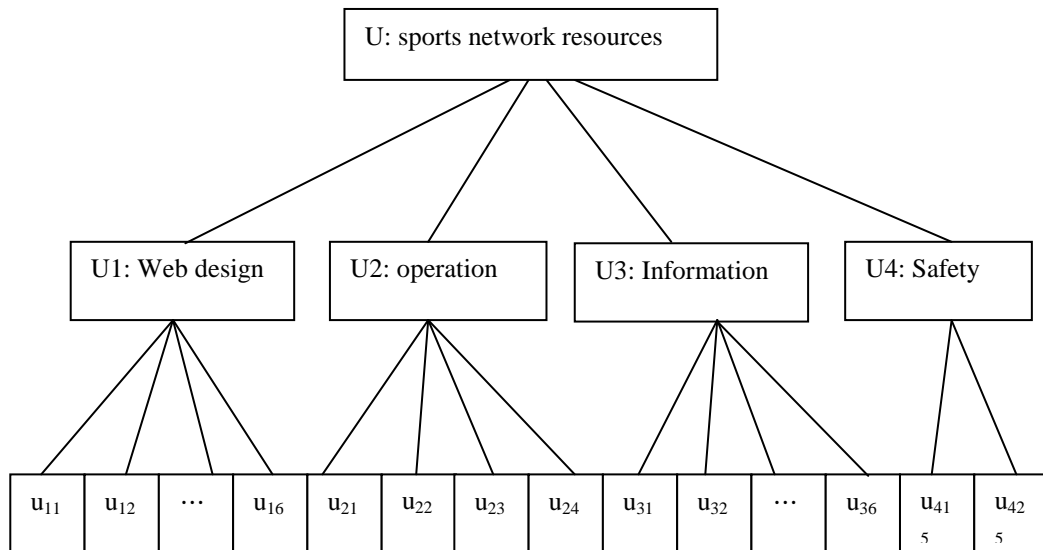


**Figure 1. Hierarchical Tree Structure**

In accordance with and integrated method of calculation steps, and then we make columns of the matrix after normalization of judgment matrix as:

$$\begin{bmatrix} 0.0625 & 0.0541 & 0.0755 & 0.0454 \\ 0.3125 & 0.2703 & 0.2645 & 0.2728 \\ 0.4375 & 0.5405 & 0.5291 & 0.5457 \\ 0.1875 & 0.1351 & 0.3123 & 0.1364 \end{bmatrix}$$

Using analytic hierarchy process (ahp), we obtained the about the weight of evaluation index in the evaluation system as:

$U$= {$U_1$, $U_2$, $U_3$, $U_4$}={0.0568, 0.2679, 0.4909, 0.1844}

Then we use Analytic hierarchy process method to calculate indicators under the weight of each index, and got the following results:

$U_1$= {$u_{11}$, $u_{12}$,…, $u_{16}$}={0.0212,0.0067,0.0132,0.0078,0.0052,0.0026}

$U_2$= {$u_{21}$, $u_{22}$,…, $u_{24}$}={0.0963,0.0446,0.0569,0.0710}

$U_3$= {$u_{31}$, $u_{32}$,…, $u_{36}$}={0.0846, 0.1183, 0.0807, 0.0771,0.0746,0.0556}

$U_4$= {$u_{41}$, $u_{42}$ }={0.0886, 0.0958}

Because sports network information resources evaluation is the value of utility theory under the guidance of, and we use the concept of utility preference according to the main body of evaluation objects. First, it forms the utility function, and then through the operation function, makes different units can be obtained according to different evaluation purposes or goals of ordering or resources preferred choice. After get the index weight, therefore, we can use multiple attribute decision making theory, then building the appraisal model of sports network information resources based on mathematical model.

## 4. Empirical Analysis

### 4.1. Questionnaire Survey

In order to ensure the content of the questionnaire, the structure and the problem of the research have the higher consistency, through the suggestion of the experts and the professionals, the structure and content of the questionnaire is to be tested. We selected 10 experts to assess the content and construct validity, the recognition rate of the questionnaire reached 90%. This shows that the questionnaire has a high validity. Questionnaire survey we collected a lot of data, in order to ensure the reliability of the data. Therefore, it is necessary to test the questionnaire reliability and used in this study is "retest". After two weeks of 20 prison policemen of measuring weight, then the two derived from the survey data in the correlation analysis and t-test, the calculation results show: correlation coefficient R=0.864, P < 0.05, with high credibility.

**Table 2. The Validity Test of Questionnaire**

| Evaluation | Very good | Good | General | Not so good | Very bad |
|---|---|---|---|---|---|
| Structure | 5 | 4 | 1 | 0 | 0 |
| Content | 4 | 4 | 2 | 0 | 0 |

The survey questionnaires were distributed to 200 copies by using random sampling method, through the Internet to disseminate and 197 questionnaires were recovered, recovery rate was 98.5%, the effective questionnaire number is 195, the effective rate was 97.5%. We first use Excel to collect data finishing, finishing after entered into the statistical software SPSS17.0, then to the statistical analysis of the data, draw relevant conclusions through empirical method.

### 4.2. Influence of Academic Qualifications on Prison Sports

First, we studied the relationship between the degree and the physical training. With the continuous development of the economy, the prison system is also in constantly undergoing a transformation, labor camp period, the police in the prison system mainly comes is distribution of colleges and universities graduates. Since 1998, the state of the personnel system reform, the implementation of the civil service examination system, to the degree with certain restrictions, which makes education appeared the uneven phenomenon, in the results of the survey show bachelor degree and above accounted for only 28.3%, and specialist and to the degree accounted for 71.7%, of which the largest number of specialist qualifications. On this basis, we analyze the correlation between the degree and the exercise; the results are shown in Table 3.

**Table 3. Correlation between Academic Qualifications and Prison Sports**

| Options | not necessary | Occasionally attending | necessary | Very important |
|---|---|---|---|---|
| Graduate | 0 | 0 | 5 | 2 |
| Undergraduate | 0 | 0 | 41 | 10 |
| Specialized subject | 31 | 52 | 6 | 0 |
| High school | 40 | 5 | 3 | 0 |
| Total | 71 | 57 | 55 | 12 |

Notes: $\chi^2$= 269.398, P= 0.000

According to the awareness of the importance of physical exercise education group were cross tabulated contingency table analysis, P = 0.000 (P < 0.05), indicating that the understanding of education and the importance of physical exercise has a very significant difference. Bachelor degree or above in that it is necessary to carry out physical exercise of up to 100 percent because of higher education, in the school by physical education opportunity more, so understanding of sports for more intensive, on Sports identification degree is high, and low degree of police mostly from manual labor work, everyday heavy physical labor has made them tired, spare time would not have the energy to take part in physical exercise, they think that physical exercise is not so important. At the same time, they are not clear about the concept of sports, think that their daily work is equivalent to the exercise, resulting in the proportion of their physical exercise is lower. At the same time, we analyze the correlation between degree and sports consumption, the results are shown in Table 4.

## Table 4. Correlation between Academic Qualifications and Sports Consumption

| Options | Less than 100 | 100-1000 | 1000-2000 | More than 2000 |
|---|---|---|---|---|
| Graduate | 1 | 2 | 4 | 2 |
| Undergraduate | 5 | 38 | 17 | 9 |
| Specialized subject | 62 | 5 | 3 | 1 |
| High school | 40 | 4 | 2 | 0 |
| Total | 108 | 49 | 26 | 12 |

Notes: $\chi^2$= 233.294, P= 0.000

According to the degree of academic grouping of sports consumption of the cross column analysis, P value of 0 (P<0.05), shows the degree and sports consumption has a very significant difference. Bachelor degree or above, majored in sports consumption of more than 100 RMB accounted for 35%. This is because of the high degree of income is relatively high, in addition to household consumption, and certain economic capacity, so in terms of sports consumption is high. And low degree of income is relatively is relatively low, the income and assume the household consumption basically depleted. Therefore, there is no spare cash to spend on physical exercise. This shows that education has a great impact on sports consumption. At the same time, we analyze the degree of academic record and the number of sports times, the results is shown in Table 5.

## Table 5. Correlation between Academic Qualifications and Sports Times

| Options | 0 times | 1-2 times | 3-5 times | Every day |
|---|---|---|---|---|
| Graduate | 1 | 2 | 4 | 1 |
| Undergraduate | 0 | 19 | 17 | 3 |
| Specialized subject | 2 | 84 | 16 | 0 |
| High school | 40 | 2 | 3 | 1 |
| Total | 43 | 107 | 40 | 5 |

Notes: $\chi^2$= 490.045, P= 0.000

From table 5, according to the degree of academic grouping of the number of physical exercise cross listed analysis, P value of 0 (P<0.05), shows that the degree of education and physical exercise number of very significant differences. Because of when they get higher education, they will have more opportunities to get physical education, knowing scientific exercise time and intensity. Another reason is when engaged in high degree , theses police will have more mental work and have leisure time, so the high degree of

prison police weekly exercise more time. This shows that the degree of time for physical exercise has a great impact.

### 4.3. Influence of Age on Prison Sports

From the questionnaire, we can see prison police's age are mostly concentrated in the 40-50 years old, accounted for 54.4% of the total, accounted for 42.6% under the age of 40 years, so prison police tend to age structure aging. The main reason is this age of police work experience rich, they are good at grasping its criminal psychology, grasp the crime trends; this is conducive to the rehabilitation of the offender. And over the age of 50, police accounted for only 3.1%. This is because this age of the police has the long time work at the grassroots level, resulting in poor physical condition and not suitable for stay at the grassroots level. We analyze the importance of age and exercise, as shown in Table 6.

### Table 6. Correlation between Age and Prison Sports

| Options | not necessary | Occasionally attending | necessary | Very important |
|---|---|---|---|---|
| Under 30 | 2 | 3 | 13 | 5 |
| 31-40 | 30 | 24 | 20 | 12 |
| 41-50 | 26 | 30 | 6 | 0 |
| Older than 50 | 10 | 5 | 3 | 0 |
| Total | 74 | 62 | 42 | 17 |

Notes: $\chi^2= 159.823$, P= 0.000

From table 6 shows, according to age group awareness on the importance of physical exercise were cross tabulated contingency table analysis, P = 0.000 (P < 0.05), indicating that the age and physical exercise awareness of the importance of a very significant difference. People under 30 years old, the understanding of the importance of physical exercise, because these people just from school into the community, also maintained a stick to physical exercise habits, people over the age of 30 is the pillar of the family, with the growth of the working time, because of all sorts of things, of career and family invested a lot of energy, resulting in changes in living habits, ignoring the exercise to the body. Therefore, there is only a small number participate in exercise. At the same time, we analyze the relationship between age and sports consumption, as shown in Table 7.

### Table 7. Correlation between Age and Sports Consumption

| Options | Less than100 | 100-1000 | 1000-2000 | More than 2000 |
|---|---|---|---|---|
| Under 30 | 0 | 14 | 8 | 6 |
| 31-40 | 21 | 37 | 22 | 2 |
| 41-50 | 60 | 3 | 4 | 0 |
| Older than 50 | 16 | 0 | 2 | 0 |
| Total | 97 | 54 | 36 | 8 |

Notes: $\chi^2= 188.491$, P= 0.000

From the table 7, according to the age group of sports consumption cross listed analysis, P value of 0 (P<0.05), shows the age and sports consumption has a very significant difference. Sports consumption is 30 years old the following the crowd. This is because under the age of 30 police communication widely, the burden of light, therefore likes leisure time about the friends went to the gym to exercise, which not only can exercise, can enhance the friendship between friends and so on the sports consumption is high, and

above the age of 30 police not only busy with work, life burden is heavy, the main is they face more household consumption expenditure, there is little energy and spare cash to spend on physical exercise. At the same time, we analyze the number of age and the number of weekly exercise, the results as shown in Table 8.

### Table 8. Correlation between Age and Sports Times

| Options | 0 times | 1-2 times | 3-5 times | Every day |
|---|---|---|---|---|
| Under 30 | 0 | 7 | 12 | 4 |
| 31-40 | 32 | 19 | 25 | 0 |
| 41-50 | 14 | 61 | 2 | 1 |
| Older than 50 | 2 | 12 | 3 | 1 |
| Total | 48 | 99 | 42 | 6 |

Notes: $\chi^2$= 131.709, P= 0.000

From table 8, according to the age group of physical exercise times of column cross contingency table analysis, P = 0.000 (P < 0.05), indicating that the age and physical exercise has a number of significant differences. Investigation of a week in the times of exercising is zero up to 25.63% weekly one to two times accounted for 53.3% weekly 3 to 4 times accounted for 19%, no special circumstances every day in accounted for only 2.1%. The frequency of physical exercise is mostly two times per week, and the time of physical exercise is too little. This part of the prison police physical training quality is not high, did not meet the movement quality improvement need to meet the sports intensity and sports time, it is difficult to achieve the purpose of strengthening the constitution.

## 5. Conclusions and Suggestions

In this paper, we test the prison sport based on network information resources, using a questionnaire survey of 200 prison police conducted a questionnaire survey and statistical software with spss17.0 collected 195 valid questionnaires statistics analysis, the main purpose is to understand the status of prison police physical exercise and problems, combined with the geographical environment feasibility of the proposal is given to provide a reference for the promotion of prisons and relevant departments to further carry out sports activities, thereby contributing to sports development in prisons system.

The result shows that awareness of the importance of prison sports is not high, so in sports consumption consciousness is not strong; the main field of physical exercise is some of the free, home near the place. Most of the prison police did not achieve the effect of physical exercise, the time and intensity of physical exercise there is no law. Physical exercise methods lack of scientific and systematic. The unit to the police physical exercise the degree of attention is not high. Prison police does not participate in the physical training the main reason has three: (1) doesn't have time to exercise, (2) don't need exercise, (3) not interested. The heavy work in the first row, accounting for 70.3% of the total number, the prison police due to the particularity of its work and need to spend a lot of time in prison, for criminals of custody, education and reform. In fact, there is no time, busy with work just the impact of prison policemen take part in physical exercise is one of the important factors, the key is not to develop good habits and health awareness is poor, this is the prison police not to participate in the root of physical exercise. Most of the prison police did not realize the importance of physical exercise, cannot see the advantages of physical exercise. Physical exercise can not only enhance the physical fitness, improve the quality of the body, but also can relax the brain, improve the work efficiency, the work has a good help. Some of the prison police feel good, do not need to exercise, this part of the people accounted for second, ranked in 23.6%. This kind of crowd mainly to young people, the body functions of the young people is in the best state,

they rarely get sick, so the importance of physical exercise did not have a clear understanding of, from the psychological will not pay attention to physical exercise. In addition, they mistakenly believe that work is equal to the physical exercise the body; usually work in the physical labor is able to achieve the exercise effect, so not to exercise. Interest affects the police to take part in physical exercise, the total number of 18.5%. Due to the prison police work for a long time, pressure, Department of physical importance degree is not high, for their annual assessment work and no promotion effect on any of them, so people do not have much interest.

**(1) Promote Awareness of the Prison Sports**

Many guards on the importance of physical exercise awareness is not high, so it is common sense of physical education is very necessary, using newspapers, radio, television, Internet and other media, or set up expert instructors, to the police to promote the sports fitness, healthy heart function. At the same time, but also to let everyone see health outcomes, such as regular seminars, training courses, demonstrations and other, constantly to the minds of the prison police instill the knowledge; physical exercise consciousness naturally will be enhanced.

**(2) Establish Sports Performance Appraisal System**

The results show that the police for the exercise of the enthusiasm of the police are not high. How to improve the guards enthusiasm for physical exercise, this is indeed a problem, first of all trade unions to establish the sports performance appraisal system, the indicators of the annual assessment of the prison police to include sports, to implement a points system, every year to sports standard test, and secondly, to punish the people who fail, to the performance good reward. Only when they get the material reward at the minimum of physical exercise, they can push them to exercise, the time is long, and they can realize the importance of physical exercise.

**(3) Held a Variety of Sports Activities**

Union often should set up some sports, and make full use of existing resources around. For example, and the surrounding university league, unit. In order to improve the enthusiasm of everyone to participate in, you need to set up awards, in addition to some material rewards, but also included in the annual appraisal, this can arouse the enthusiasm of them take part in the game, at the same time the games can promote the harmonious relationship between the colleague, to promote the harmonious development of the grassroots. In police groups formed in the good public opinion environment, to create a positive atmosphere of physical exercise. Drive more people to participate in physical exercise.

**(4) Develop a Scientific Method of Fitness**

To speed up the development of sports, need to cultivate a high ability, efficient sports instructors' team. In order to train the police in prison, recruit social sports instructors to instruct the police to understand the development direction and dynamics of the domestic and foreign sports instructors. Especially after work, to send a special instructor to the district or unit of fitness places for guidance. Proposed prison system each year to set aside a certain amount of special funds, strengthen the existing sports instructors to train, and constantly improve the number of sports instructors, professional skills and skills. Strengthen the typical sports instructors' deeds propaganda, encouragement and recognition. To promote exchanges between the best instructor and social sports instructors, and select some excellent instructors to participate in international sports exchange activities, broaden their horizons, to better serve prison police sports fitness

services. Only cultivate the prison police the correct concept of fitness and scientific fitness method, develop good exercise habits, to make the development of sports instructors of prison police attention, recognition and support, sports to flourish, prison police's physical and mental health can be improved.

## References

[1]    L. Song and T. Chang, "Do resources of network members help in help seeking?", Social capital and health information search ,Social Networks, vol. 34, no. 4, **(2012)**, pp. 658-66.

[2]    P. Kokkinos and E. A. Varvarigos, "Scheduling efficiency of resource information aggregation in grid networks", Future Generation Computer Systems, vol. 28, no. 1, **(2012)**, pp. 9-23.

[3]    R. Brunner and A. C. Caminero, "Network-aware summarisation for resource discovery in P2P-content networks", Future Generation Computer Systems, vol. 28, **(2012)**, pp. 563-572.

[4]    W. Li and F. C. Delicato, "Efficient allocation of resources in multiple heterogeneous Wireless Sensor Networks", Journal of Parallel and Distributed Computing, vol. 74, no. 1, **(2014)**, pp.1775-1788.

[5]    A. Love and D. Andrew, "The intersection of sport management and sociology of sport research: A social network perspective", Sport Management Review, vol. 15, no. 2, **(2012)**, pp. 244-256.

[6]    E. Zschieschang and N. Denz, "Resource Efficiency-oriented Optimization of Material Flow Networks in Chemical Process Engineering", Procedia CIRP, **(2014)**.

[7]    D. Wang and C. Qi, "Improving emergency response collaboration and resource allocation by task network mapping and analysis", Safety Science, vol. 70, **(2014)**, pp. 9-18.

[8]    E. Baraldi and E. Gressetvold, "Resource interaction in inter-organizational networks: Foundations, comparison, and a research agenda", Journal of Business Research, vol. 65, no. 2, **(2012)**, pp. 266-276.

[9]    T. Strömsten and A. Waluszewski, "Governance and resource interaction in networks,The role of venture capital in a biotech start-up", Journal of Business Research, vol. 65, no. 2, **(2012)**, pp. 232-244.

[10]   T. Janowski and T. A.Pardo, "Government Information Networks - Mapping Electronic Governance cases through Public Administration concepts", Government Information Quarterly, vol. 29, **(2012)**, pp. S1-S10.

[11]   V. Chinnaiah, "A Grid resource brokering strategy based on resource and network performance in Grid", Future Generation Computer Systems, vol. 28, **(2012)**, pp. 491-499.

[12]   H. Gustafsson and D. J. Hancock, "Describing citation structures in sport burnout literature: A citation network analysis", Psychology of Sport and Exercise, vol. 15, no. 6, **(2014)**, pp. 620-626.

[13]   Z. Yuejun, "Platform Design and Application of Sport Network Teaching in Colleges and Universities", Procedia Engineering, **(2011)**.

[14]   R. Wolfe and T. Meenaghan, "The sports network: insights into the shifting balance of power", Journal of Business Research, vol. 55, no. 7, **(2002)**, pp. 611-622.