

THE PROBLEM OF LEADERSHIP IN BASKETBALL

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PROBLEM LIDERSTVA V KOŠARKI

ABSTRACT

A classical sociometric measurement of the members of a basketball team has been carried out on two generations. Each member of the team had to name an unlimited number of team-mates according to two choice criteria of emotional type and two of functional type. A method was adopted that is analogous to metric multidimensional scaling with an oblique transformation of the initial dimensions.

The first generation gave two and the second five taxonomic dimensions that differentiate the players according to the used choice criteria. The results confirm the known fact on the change of individual status within the group due to changes in group membership.

Key words: microsociology, sociodynamics, basketball, juniors, multidimensional scaling

IZVLEČEK

Z uporabo klasične metode je bilo opravljeno sociometrijsko merjenje članov nekega košarkaškega moštva skozi dve generaciji. Vsak respondent je smel imenovati neomejeno število soigralcev na osnovi dveh kriterijev izbire emocionalnega tipa in dveh funkcionalnega tipa. Uporabljena je metoda, ki je analogna metričnemu multidimenzionalnemu skaliranju, s poševnokotno transformacijo osnovnih dimenzij.

V prvi generaciji sta dobljeni dve, v drugi pa pet taksonomskih dimenzij, ki razlikujejo igralce glede na uporabljene kriterije izbire. Rezultati potrjujejo poznano resnico o spremembi individualnega statusa znotraj skupine, v primeru spremembe članov skupine.

Ključne besede: mikrosociologija, sociodinamika, košarkaši, juniorji, multidimenzionalno skaliranje

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1. INTRODUCTION

The micro-social structure of sports groups plays a significant role in the successfulness of the team. Namely, the successfulness of the team does not depend only on the fact that it consists of the best individuals, but also on the best possible interaction between them. A successful social integration of the team members, coaches and team management enables the team to achieve stable results in time and, at the same time, a higher tolerance towards frustration. All this is especially true for top sports teams. Therefore the knowledge on group dynamics should become an integral part of the programming and control of training in sport.

The relation between the formal and the informal structure of the group can have a crucial character for the team's success. Of course, the specificities of the individual sport or kinesiological activity play a significant part in all of this.

The results presented here deal with two generations of a basketball team, which both placed first in their competition level. Therefore it was of interest to analyse the micro-social structure in such teams taken as whole entities and also to analyse what happens with those players that were present in both generations. This means checking if their position in the team changes in accord with the change in the team's membership, i.e. with the parting and coming of team players.

When the matter of studying micro-social groups and their dynamics is discussed, two questions on the reasons and needs for such research can be posed. The first is, why study small groups and the second why study (small) sports groups. In answer to the first question the following reasons might be stated: pragmatic, socio-psychologic, sociologic and comparative (Mills, 1967). In answer to the second question, four valid reasons can be given (Schafer, 1966) for their research, as sports groups have common structural characteristics favourable for generalisation. The first reason is, that the sports group is a "natural" group and not an artificial one, or even a "laboratory" group. The second reason deals with the possibility of keeping the variables that represent the constant of group's micro-structure (size of the group, structure of roles, rules of conduct) under control. The third reason is in the existence of a common goal, in the realisation of which we can monitor the development of the relations of competitiveness, homogenisation or conflict, outside the group or within the group. And at the end, studies of sports groups enable exact measuring of group effects, which can be quantified, seldom so well in any other

kind of group, for example in terms of the number of committed errors, number of lost or gained balls, etc.

An overview of the existing literature according to this criterion leads to the following conclusions: works that belong to the functionalistic theories deal with the relation sportsman-coach, trying to give this relation a wider social-system frame (Hendry, 1973), or deal with the identification of methodological problems that emerge when one studies small groups in sport with functional and social structural analysis (Luschen, 1986). From the older works, one should point to those that study the relations between certain situational variables of competition and success and problems of group conformity (Myers, 1962). While doing so, the psychological and sociological variables are brought into balance, combining: personal aspirations of the players, their sociometric structure, cohesiveness and motivation in order to find an ideal team – in this case the ideal five in basketball (Klein, Christiansen, 1966, – all cited according to Petroviĉ, 1973).

In works that belong to theories of (symbolic) interactionism the problems in small groups in sport are treated above all in relation captain-the other players, i.e. the problem of leadership, the nature of bringing about the decisions in the group (Fine, 1986 and Kjeldsen, 1981), the role of the coach in relation to the result expectations from the spectators (Snyder and Spreitzer, 1979), or even the influence of the social structure on the inter-personal communication in top female basketball teams (Koehler, 1982).

In the case of authors that belonged, or still do, to marxist theory and its various variants, they mostly analysed the influence of co-operation, both on the level of individual-technical quality, and the moral-psychological criteria, on the successfulness of state selections, or the influence of functional correlation on the cohesiveness of the group. In a similar way they also studied the influence of formal and informal leaders in basketball on the relations in the group and the successfulness of the group (Volkov, 1967; Stawiarski and Źarek, 1968; Mutafova, 1969 – all cited according to Petroviĉ, 1973).

To this theory belong also a whole series of studies by authors who enriched the methods for observing interpersonal relations with sociometric methods and data on the influence of the micro-social status on motivation, values, level of aspiration of the players and team management, differences in the approaches to the game conditioned by generation differences etc. (Petroviĉ, Šiftar, 1970 and 1971, cited

by Petroviĉ, 1973; Źnajder, 1984; Źnajder and Hošek, 1985).

Further development of micro-social research in the field of socio-dynamics of sports groups will to a large extent be made by the redefinition of the strategic interests in theoretical foundations, both by general sociology, as well as by sport sociology. It seems that the greatest obstacle in the development of general sociology, but also its special disciplines among which we can count also the sociology of sport, is the non-existence of a "general theory".

This situation has two interpretations among the researchers: some experience this as a lack which causes general discomfort and uncertainty in the operationalisation of the individual tasks, while others do not burden themselves with it. Therefore, while on one side it is felt that it is high time to bring some order into the great "conceptual and theoretical chaos" which is the direct consequence of the non-existence of an all-encompassing "mega theory", on the other, it is felt that the plurality of theoretical paradigms in sociology is not only a fact, but also a desired state which promotes a diversification of possible research approaches.

This change, i.e. the shifting and concentrating of the focus from macro-sociological approaches towards a, provisionally named, "individualistic sociology" is specially needed in those places where they are trying to free themselves – from a general point of view – the experience of a monistic approach of the marxist theory. This shift should bring the researchers freedom from the frustrations caused as a result of the domination of one ideological and theoretical orientation and enable the application of different approaches.

The growth of "theoretical pluralism" will facilitate the acceptance of those approaches that favour the development of disciplines such a sociology of sport. We see its perspective precisely in the orientation towards theoretical approaches which facilitate the development of "individualistic sociology", such as symbolic interactionism and neo-interactionism and their different derivations: phenomenological orientations and especially "ethno-methodology" (Āaldaroviĉ, 1990). In this way a connection might finally be made with the relevant global researches in the field of micro-sociology and specially also the sociology of sport.

The aim of this paper is not so much to point at the need for studies on sports groups, because this is considered after forty years' research in this field no longer a dilemma, but rather to show current limita-

tions and new approaches in micro-social research. In short, we see a possibility for a perspective research of sports groups in two directions: first, in generating a conceptual framework, which by admission of several leading theoreticians of the sociology of sport (Loy, McPherson, Kenyon, 1978) still does not exist, and second; in the removal of the till now noted shortcomings in the methodology of empirical research. Also, one should at the same time combine the existing research procedures, without regard to their conceptual origin (Adorno, Horkheimer, 1980).

METHODS

This study was carried out on members of a junior basketball team through two generations. In one, thirteen players were involved, in the other seventeen.

Both generation players were treated with the classical method of sociometric measurement, that is the players were asked to name an unlimited number of co-players according to a certain criterion. Four criteria of selection were used, two were of emotional type and two of functional type, formulated as attraction i.e. provoking positive tendencies. The nominations of the co-players were made by the following questions:

- (1) Name those players with whom you would like to share a room during training away from home.
- (2) Name those players you would confide in, if you had intimate problems.
- (3) Name those players you like to co-operate with during the game.
- (4) Name those players whom you think able to be the captain of the team.

The analysis of the micro-social structure of a group of entities obtained on the basis of data on multiple choosing was performed by a method analogous to the method of metric multidimensional scaling (with an oblique transformation of the kept dimensions). The analysis was performed in the space of entity vectors, where each entity that performed a choice according to a certain criterion was treated as a separate variable and each chosen entity (by any member, including himself and according to any criterion) as a separate entity. The number of dimensions was determined in such a way as to reproduce as much information included in the data matrix, as there is information emitted by dimensions with an above-average non-centered variance. The starting matrix for determining the initial orthogonal solution was the matrix of the scalar products of the entities' vectors.

RESULTS AND DISCUSSION

Table 1a
 SCALAR PRODUCTS OF VECTORS OF 1. GENERATION PLAYERS

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	9												
2	1	10											
3	3	7	28										
4	0	0	3	4									
5	0	1	2	0	5								
6	4	8	25	4	3	31							
7	4	7	18	0	2	19	23						
8	6	1	2	0	0	3	3	7					
9	1	3	4	0	0	5	3	0	7				
10	3	3	4	0	0	5	5	3	6	10			
11	3	3	15	1	1	15	11	3	0	1	19		
12	1	2	9	0	1	8	7	1	1	1	7	11	
13	2	6	11	2	1	13	12	2	2	2	7	1	16

Table 1b
 SCALAR PRODUCTS OF VECTORS OF 2. GENERATION PLAYERS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	6																
2	1	7															
3	0	0	7														
4	0	2	0	23													
5	1	1	3	1	6												
6	2	1	0	8	0	21											
7	0	0	0	1	0	2	6										
8	2	0	1	6	0	6	1	16									
9	1	0	1	1	1	1	0	2	5								
10	2	0	0	2	0	4	0	1	1	8							
11	0	2	1	4	0	6	1	6	1	0	6						
12	0	1	0	2	0	0	0	1	0	1	0	6					
13	0	1	2	3	1	5	0	5	1	1	6	0	11				
14	0	0	1	0	0	0	3	0	2	0	0	3	0	1	6		
15	0	0	1	12	1	9	1	5	0	2	3	1	3	1	20		
16	1	4	0	8	2	7	3	1	1	3	1	4	0	0	7	19	
17	1	4	0	2	0	0	0	0	0	0	2	0	1	0	0	1	8

Table 2 a
 1. GENERATION PLAYERS

	LAMBDA	PROPORTION OF VARIANCE	CUMMULATIVE
1	94.40265	0.52446	0.52446
2	17.62961	0.09794	0.62240 (last sig. value)
3	14.38342	0.07991	0.70231

Table 2 b
 2. GENERATION PLAYERS

	LAMBDA	PROPORTION OF VARIANCE	CUMMULATIVE
1	55.1877	0.29046	0.29046
2	23.4972	0.12367	0.41413
3	16.3487	0.08605	0.50018
4	14.76123	0.07769	0.57787
5	11.29360	0.05944	0.63731 (last sig. value)
6	10.72324	0.05644	0.69375
7	9.05589	0.04766	0.74141

Table 3 a
COORDINATES OF 1. GENERATION PLAYERS

A	OBL 1	OBL 2	F OBL 1	F OBL 2	h2
1 *	0.64	1.25	0.81	1.34	2.20
2 *	0.53	-0.19	0.51	-0.11	0.29
3 *	3.88	1.05	4.02	1.57	17.21
4 *	0.51	1.66	0.73	1.73	3.26
5 *	0.55	2.38	0.87	2.45	6.31
6	1.39	1.31	1.56	1.50	4.13
7	4.97	-0.37	4.92	0.29	24.31
8	0.50	-0.09	0.49	-0.02	0.25
9	5.13	0.33	5.18	1.02	26.91
10	0.51	1.02	0.65	1.09	1.44
11	3.52	-1.49	3.32	-1.02	13.23
12	1.98	-0.98	1.85	-0.71	4.37
13	2.47	1.14	2.62	1.47	8.13

Table 3 b
COORDINATES OF 2. GENERATION PLAYERS

A	OBL 1	OBL 2	OBL 3	OBL 4	OBL 5	Fobl 1	Fobl 2	Fobl 3	Fobl 4	Fobl 5	h
1 *	0.13	1.70	1.22	-0.37	-0.42	0.38	1.61	1.19	-0.05	-0.24	4.3
2 *	-0.24	-0.06	0.68	0.38	0.15	0.20	-0.02	0.68	0.52	0.18	0.6
3 *	-0.49	0.00	0.83	1.02	0.24	0.28	0.09	0.91	1.15	0.44	1.9
4 *	0.01	-0.06	1.27	-0.61	0.49	0.41	0.00	1.09	-0.09	0.21	1.5
5 *	0.16	-0.05	4.01	0.33	0.05	1.79	-0.01	4.15	1.47	0.08	17.0
6 *	-0.77	0.00	0.84	0.16	0.73	-0.17	0.12	0.57	0.37	0.51	1.0
7 *	-0.38	-0.09	0.50	-0.67	1.42	0.01	0.12	0.13	-0.16	1.01	1.5
8 *	4-45	0.45	0.25	-0.33	0.05	4.46	0.62	1.83	1.43	1.45	20.0
9 *	-0.25	-0.11	1.05	-0.78	0.98	0.16	0.03	0.71	-0.23	0.55	1.4
10	0.06	0.15	0.35	4.24	0.00	1.75	0.39	1.50	4.36	1.61	19.0
11	0.20	-0.01	0.08	-0.13	3.55	1.33	0.66	0.00	1.29	3.57	12.0
12	-0.42	-0.03	0.61	-0.28	1.06	0.05	0.14	0.34	0.12	0.80	1.0
13	0.16	2.54	-0.53	1.29	0.93	0.84	2.79	-0.15	1.70	1.96	11.0
14	0.12	1.24	-0.43	0.64	1.43	0.71	1.55	-0.25	1.18	1.96	5.6
15	-0.36	0.34	-0.24	0.86	0.40	0.00	0.44	-0.16	0.83	0.67	1.1
16	3.18	-1.15	-0.14	1.18	0.28	3.60	-0.90	1.35	2.35	1.54	15.0
17	0.64	1.98	0.31	-0.41	-0.73	0.44	1.85	0.47	-0.25	-0.32	4.4

Table 4 a
COSINUS VALUES OF ANGLES OF OBLIMIN
DIMENSIONS OF 1. GENERATION PLAYERS

	Obl 1	Obl 2
Obl 1	1	
Obl 2		1

Table 4 b
COSINUS VALUES OF ANGLES OF OBLIMIN
DIMENSIONS OF 2. GENERATION PLAYERS

	Obl 1	Obl 2	Obl 3	Obl 4	Obl 5
Obl 1	1				
Obl 2	0.4	1			
Obl 3	0.37	0.00	1		
Obl 4	0.37	0.06	0.27	1	
Obl 5	0.32	0.19	-0.03	0.37	1

1. GENERATION OF BASKETBALL PLAYERS

In the diagonal of tables 1A and 1B we have the data on how many players of the group chose some

player in all the criteria together including self-choice for each of the four criteria. Below the diagonal we have the data on how the players agree with the others in their choices. It can be seen that no generation shows a great number of choices by all four criteria. In the first generation (table 1A) the highest number of choices goes to player #9, who received 31 choices from a possible 52 (if we turn this into a relative number, for purposes of comparison with the second generation, we get 0.60). Behind him, we have players #7 (0.54), #3 (0.44), #11 (0.37) and the rest achieving between 0.21 (#12) and 0.08 (#2) relative choices.

The table 2A holds the characteristic values of the choice matrix and the proportions that explain the number of achieved choices in the first generation. Two latent dimensions were isolated, reproducing

62.24% of the information on the relations in this generation of basketball players, defined by four choice criteria.

The first taxonomic dimension, obtained by a oblimin transformation of the initial orthogonal solution, explaining 52.45% of the choices is defined (table 3A) by all four choice criteria, even if the criteria "sharing a room" and "co-operation in the game" are more dominant than the other two. The second taxonomic dimension is defined by the emotional relationship, dependent on the existence of a so-called "unstable triad", where two members (who make up a diad) choose each other by all criteria and the third occasionally chooses only one of them. It should be stressed that this is the only true diad in the whole team and that they caused the emergence of the second dimension. The dimension defined by these team members is almost orthogonal to the well structured first dimension (0.13), but explains only 9.79% of the choices in this group of basketball players.

The choices made in the first generation show the homogeneity of the group, as seen through the used choice criteria. The position of the player in this generation is precisely defined already on the basis of the first latent dimension. These are player #9 who might be considered the leader of the group, then player #7 who has some choices less, but both are located on the extreme right pole of the first dimension, with null projections on the second taxonomic dimension. The first dimension is also defined with, somewhat less but still enough choices, by players #3; with a somewhat more strong position also on the second dimension and #11; on the negative pole of the second dimension. They are followed by players #13 and #12. All remaining players have very low choice counts on the first dimension, but have their positions along the second dimension. The best position there goes to players #5 and #4 and the associated triad member #10. The players #8, #2, #10 and #1 are not interesting for the other players on none of the used choice criteria.

2. GENERATION OF BASKETBALL PLAYERS

In the second generation of basketball players (table 1B) the number of choices is less than in the first generation. From the possible 68 choices, player #8 received 23 choices (0.34). After him, according to the number of choices by all four criteria, come players #10 (0.31), #16 (0.29), #5 (0.28), etc. The relative number of choices for the remaining players varies from 0.24 (#11) to 0.07 (#12). These players were not often chosen in pair. The most frequent

pair-choice (triangle below the diagonal) were players #8 and #16, twelve times.

Table 2B shows even five significant characteristic values for the second generation basketball players, together explaining 65% of the information on the relations in the group, which is a lot less than in the first group. The increase in the number of dimensions did not also bring about an increase in the percentage of the explained choices.

It is obvious that, as seen through the proposed choice criteria, the relations in the second generation are more complex and that they condition the stratification of the players on the basis of five dimensions. The increase of the number of players from thirteen to seventeen is only partly the cause of this situation. This is seen also from the choices in tables 1A and 1B. In the first generation four players achieved a greater number of choices than the best in the second generation.

The first taxonomic dimension explains 29.05% of the relations in this group of players. It differentiates the players mostly according to their playing abilities and such personal characteristics (at least as perceived by the others) as to be suitable for acceptance of others' problems. The second taxonomic dimension explains only 12.367% of the relations in the group. It differentiates the players according to all the analysed criteria, except "choice of captain". It is formed by the triad of players #13, #1 and #17. The third taxonomic dimension explains only 8.605% of the information on the sociometric structure of the members of the basketball team. It is defined by all the used criteria. The fourth taxonomic dimension explains only 7.769% of the information on the relations in the group. It differentiates the players in accord to their playing abilities (as does the first dimension) in combination with the criterion "room sharing". The fifth taxonomic dimension explains even less than the previous one, only 5.944%. It differentiates players according to the criteria "room sharing" and "co-operation in the game", but without the criterion "captain". It seems to be a matter of friendly relations between some members of the team, but without overestimating their playing abilities or their ability of being the captain of the team.

In the second generation the best positions are taken by players #8 and #16 on the first dimension, less good ones by players #13, #17, #1 and #14 on the second dimension, player #5 on the third, #10 on the fourth and #11 on the fifth dimension. The other players are grouped around null choice values.

The first dimension in the second generation basketball players is orthogonal to the second and equally correlated to all the others. All the other dimensions are almost orthogonal to one another, except the fourth with the third and the fifth.

The five best players: The used computer programme analyses the micro-social relations of each generation basketball players separately. However, if the five best players are present in the first, as well as in the second group of players, it is interesting to monitor their position in each of these two groups separately. In the tables these players carry the numbers 1 through 5. From the viewpoint of micro-sociology the position of the individual in the group is determined by the milieu in which he finds himself. This is especially true of the special relations between players in a sports game. So, firstly we will try to compare the position of each of these players in both groups and then try to extract some common explanation for all five players:

Player #1: both in the first and second generation has a small number of choices in dimension two.

Player #2: does not have any significant position, either in the first, nor in the second generation.

Player #3: extremely highly figures in the first group on dimension one, and somewhat lower also on dimension two. In the second generation he holds a prominent position only on dimension four. Obviously a significant drop of this player's position occurred on the hierarchical scale of the team. This is seen also on the basis of the values of communalities in the two analysed generations.

Player #4: has a prominent position on the second dimension in the first generation. In the second generation, he assumes such a position on the third dimension.

Player #5: holds a high position on the second dimension in the first generation, and an even higher one on the third dimension in the second generation. The value of the communality of this player is third by rank in the second generation and only sixth in the previous one. It is the task of the coach to analyse the reasons that bring about such changes in the status of players in the team, being caused by some events that can sometimes be influenced by the coach.

CONCLUSION

From the problems that emerged from the tradition of empirical research of sociodynamics of small groups, especially sports groups, at least three should

be mentioned here (see in Petroviĉ, 1973). Into the first group fall those that are connected with a non-representative sample of respondents and/or variables in existent researches. Into the second group all those that are a consequence of reducing the complete scale of ties and relations just to those that can be quantified through simplified metric procedures and techniques, such as the Moren sociogram and its modifications. Into the third group we can classify problems that come from another simplification - due to strivings, evident in many researches, to bring at any cost into (cor)relation success in some kinesiological activity and the level of cohesiveness of a group, as an evident proof for constructing a theory of the team's success.

In spite of all, the performed research showed the value of such studies, which is above all in the possibility of predicting those respondents that will spontaneously emerge as "natural leaders" of the team in the process of natural selection.

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