

# Differences Between Winning and Defeated Top Quality Basketball Teams in Final Tournaments of European Club Championship

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## ABSTRACT

*The goal of this research was to identify parameters among the 12 indicators of situation-related efficiency that differentiated between the winning and defeated top quality teams which played in final tournaments of the European club championships from 1992 to 2000. The differences were confirmed by discriminant analysis, although the canonical correlation was here somewhat lower than in the previous similar research studies done on the so-called regular season games. The probable reason for the smaller differences obtained in the present study may be found in almost equal (high) quality of the teams competing in Final Fours. The highest discriminative power was obtained in the variable defensive rebounds, then in the variables field goal percentage and free throw percentage, whereas the variable assist had evidently smaller impact with regard to the referent studies. The obtained results suggested that the winning teams showed more of tactical discipline and responsibility in controlling inside positions for defensive rebounds, as well as in controlling play on offense and the ball until the required open shot chance, which considerably reduced game risks and resulted in a lower number of turnovers and in a higher shooting percentage. Such a type of decision-making in play require a high degree of reciprocal help of players on both defense and offense and a higher level of concentration and self-confidence when shooting field goals and free throws. The common denominator of the winning teams was a lower number of imbalanced states in their play (the organized style of play on defense and offense implied) and a higher level of collective outplaying the opponents with the controlled system of play, which enabled entire potential of the victorious teams to be expressed.*

## Introduction

The need to introduce scientifically-based, sport-specific training, demands integration of the high expert and scientific approach to rational modeling of the training process in order to create effective system that would produce top basketball players and, as an expected consequence, top competitive results as well. Therefore, theories of successful play, based on actual quality, that is competitive abilities<sup>1,2</sup> become more and more important nowadays because they directly correlate with successful selection of options in a given game situation and with competitive results. More and more, coach experts seek various, but linked analyses of the sport itself (on general), then of game events, matches, positions in the game, individual and/or team play, motion structures (kinesiological and bio-mechanical analyses) and physiological-anatomical analyses of certain sport<sup>3</sup>. This paper analyses the 12 FIBA official standard indicators of situation-related efficiency (in basketball practice known as indicators of performance) of top basketball teams that took part in final tournaments of the European club championship. The assumption was that such an analysis, since performed on a sample of the elite European basketball teams, might allow for model patterns of team efficiency, as well as for patterns of individual players' efficiency despite the fact that the indicators recorded only the outcome of the individually performed closing phases of actions, or partial performance.

The hypothesis was based on the available research findings<sup>4–9</sup> and many others that determined the differences between the winning and losing teams according to the 12 standard indicators of situation-related efficiency in the basketball game and concluded that the applied standard indicators of (partial) perfor-

mance successfully differentiated the victorious from the defeated teams. Good predictive value of the indicators was tested, and the authors of the studies evaluated them as meaningful tools for assessing quality of players and teams. On general, the findings revealed that the indicators (variables): *defensive rebounds*, *2 and 3-point field goals*, *free throws* and *assists* had the highest discriminative power for the winning teams with respect to the final game score. However, the referent research studies were conducted on various national club leagues (of variable quality), as well as on the international competitions (European Championships, World Championships, Olympic Games etc.).

It is important to underline here that variability of teams' play quality (of both clubs and national teams) is much higher in these championships. Further, most of the games in these competitions (a league) are not the so-called *high-competitive pressure games*. On the contrary, matches of the final tournaments (semi-final and final games of play-offs or Final Fours) are the so-called *high-competitive pressure games*. A high competitive drive in top quality players/teams is usually manifested in games of the tournament system of competition, but it is accompanied by high expectations of fans and club management, and of coaches and players as well. These conditions together create high levels of pressure, especially the psychological one, the players and coaches must face with and perform at their best. Therefore, one may assume that somewhat divergent structure of factors influences the final outcome of the final tournament games as compared to the structure of influencing factors in the regular league games. An opinion prevails among European basketball experts that the decisive factors for the winning teams' favor in the high competitive pressure (risk) games are the following situation-related effi-

ciency indicators: *defensive* and *offensive rebounds, turnovers* and *free throws made*. This hypothesis of practitioners has not yet been scrutinized scientifically. Hence, the goal of this research is to determine and to interpret the differences between the top-quality winning and defeated basketball teams as obtained from the 12 standard indicators of situation-related efficiency in final tournaments of the Euroleague (semi-finals and finals).

#### *Previous research*

The authors of this paper are not familiar with any research dealing with weighing the importance of the standard indicators of performance (situation-related efficiency) in final tournaments of the European club. Most of the previous studies have been conducted on either the league or tournament games with larger quality variability between the teams (club and national teams alike).

Bertram and Rao<sup>4</sup> performed a research using the official NBA team statistics of the seasons in the period 1968 – 1973. They analyzed two separate subsets of data – the first obtained from the seasons 1968 – 1971, and the second from the 1972 to 1973 seasons. The set of variables consisted of seven basic and eight transformed variables. The basic variables were: total number of field goals made, total number of free throws made, number of defensive rebounds, number of offensive rebounds, assists, personal fouls, and disqualifications. The transformed variables were: field goal percentage, free throw percentage, number of assisted field goals, number of offensive putbacks, number of free throws after the opponent's personal foul, interaction of the field goal and free throw percentages and interaction of rebounds and assists. The sample of entities consisted of all the NBA teams. The results of entities achieved in the variables were expressed as average values of a particular variable per game in a

season. Factor analysis of seven basic and eight transformed variables under the component model revealed a stable factorial structure of 8 factors (obtained by orthogonal and oblique rotation of the initial coordinate system). A high correlation between the obtained factors and individual variables was obvious. The importance of those variables in the prediction of a team's participation/non-participation in play-offs was determined by discriminant analysis. The obtained discriminant functions allowed the forecasting of participation in play-offs with 75 % of accuracy. The most important variables to distinguish between the participation and non-participation teams were: *field goal percentage, free throw percentage, defensive rebounds, offensive rebounds* and *personal fouls*. The authors also applied regression analysis in which the set of predictor variables consisted of seven basic and eight transformed variables, whereas the criterion variable was a ratio of wins to losses. The statistically significant influence of the predictor variables was obtained for the following variables: *field goal percentage, free throw percentage, defensive rebounds* and *offensive rebounds*, whereas the negative influence was obtained for the variable *personal fouls*. Since the rules changed in the meantime, the results from the period 1968 – 1971 were not consistent with the results observed in the period 1972 – 1973. When compared to the previous period results, the results from the latter period revealed a slight decrease of the field goal percentage and a proportional increase of the free throw percentage, then significant increase of the negative influence of the variable *personal fouls*, a higher decrease of influence of both the defensive and offensive rebounds and more significant influence of assists. The differences were explained by the change of style of play caused by the rule changes that occurred in 1971.

Milanović<sup>6</sup> investigated a sample of 26 games of the national basketball championship of the former Yugoslavia. He applied regression analysis and got significant influence of the four situation-related variables measuring shots for field-goals from various distances from the basket and of the eleven variables assessing specific shot release techniques on the final outcome of a basketball game. The author concluded that the final score of a game significantly depended on shooting accuracy from various distances, and that winning a basketball game is particularly impacted by the shooting accuracy level from greater distances and under the basket, efficient shooting percentage of jump shots from distance, number of successful jump shots under the basket, »dunks» and, particularly, lay-ups.

Dežman<sup>5</sup> studied the differences in closing phases of both the defensive and offensive actions of winning and defeated senior basketball teams. Based on the data collected from 23 basketball games (46 half-times) of the Slovenian basketball 1975/76 season and by applying ANOVA, he found out that the victorious teams scored statistically significant more points, had higher the total number and the number of field goals made, achieved higher number of both the total and successful fast breaks, of free throws made, of defensive and defensive rebounds and higher number of steals.

Trninić, Milanović, Blašković, Birkić and Dizdar<sup>10</sup> researched relations of defensive rebounds and offensive rebounds as indicators of situation-related efficiency and their impact on the final score of a basketball game. The final score was defined as the binary variable win – loss. The data were collected from 64 games at the World Basketball Championship in Canada 1994. The results of regression analysis showed significant influence of both the defensive and offensive rebounds on the final score of a basketball game (RO = 0.57).

Trninić, Milanović and Dizdar<sup>7</sup> carried out a research to determine the differences between the winning and losing teams playing at the World Basketball Championship in Canada 1994 based on the 13 standard indicators of situation-related efficiency in a game of basketball. The data were collected from 64 games (16 teams participated, each team played 8 games). The obtained discriminant function significantly separated the winning from the losing teams. The losing teams stayed at the negative pole, whereas the winning teams showed at the positive pole. The positive pole was best defined by the variables: *defensive rebounds*, *2-point field goals made*, *assists* and *free throws made*, whereas the negative pole was best defined by the variables *2-point field goals missed* and *3-point field goals missed*.

Filipovski<sup>11</sup> analyzed relationships among primary fast-breaks, early and set offense of the four European league Final Four teams, playing in Rome 1997. He stated that aggressive style of play on defense forces situations of the primary fast-break (1-on-0, 1-on-1, 2-on-1), whereas fast-breaks 2-on-0, 3-on-1, 4-on-2 and 5-on-2 are almost not present at all at the top level basketball games. It reinforces hypothesis that the organization of the primary fast-break is possible only if the aggressive defense is applied, since such a style compels errors and rules' violations of the opponents and open up chances for quick and simple actions in the »open court«. The percentage of fast-breaks varied from team to team depending on »philosophy« of play and players' quality. It was demonstrated that steals were basic premises for the primary fast-break performance since they made up 45.7% of the total number of fast-breaks, whereas 50.8% of fast-breaks unfolded after defensive rebounds. The least number of fast-breaks was conducted after blocked shots (1.7%) and made baskets (3.5%).

Krause<sup>12</sup> reports about one study examining rebounding and winning over a

10-year period in which was found that the teams that out-rebounded their opponents won 80% of games. The national leaders in team rebounding won more of their games than did the teams that lead the nation in the field goal and free throw accuracy. This statistics suggests that the teams which gain possession of the ball only after their opponents have scored will, at best, trade basket for basket with them. He infers that the effective rebound allows a team to pull ahead. The author suggests that an excellent team goal should be 60% of all rebounds, 30% of offensive rebounding situations, and 80% of defensive rebounding situations. The author considers it is better to set goals in percentage than in number of rebounds, because percentage approach is valid for all types of play (either slow or fast).

Lukšić<sup>9</sup> investigated whether statistically significant differences existed in the space of standard and derived performance indices (situation-related efficiency indicators) between the winning and the defeated top-quality basketball teams that competed within the European (FIBA) and the American professional (NBA) and collegiate (NCAA) systems of competition. On the basis of the descriptive indicators and indexes of absolute and relative efficacy on defense and on offense within each of the competitions, it was feasible to conclude that certain differences and features existed. He found that the European winners had significantly higher number of defensive rebounds and 3-point field goals made, whereas the defeated teams had statistically higher number of 3-point field goals missed, turnovers and personal fouls. The author concluded that the standard indicators of performance were effective in differentiating successful (winners) from unsuccessful (defeated) teams and confirmed their predictive value for the final game score prediction, defined as victory-loss.

## Material and Methods

The data were collected from 36 basketball games (i.e. 72 statistical records – in a match two separate statistical records are produced for each of the two teams engaged) of the nine final FIBA European club championship's tournaments (Final Four) from 1992 to 2000.

The investigated variables consisted of 12 standard indicators of situation-related efficiency (performance) in a game of basketball:

- 2-Point field goal – successful (2FGM) = number of field goals made from within the 6.25 m line;
- 2-Point field goal – unsuccessful (2FG-missed) = number of field goals missed from within the 6.25 m line;
- 3-Point field goal – successful (3FGM) = number of field goals made from beyond the 6.25 m line;
- 3-Point field goal – unsuccessful (3FG-missed) = number of field goals missed from beyond the 6.25 m line;
- Free throw (one, two and three) – successful (FTM) = number of free throws made;
- Free throw (one, two and three) – unsuccessful (FT-missed) = number of free throws missed;
- Offensive rebounds (OREB) = number of balls caught on the rebound (off the rim or backboard) immediately after the own shot missed (on offense);
- Defensive rebounds (DREB) = number of balls grabbed on the rebound (off the rim or backboard) immediately after the opponent's shot missed (on defense);
- Assist (AST) = number of times the ball was passed to an »open« player in a clear chance (open shot) to throw it directly into the basket;
- Personal foul (PF) = number of fouls implies illegal, irregular physical contact with an opponent, regardless

whether the ball is dead or live, and game conduct fouls (technical fouls);

– Turnover (TO) = number of possessions turned over, lost on offense as a result of an inaccurate pass, poor catching of a pass, sloppy ball-handling and dribbling and rule violations (travelling, out-of-bounds, double-dribble, carry, three-, five-, ten- and thirty-seconds rule violations, offensive charging and back-court violation);

– Steal (STL) = number of possessions gained in transition or set defense from an opponent's offensive error in transition or set offense. It consists of a steal in any rule-permitting manner (dribble steal, ball deflection to your teammate, ball interception, collecting loose balls and winning jump balls).

All the data were collected from the original game records later published in the specialized publications or on the Internet pages (www.fiba.com).

Descriptive statistical parameters were calculated from the raw data – arithmetic mean and standard deviation for winning and losing teams. The differences between the winning and defeated teams were cal-

culated by canonical discriminant analysis. The data were processed by the Statistica software package at the Faculty of Kinesiology, University of Zagreb, Croatia.

### Results and Discussion

Table 1 shows arithmetic means and standard deviations of the situation-related efficiency variables of the winning and losing teams. The victorious teams had more *free throws made*, *field goals made* (2- and 3-point field goal shots) and executed more *defensive rebounds*.

Table 2 shows lambda value of the discriminant function ( ), canonical correlation (RC) and Chi-square significance test (  $\chi^2$ , df, p). The obtained discriminant function significantly distinguishes the winning from the losing teams at the 0.01 level of significance (p < 0.01), with relatively high canonical correlation (0.71). The canonical correlation is somewhat smaller here than the canonical correlations (0.76) obtained in the research done by Trninić, Milanović and Dizdar<sup>7</sup>. This result is interesting and can be interpreted as a consequence of the fact that

**TABLE 1**  
DESCRIPTIVE PARAMETERS OF THE SITUATION-RELATED EFFICIENCY OF THE WINNING AND DEFEATED TEAMS

	WINNING		DEFEATED	
	X	SD	X	SD
2FGM	20.00	5.15	18.58	5.03
2FG-missed	20.00	6.37	23.64	7.50
3FGM	5.72	2.72	4.64	1.68
3FG-missed	8.56	3.53	10.61	3.27
FTM	18.69	6.98	15.31	6.21
FT-missed	7.22	3.67	7.56	3.11
OREB	8.44	3.27	10.14	4.20
DREB	22.64	4.78	18.94	4.05
AST	10.78	4.73	9.33	5.19
PF	22.83	3.93	23.92	5.21
TO	11.25	2.97	11.06	3.43
STL	6.36	3.19	5.97	3.19

**TABLE 2**  
EIGENVALUES ( $\lambda$ ), CANONICAL CORRELATION (RC), CHI-SQUARE TEST, DEGREES OF FREEDOM (DF) AND LEVEL OF SIGNIFICANCE (P) OF DISCRIMINANT FUNCTION

	Rc	$\lambda^2$	df	p	
	1.04	0.71	45.65	12	0.00

the teams participating in Final Fours are of comparably equal quality of play, therefore the differences between them in terms of the standard indicators of situation-related efficiency are, expectedly, smaller. However, in spite of logically smaller differences between the winning and losing teams in the final tournaments, it can be stated here that discriminative (predictive) power of the analyzed set of the standard indicators of performance is still valuable.

Table 3 shows the structure and the position of the group centroids of the discriminant function. The winning teams are on the positive, whereas the defeated teams are on the negative pole of the discriminant function. The highest correlations with the positive pole of the discriminant function were established for the following variables: DREB (0.42), FTM (0.26), 3FGM (0.24), AST (0.15) and 2FGM (0.14), whereas the highest correlations with the negative pole were determined for the variables: 3FG-missed (–0.30), 2FG-missed (–0.26), OREB (–0.22) and PF (–0.12). The rest of the standard variables have not had significant weight on discrimination of the winning from the defeated teams either in this or in previous research studies conducted so far. However, although basketball experts consider that *turnovers*, along with *defensive rebounds* and *free throw* execution, have crucial role in favor of the winning teams, it must be emphasized here that the variable *turnover* showed no significant impact on differentiation between the victorious and defeated teams. The reason

**TABLE 3**  
STRUCTURE AND POSITION OF THE CENTROIDS OF GROUPS ON THE DISCRIMINANT FUNCTION

Variable	DF1
2FGM	0.14
2FG-missed	–0.26
3FGM	0.24
3FT-missed	–0.30
FTM	0.26
FT-missed	–0.05
OREB	–0.22
DREB	0.42
AST	0.15
PF	–0.12
TO	0.03
STL	0.06
GROUP	DF1
Victory	1.01
Defeat	–1.01

probably rests in that the final tournament games are characterized by the controlled styles of play based on «waiting on error» in the opponents' defensive position control (which has been corroborated by the expert video-analyses). Geometry of play in the controlled styles of play ensures minimal number of turnovers because it is based on: selection of passes and dribbles, proper spacing among offensive players (maintaining 5 to 6 steps from one to another player) which prevents successful helping on defense and, on the other hand, allows purposeful movement of the basketball and players without the ball. This directly reduces number of turnovers, increases opportunities to penetrate the opponent's defense (either by a dribble or a pass) and provides open shot selection as the most important principle of successful offense and transition defense.

Therefore, based on the obtained results, it can be concluded that the winning

teams are characterized by, primarily, a higher number of defensive rebounds. The authors understand the variable *defensive rebounds* to be not only an indicator of the closing defensive actions, but also as an indicator of overall defensive successfulness since it follows the unsuccessful opponent's shot which is, most often, a consequence of the organized pressure defense well performed. Therefore, the authors suggest that the winning teams were more successful on defense generally, not only in rebounding efficiency. Defensive rebound is a basis for development of team's play (it opens up more opportunities for primary and secondary fast-breaks and assists), on one hand, and on the other, it reduces chances for the opponent's efficient play by not allowing them an extra ball possession so decreasing their shooting percentage, their drawing fouls play and their transition defense effectiveness.

It is also clear from Table 3 that the *field goals unsuccessfully* (3FG-missed  $-0.30$  and 2FG-missed  $-0.26$ ) influenced differentiation between the winning and defeated teams, which speaks in favor of the defensive pressure importance. These results indicate that the poorer shot selection of the defeated teams is, probably, a consequence of their lower tactical discipline level and responsibility in play resolving game situations, on one hand, and, on the other hand, of a higher level team discipline and effort in generating defensive pressure executed, especially in help defense and blackout the lane to the basket demonstrated by the winning teams. Namely, the first principle of the successful offense is shot selection, which creates high shooting percentage and reduces opportunities for offensive rebounds, leading simultaneously to more successful transition defense. Therefore, the negative value of offensive rebound (OREB  $-0.22$ ) is quite logical. It is, most probably, a consequence of a better shot

selection of the victorious teams which generates high shot percentage and few opportunities for offensive rebound. To conclude, one may say that the victorious teams with their system of play looked for better opportunities for clear, open shot and, consequently, for sure execution.

The winning teams performed more *free throws* and were more successful than the defeated teams. The successfulness in free throws does not depend only on the mechanics of shot performance, but also on the level of player's concentration and confidence in decisive moments (ability to cope with high pressure situations) of a basketball game.

There is no doubt that penetrating the opponent's defense is a primary principle of successful offense because it generates high shot percentage and opponents' personal fouls (PF  $-0.12$ ). Personal foul is a negative indicator of situation-related efficiency most often caused by the aggressive style of play on offense, the carriers of which are high quality players capable of the drawing-foul-play that forces the opponents to commit more infringements of rules. Therefore, systems of play of the winning teams, based on the mentioned principles, contain balance between the inside and outside play, providing good opportunities to draw fouls and to the 3-point power plays, and more chances to get offensive rebounds.

A somewhat smaller impact of the variable *assists* on differentiation between the winning and losing teams may probably be attributed to the great importance of games played in play-offs, then to a high level of opponent's defensive pressure and help defense, as well as to a smaller number of own fast-breaks chances. The authors suppose that the smaller number of assists with regard to the number of assists in the so-called regular season games comes from a higher degree of inhibition when resolving game situa-



tions, or, in other words, from reduction of risky passes.

Although the variable *turnovers* did not manifest expected significant impact on differentiation of the winning and losing teams, as in the previous research<sup>7</sup>, a smaller number of turnovers in Final Four tournament games is obvious. The authors suppose that is a consequence of the predominant system of controlled play, high level of teamwork, play experience, and high individual quality of players. The controlled style of play reduces risks in resolving game situations because it increases level of collective play and reduces frequency of prime generators of turnovers (passing errors, player's losing balance due to inadequate footwork, and poor dribbling).

**TABLE 4**

CLASSIFICATION MATRIX OF THE WINNING AND DEFEATED TEAMS BASED ON THE OBTAINED DISCRIMINANT FUNCTION (FIBA – FINAL FOUR TOURNAMENTS, 36 MATCHES, 1992–2000)

	Victory		Defeat		Total
Victory	32	88.89%	4	11.11%	36
Defeat	5	13.89%	31	86.11%	36

Table 4 shows results of classification of the winning and losing teams based on the discriminant function. Thirty two, out of 36, defeated teams were well classified, which is 88.89%, whereas thirty one, out of 36, winning teams were well classified, which is 86.11%. These results corroborate very high discriminative value of the 12 standard indicators of situation-related efficiency.

**Conclusion**

The goal of this research was to determine the differences between the winning and defeated teams on the basis of the 12 standard indicators of situation-

related efficiency (partial performance) in basketball games of the nine final tournaments (Final Four) of the European club championship. The obtained canonical correlation is somewhat smaller here than the one determined in the several previous research studies. The finding may be attributed to the fact that the teams of equal quality compete in the final tournaments, which further implies smaller differences in the standard indicators between the winning and losing teams. The highest discriminative power was demonstrated by the variable *defensive rebounding*, and then by the variables *field goals* and *free throws*, whereas significantly smaller influence was obtained for the variable *assists* with regard to research studies done on the regular season games. It may be concluded that in the final tournaments of Euroleague more frequently won the teams that showed:

- tactical team discipline and responsibility in controlling defensive position, especially in winning the inside positions and in blocking-out the opponent to win a defensive rebound (it leads to minimizing the number of handicap positions on defense);
- tactical team discipline and responsibility in ball control (controlled pass selection) to the desired open shot chance (high level of shot selection) which reduces risks in the game (smaller number of turnovers and offensive rebounds and a higher field-goal successfulness);
- a higher degree of reciprocal helping on defense and offense (collective outplaying the opponents in the game);
- a higher level of concentration and self-assurance in execution of field-goals shots and free throws.

Results of this research and game analysis of the observed final tournaments of the European club champion-

ship indicate that the common denominator of the successful (victorious) teams is their ability to outplay their opponents with the controlled style of play based on helping principles, or the tactics directed at quality cooperation on both defense and offense, that allows maximally successful team play.

From the expert point of view and experience, the 12 (or 13, if one takes a variable blockshots into consideration) standard indicators of situation-related efficiency are far from being sufficient for a profound expert analysis of the basketball game<sup>13</sup> and, consequently, for interpreting factors responsible for differentiation between the victorious and defeated teams. The obtained results and the additional expert video analysis (results of which surpass the boundaries of the paper) allow for a thesis: when a team follows the principles of game organization based on the laws of basketball game, coaching expertise and practical experience, it will achieve dynamic balance in overall game flow and reduce number of critical intervals in a game, or in other words, it will reduce uncontrolled game states. Tendency to keeping the overall

game in balance<sup>14</sup> is hardly achievable if the principles of organized play are not established and if every player does not understand and comply with the game control and balance. To notice in video analyses any declines from this principle is a crucial segment of coaching of the most famous European trainers. Therefore, the authors consider that maintenance of the game balance in both the positional and transitional state of game is the most important component of the game control and competitive result accomplishment in a match. Recognizing undesirable number of imbalanced states in a game and distinguishing the carriers of such reactions is a basis for correcting individual and team play in the process of sport preparation of a team. Therefore, the information obtained from the game statistics should be completed by the computer generated video analyses. Such a combined approach to game analysis will improve interpretation of the cause-effect relations between the standard indicators of performance and the style and system of play of the winning and defeated teams<sup>15</sup>.

## REFERENCES

1. TRNINIĆ, S., A. PERICA, D. DIZDAR, Coll. Antropol., 23 (1999) 707. — 2. TRNINIĆ, S., D. DIZDAR, Coll. Antropol. 24 (2000) 217. — 3. SIFF, M. C., Y. V. VERKHOSHANSKY: Supertraining: Strength training for sporting excellence. (University of Witwatersland, Johannesburg, 1998). — 4. BERTRAM, P., G. R. RAO, A model for evaluating player performance in professional basketball. In: LADANY S. P., R. E. MACHOL (Eds.): Optimal strategies in sports. (North Holland Pub. Co., Oxford, 1974). — 5. DEŽMAN, B., Telesna kultura, 26 (1978) 22. — 6. MILANOVIĆ, D., Kineziologija, 8 (1978) 135. — 7. TRNINIĆ, S., D. MILANOVIĆ, D. DIZDAR, Leistungssport, 2 (1997) 29. — 8. DIZDAR, D.: Evaluation of a model for the final score prediction in several sport games. In Croat. M.Sc. Thesis. (Faculty of Physical Education, University of Zagreb, 1997). — 9. LUKŠIĆ, E.: Differences between winning and defeated elite European and American professional and collegiate basketball teams competing in play-offs. In Croat. M.Sc. Thesis. (Faculty of Physical Education, University of Zagreb, Zagreb, 2001). — 10. TRNINIĆ, S., D. MILANOVIĆ, M. BLAŠKOVIĆ, Ž. BIRKIĆ, D. DIZDAR, Kineziologija, 27 (1995) 44. — 11. FILIPOVSKI, S.: Characteristics of fast-breaks of basketball teams competing at the Final Four in Rome. In Slovenian. Graduation Thesis. (Fakulteta za šport, Ljubljana, 1998). — 12. KRAUSE, J.: Basketball Skills and Drills. (Human Kinetics, Champaign, 1999). — 13. TRNINIĆ, S.: Structural analysis of knowledge in basketball. In Croat. Ph.D. Thesis. (Faculty of Physical Education, University of Zagreb, Zagreb, 1995). — 14. TRNINIĆ, S., A. PERICA, L. PAVIČIĆ, Kineziologija, 26 (1994) 27. — 15. TRNINIĆ, S.: Analysis and teaching/learning of the basketball game. (Vikta, Pula, 1996).

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## **RAZLIKE IZMEĐU POBJEDNIČKIH I PORAŽENIH VRHUNSKIH KOŠARKAŠKIH EKIPA U ZAVRŠNICAMA DOIGRAVANJA KLUPSKOG PRVENSTVA EUROPE**

### **S A Ž E T A K**

Istraživanje je provedeno radi identificiranja parametara, među 12 standardnih pokazatelja, koji razlikuju pobjedničke i poražene ekipe u završnicama doigravanja klupskog prvenstva Europe u razdoblju od 1992. do 2000. godine. Razlike između pobjedničkih i poraženih ekipa utvrđene su diskriminacijskom analizom, čija je kanonička korelacija nešto manja od onih dobivenih u prethodnim istraživanjima. To je vjerojatno posljedica toga da se u završnicama doigravanja nadmeću podjednako kvalitetne ekipe što se očituje u manjim razlikama pokazatelja situacijske učinkovitosti između pobjedničkih i poraženih ekipa. Najveću diskriminacijsku moć iskazala je varijabla skok u obrani, zatim varijable slobodnih bacanja i šuta iz igre, a znatno manji utjecaj pokazala je varijabla asistencija u odnosu na istraživanja koja su provedena na tzv. običnim ligaškim utakmicama. Sve to upućuje na to kako su u završnicama doigravanja učestalije pobjeđivale momčadi koje su u većoj mjeri ostvarile: taktičku disciplinu i odgovornost u kontroli unutarnje pozicije za skok u obrani, taktičku disciplinu i odgovornost u kontroli lopte do traženog otvorenog šuta, čime je smanjena rizičnost u igri (manji broj izgubljenih lopti i veći postotak šuta). Takva taktika igre zahtijeva veći stupanj reciprociteta pomaganja u obrani i napadu, tj. kolektivno nadigravanje u igri. Rezultati istraživanja i analiza utakmica u završnicama doigravanja klupskog prvenstva Europe ukazuju na to kako je zajednički označitelj uspješnih momčadi manji broj stanja neravnoteže u vlastitoj igri (organizirana igra u napadu i obrani), kao i viša razina kolektivnog nadigravanja protivnika kontroliranim sustavom igre, što omogućuje maksimalno ostvarivanje cjelokupnog potencijala momčadi.