

enough in the first year of study decreases by the time of graduation from the university. The number of students with an average level of empathy is gradually replaced by high level grades. Most likely, this process is associated with the passage of the pedagogical practice by students in the third year, as a result of which a polarization of students' opinions occurred.

Interesting is the presence of low values of empathy in the first and last grades of training. This indicates a constant number of students with a low focus on teaching.

Analysis of the results allows us to conclude about the stability of the psychological installations of the students throughout the entire period of study. The greatest impact on the change of students' ideas about their future profession is given by the pedagogical practice conducted in the third and fourth grades, respectively, we see the negative dynamics of the installation in the third year. A positive observation is the absence of identified students with a cardinally low level of psychological installations towards teaching, at the same time a significant proportion of students – 24 % do not have any patterns for teaching by the graduation of the university. This especially affects the parameters of self-development of students, whose low value for release is 26 %. As a recommendation, we can offer a curriculum modification with the inclusion of classes that stimulate the creative focus of students.

The training of physical culture and sports teachers requires a comprehensive education that forms the necessary psychological installations: readiness for self-development, reflection, the motivation for achieving success, the motivation for avoiding failures and empathy for children. This process largely depends on the value level of students whose change is quite difficult to implement. The study proved the substantial stability of students' psychological installations, whose estimated parameters have not changed significantly since the first year. Accordingly, it is necessary to assess the value orientations of applicants for admission to the university, because being in close relationship with the psychological installations, the value orientation is the basis of the student's professional and pedagogical orientation.

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## SOCIOMETRIC APPROACH TO TEAM BUILDING IN SPORTS

***Vashliaeva I.V., Senior teacher of physical education and sports department***

*Ural State University of Economics,  
Ekaterinburg, Russian Federation*

Abstract. *Ensuring the cohesion of the sports team in preparation for the competition is a serious pedagogical and organizational task. The peculiarities of the players' relations and group dynamics on the example of the university volleyball team formed the basis of the study, which was conducted at the Department of Physical Education and Sport of the Ural State University of*

*Economics in the period 2017-2018. The information base of the research consists of materials from surveys of students on the volleyball team. The research methodology is based on the sociometric method of structural analysis of small groups. The results show that interpersonal communication in a team is not strong enough. The team would not interfere with training aimed at improving cohesion. It is hoped that along with the development of the team, more and more participants will be included in group communication and belong to the average subgroup of popularity.*

**Keywords:** sociometric approach, sports team, assessment criteria, group dynamics, socio-psychological climate.

An important pedagogical task is to select a sports team in such a way as to create a favorable social and psychological climate. Harmonization of interpersonal relationships leads to successful collaboration on the playground. In the works of Sabin 2015 and Martin 2017 it is noted that the process of interaction between team members should be aimed at increasing cohesion. At the same time, the search for scientific methods is necessary, which make it possible to track the dynamics of team cohesion. In the works of Ussorowska 2016 [1], Lazunina 2015 [2], Anderson 2017 [3] and Nikitina 2018 [4], the sociometric approach proposed by Moreno 1960 [5] is used as the main methodology for studying intra-group relationships of players, according to which a change in psychological relations in a small group is supposedly the main condition for changes in the entire social system.

The aim of the study is to determine the characteristics of the relationship of players and group structure on the example of the university volleyball team. The study was conducted at the Department of Physical Education and Sport of the Ural State University of Economics in the period 2017–2018. The information base of the research consists of survey data of 22 students on the volleyball team.

The research methodology is based on the sociometric method of structural analysis of small groups. Based on the principles and methods set forth in the works of Wäsche 2017 [6], Herbison 2018 [7], Sopa 2018 [8] and Dontsov 2018 [9], we developed a sociometric survey to determine the likes and dislikes of the members of the university volleyball team.

The survey included a number of questions and choices. Including: With which member of the team do you prefer to work in training? Which team member do you prefer to spend your free time with? Which team members can you rely on in a difficult situation in the game?

Next, you need to build a matrix of respondents' choices for each question and calculate the amounts of made, received and mutual elections. Vertically recorded by the numbers of the names of all team members, horizontally – only their number. At the corresponding intersections, the numbers +1, +2, +3 designate those whom each subject selected in the first, second, third order. Mutual positive selection is outlined in the table (regardless of the order of choice). After the positive choices have been entered in the table, it is necessary to calculate vertically the algebraic sum of all received by each member of the election group (the sum of the choices). Then it is necessary to calculate the sum of points for each member of the group, taking into account that the choice in the first place equals +3 points, in the second – +2, in the third – +1. After that, the total algebraic sum is calculated, which determines the status in the team.

Then subgroups of unpopular, medium and popular team members were selected for each criterion and tabulated. Popular we call the team members who received the most choices from their colleagues. In this team, respondents who received a score of more than 9 belong to the popular category. Changes in the position of the respondents in the group depending on the criterion were evaluated. The group cohesion index was also calculated, reflecting the level of development of the team and the degree of its integration at the moment. The group cohesion index is calculated as the ratio of the sum of mutual elections to the total number of possible elections in a group.

Integral indicator, allowing to communicate evaluations presented in the formula:

$$I = \frac{V_p}{V_o},$$

I – the group cohesion index;  $V_p$  – the number of mutual positive choices;  $V_o$  – the total number of possible choices.

Thus, consistently implementing the stages of the methodology, we obtain information on the intragroup characteristics of relations between members of the volleyball team.

On the basis of the data obtained in the course of the survey, tables with the primary answers of all respondents (encrypted with letters) were constructed.

Based on the matrix of choice, sociograms were constructed for the first two elections for each criterion. Consider the results obtained sequentially. Sociogram (Figure 1) allows a comparative analysis of the structure of relationships in a team and gives a visual representation of the intragroup differentiation of team members, taking into account their status (popularity).

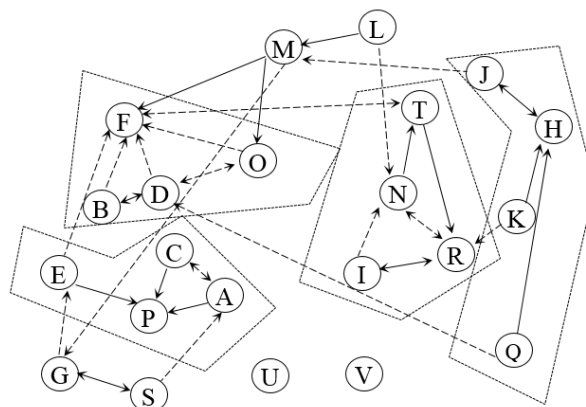


Figure 1 – Analysis of the communicative situation “With which member of the team do you prefer to work in training?”

Sociogram built on the first two choices of respondents. The first choice is indicated by solid arrows. The second choice is indicated by dash-dotted arrows. The dotted line highlights the subgroups of the most closely interacting team members.

As can be seen from Figure 1, in general, the links in the team are quite extensive. This criterion revealed the highest saturation of bonds. It can be seen that communication links now cover almost all team members, although there are five “isolated” players that no one has chosen as training partners.

According to the survey results, it is possible to single out five members of the collective who are the most popular. He has been a partner of 10 (10 elections received). It's not. Thus, there are 3 communicative networks (P, F, A); and 2 leaders (I, N), but it's rather built in terms of efficiency in resolving issues.

It has been shown that it has been a group that can be called balanced. It is noted that it has been noted that it has reached a level of more than 100 % public communication.

Thus, the most intense are the communication links on the processes associated with workouts, and the least developed are the communication links in the field of informal communication. Let us give a statistical comparison of the studied criteria, reflecting the breadth of communication: on the criterion “work in training”, the group made 74 choices, on the criterion “free time” – 44 choices, on the criterion “interaction in the game” – 53 choices.

For each criterion, several subgroups can be distinguished, connected by a large number of internal elections, but differently integrated into the group as a whole. Note that the subgroups that are completely separate from the rest of the team are not identified by any criteria. Expressed conflict zones at the moment is not observed. However, few people play the role of integrators, that is, they provide interconnections between different subgroups.

Let us analyze the change in the composition of the most popular team members, depending on the criterion. It turned out that the composition of the popular team members is the same according to the criteria of “work in training” and “interaction in the game”, but completely different by the criterion of “free time”. That is, team members prefer to interact on game moments with some people, and spend their free time with others. In addition, the same composition of subcommands popular in terms of “work in training” and “interaction in the game” suggests that respondents do not sufficiently distinguish the features of these processes. In any case, team members who are popular on these two criteria are under the greatest burden when solving communication problems in a group. As for the criterion of “free time”, then we can talk about the presence of the emotional core of the team in the field of informal communication, based on mutual elections in the subgroup popular. It is important that there is one member of the team, which is popular for each of the three criteria, but it is still too early to call him a common leader.

Quite a lot of team members currently fall out of the overall structure of communication. Only two members of the team have zero status according to the “work in training” criterion, while there

are 10 such people according to the “free time” criterion, and 6. It is possible to hope that with the development of the team more and more participants will be included in group communication and belong to a subgroup of medium in popularity. Thus, we can conclude that the socio-psychological climate in the volleyball team of the USUE is quite favorable. Expressed conflict zones in the team is not observed.

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## РОЛЬ ГОСУДАРСТВА В РАЗВИТИИ СПОРТИВНОЙ ИНДУСТРИИ КНР

*Богаревич Н.О., к.э.н., Чжао Юн, маг.*

*Белорусский государственный экономический университет,  
г. Минск, Республика Беларусь*

*Реферат. В статье рассмотрена роль и значение государственной поддержки в развитии спортивной отрасли в Китае. Развитие отрасли физической культуры и спорта считается одним из важнейших направлений государственной политики, и, в свою очередь, эффективным инструментом оздоровления нации и укрепления имиджа страны на международной арене.*

Ключевые слова: экономическая деятельность, спортивная индустрия, спорт высших достижений.

Спорт как один из видов экономической деятельности получил прогрессивное развитие во многих государствах мира. В настоящее время данный вид деятельности можно считать потенциальной сферой вложения материальных, трудовых и финансовых ресурсов, которыми располагает экономика.

На современном этапе развития общества признанным эталоном для формирования современного мира является не только становление интеллектуально развитого, активного и трудоспособного населения, но и здоровой нации, которая смогла бы обеспечивать возможность для развития полноценного государства с богатым экономическим, духовным и интеллектуальным потенциалом.

Государство играет важную роль во всех общественных сферах Китая, в том числе в спорте. Уже в 1954 г. было принято решение о создании центральной спортивной комиссии, которая на первом национальном народном конгрессе КНР как Государственная спортивная