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Review article

THE RELATIONSHIP BETWEEN THE ACCURACY OF PASSING THE BALL AND ITS EFFICIENCY IN THE GAME OF VOLLEYBALL

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Abstract

In this research 100 volleyball players have participated, divided into two subsamples, 50 competitive volleyball players from the first league and 50 volleyball players from the second league.
The predictor variables were: passing with fingers in front of the head from zone III to position IV with passing the ball from zone VI, from the same side of the field; pass with the fingers behind the head from zone III to position II by passing the ball from zone VI, from the same side of the field; the situational-motor skills were evaluated, while the corrective skills were: corrected passes, safe pass, ideal passes and was evaluated the efficiency of the game.
The obtained results show that the system of situational-motor skills has a significant statistical influence on the variables of the ideal passing of the ball in the volleyball players of the first league.
With the analysis of individual regressive coefficients among volleyball players of the first league, the significant correlation with the coefficients, the criteria have variables: passing the ball to the horizontal target with fingers behind the head from zone III, in position II, with passing the ball from zone VI, from the same side of the field [4].

Keywords: Volleyball Player/Precision/Pass

1. Introduction

In volleyball, the specific precision is defined with different goals in all the balls played during the preparation of the attack (acceptance of the service - passing - shooting). In the process of modern training, great importance is given to the development of precision in the situational conditions, in fact of the game. Under the term psychomotor precision, we mean striking with moving means or limbs at a certain target (objective). It means that precision according to action criteria is divided into shooting precision and targeting precision.
According to Zaciorski (1975), the motor skill represents the human motility with the total complexity of the movement, in which the same system parameters can be described and can be measured with the identical group of measures in which they perform with processes analogous to physiological mechanisms, in fact, biological and psychological mechanisms.
Based on the problem and the research, the objectives of the research are set. The main objective of this research is to determine the characteristic relations of situational-motor skills (volleyball precision), passing to the objectives with the use of passes as well as their efficiency during the game of volleyball.
In relation to the research goals, the hypothetical analyzes are actually the research hypotheses which have been dedicated to the existence or not of the relationship between passing as an

element and its efficiency in the game, in a sample of active volleyball players who competed in the first league.

2. Research Methods

The research includes 100 volleyball players, active competitors in the first and second leagues, divided into two subsamples;

- the first sub-sample consists of 50 volleyball players, active competitors who have been an integral part of three clubs of the first league, senior competitors of the first league as well: volleyball club "University of Tetova", senior contestants of the first league volleyball club"Skhëndija" - Tetovo and senior contestants of the first league volleyball club"Liria" - Tetovo
- the second sub-sample also consists of 50 entities who have competed in three clubs of the lower league than the previous one, i.e. volleyball clubs of the second league, senior competitors of the second league as well; volleyball club" Dibra"-Debar, senior competitors of the second league; volleyball club"Janta Volej" - Skopje, senior competitors of the second league; volleyball club" UGD - Shtip".

*2.1 Variable samples:*The predictor variables that have evaluated the precision of the entities to the situational-motor state in passing are:

1. Passing to the horizontal goal with the fingers in front of the head from zone III to position IV with the passing of the ball from zone VI, from the same side of the field (GCHPARK)
2. Passing to the horizontal target with fingers behind the head from zone III to position II with the ball passing from zone VI, from the same side of the field (GCHPASK).

The criterion variables have assessed the efficiency in the game, in passing the ball, as follows:

Passes (P)

1. Passes from situations where the reception is weak from the serve, where the passer passes the ball from the back area, mainly with a high arcing ball (P-).
2. Passes from the situation when the passer from the passing area must take three (3) steps or more, but even further it is possible to pass the fast ball to the attacker, but not to play a safe pass combination (P+) and
3. Passing when the ball is ideally carried into the passing zone, and there are opportunities for quick and combined attack - ideal passing (P=).

The efficiency of the pass is reflected by the effectuation of the attack. The specification of tracking the passer is that, out of the total number, only three (3) situations where the follower is found are recorded, which means it is recorded during the pass;

- who is the passer?
- from which area the ball was passed for shooting and
- the way of passing the ball (fingers, under the arms, etc.).

The tactical preparation was carried out in two phases:

- watching CD recordings of the opponent's game with our team and forming the tactical plan; and by imitating the opponent's game in training through situational exercises and in control matches through sparring partners.

For the needs of this research, a rack was used with its height adjusted, where at its top there is a circle with a circumference of 47 cm, which was arranged in the horizontal and vertical position. Using this rack for precision, there were also measuring instruments (tests), with the help of which the precision of passing the ball was measured.

3. Statistical Methods

For the processing of the obtained results, the regression and descriptive statistical procedures were used.
(Multiple Regression from the statistical package, STATISTICS 7.1, StatSoft, Inc, Tulsa, O.K).

4. Research Results

The basic numbers of the central and dispersive parameters of the applied predictor and criterion variables in the intervals of the minimum and maximum results always contain approximately four (4) or more standard deviations, on the basis of which significant sensitivity of the applied tests can be ascertained, especially the hit test on the horizontal target with the fingers behind the head from zone III to position II, with the passing of the ball from zone VI, from the same side of the field.

Table 1. Regression analysis on the variable P- (Corrected PASS)
P+ (Safe PASS) and P= (Ideal PASS)

P- pass (corrected pass)				
	BETA	**PART-R**	**R**	**p**
GCHPARK	0.05	0.05	0.00	0.81
GCHPASK	0.07	0.06	0.10	0.76
GJ IV-V	-0.02	-0.02	0.07	0.93
GJ IV-VI	0.05	0.05	0.10	0.81
GJ IV-I	0.06	0.05	0.01	0.78
	Ro=.47			
	DELTA=.21 P=.91			
P+ pass (safe pass)				
	BETA	**PART-R**	**R**	**P**
GCHPARK	-0.02	-0.02	-0.07	0.93
GCHPASK	-0.06	-0.05	0.03	0.81
GJ IV-V	0.19	0.15	-0.01	0.43
GJ IV-VI	-0.15	-0.14	-0.08	0.46
GJ IV-I	-0.31	-0.26	-0.27	0.17
Ro =.43		DELTA =.19P =.95		
P= pass (ideal pass)				

	BETA	PART-R	R	P
GCHPARK	-0.12	-0.12	-0.17	0.52
GCHPASK	-0.10	-0.09	-0.02	0.65
GJ IV-V	0.19	0.16	-0.04	0.40
GJ IV-VI	-0.15	-0.14	-0.10	0.45
GJ IV-I	-0.36	-0.30	-0.32	0.10
Ro =.48		DELTA =.23	P =.87	

Table 1 shows the individual relationships between situational-motor precision and efficiency in the game in volleyball teams of the Second League.

It can be concluded that there is no significant statistical connection of the system, both at the multivariate level and at the univariate level.

The coefficient of multiple correlation was Ro = 0.47, while the coefficient of determination DELTA = 0.21, which explains the connection of the entire system of situational-motor precision and criteria variables with nearly 21%.

Based on it, it can be concluded that the situational-motor precision system has no statistically significant influence on the so-called corrected rise (NG-). Also, neither the situational-motor precision has any significance of statistical impact on the other two variables P+ and P=, both at the multivariate level and at the univariate level.

Such results are perhaps not expected, but can be explained by the level of technical characteristics of players who play in the Second League, as well as by other characteristics and abilities of entities that were not subject to observation in this research (other characteristics of motor skills and morphological characteristics, and similar ones), as well as testing conditions. It is assumed that the volleyball players of the Second League, mainly try not to be so precise in passing the ball during the game, that they will try not to make mistakes (according to the rules of the game "held ball", "followed", "withdrawal"). Especially the players who were not specialized in passing the ball (the so called technicians), where in the training process the coaches would insist that volleyball players who are not specialized in passing the ball, when they directly come into the game in the situation to pass the ball, without trying to get the ball up as precisely as possible, but "as useful as possible", where the shooters would then be able to organize the attack. Even this result favors the hypothesis, that the entities of the players of the Second League in the game did not try to make their passes of the balls to be precise, but also the attackers after such raising the ball in the number of the greatest attempts were not successful, exactly they did not get points, but their attack is half-hearted or ends so that the opposing team had the opportunity to counter-attack [8].

Table 2. Regression analysis of variables

P- (PASS – corrected pass),

P+ (PASS – safe pass) and

P= (PASS – ideal pass)

NG- PASS (corrected PASS)			
BETA	**PART-R**	**R**	**P**

GCHPARK	0.12	0.12	0.10	0.50
GCHPASK	0.46	0.38	0.35	0.02
GJ IV-V	-0.34	-0.27	-0.24	0.11
GJ IV-VI	0.33	0.26	0.23	0.13
GJ IV-I	-0.04	-0.04	-0.03	0.83
Ro =.53	DELTA =.28		P =.57	

P+ PASS (safe PASS)

	BETA	**PART-R**	**R**	**P**
GCHPARK	0.16	0.17	0.14	0.34
GCHPASK	0.25	0.22	0.19	0.20
GJ IV-V	-0.26	-0.22	-0.18	0.20
GJ IV-VI	0.23	0.19	0.16	0.28
GJ IV-I	-0.10	-0.09	-0.07	0.62
Ro =.56	DELTA =.31		P =.44	

P= PASS (ideal PASS)

BETA		**PART-R**	**R**	**P**
GCHPARK	0.10	0.11	0.08	0.54
GCHPASK	0.47	0.42	0.36	**0.01**
GJ IV-V	-0.21	-0.19	-0.15	0.28
GJ IV-VI	0.47	0.39	0.33	**0.02**
GJ IV-I	-0.29	-0.27	-0.22	0.11
Ro =.62	DELTA =.40		P =.05	

Table 2 shows the results of the connectivity of the situation-motor system of the volleyball players of the First League and the P- variable. With its analysis, it can be concluded that there is no significant statistical connection of the system both at the multivariate level and at the univariate level.

The coefficient of multiple correlation was Ro = 0.53, while the coefficient of determination was DELTA = 0.28, which clarifies the connection of the entire GJI system (individual shot) and the criterion variable by nearly 28%.

Also, with the analysis of the P+ variable, it can be concluded that there are no significant statistical connections of the system, both at the multivariate and univariate levels. The coefficient of multiple correlations was Ro = 0.56, while the coefficient of determination

DELTA = 0.31 which clarifies the connectivity of the general GJI system has no statistically significant impact on safe pass (P+).
The correlation of the whole system of situational-motor precision and ideal passing variables (P=), in fact the multiple correlation coefficient was 0.62, which explains the common variability between the systems and criteria variables by nearly 40%. The other 60%, explain the general variability of the ideal pass (P=), the largest percentage can be attributed to the characteristics and abilities of other entities that are not included in this research (other motor skills, morphological characteristics.... and similarly, as well as the conditions during the tests. These results provide statistically significant clarifications of the criterion variables with the help of the GJS system ($P < 0.05$), so it can be concluded that the GJS system of the First League volleyball players has a statistically significant impact on the ideal pass [4].
The other coefficients do not have a statistically significant relationship with the criterion variable P= (ideal elevation). The obtained results go in favor of the predictions that the volleyball players of the First League have a higher level of technical knowledge, more efficient in raising the ball, precisely they had a greater percentage of ideal passes of the ball. The obtained results have shown that the ball shooters (GJ) after the ideal pass of the ball, especially the pass of the ball behind the head (GCHPASK), mainly attacked the opponent's zone VI, which in no situation can be taken as a rule, but that it depends on others, mainly on the tactical characteristics of the team, especially blocking, both in individual tactics and in group blocking tactics, which is highly variable size, actually, it differs from match to match.
The results obtained on the variable that evaluated the ball shooting in the Second League volleyball players in relation to the First League volleyball players have shown that the Second League volleyball players are less or more efficient when passing imprecise balls, more precisely the volleyball players of the first League were more wrong, than the technical-tactical characteristics of the volleyball players of the Second League and the First League can be explained by the conditions, training and length of years in volleyball game, etc.

5. Conclusion

The obtained results show that the system of situational-motor skills has a statistically significant influence on the ideal passing variable in volleyball players of the first league. With the analysis of the individual regression coefficients among volleyball players of the First League, two variables also have a significant statistical connection with the criteria: passing the horizontal target with fingers behind the head from zone III, in position II, with passing the ball from zone VI from the same side of the field - and pass to the horizontal goal with jump shots from the IV zone to the VI position, from the other side of the field. The theoretical case of the research is reflected in the realization of urgent methodological problems, when the assessment of precision motor situation is in question, the dimensions which are very important for the efficiency of the game among volleyball players, active competitors, and which is still not enough research space. The practical importance of the research consists, first of all, in the fact that based on the defined models of technical-tactical activities, volleyball players can create content in the training process that would guide the learning processes and training of the players according to the given models.

Especially for the coaches who work with the categories of young people, you need that in the research process the efficiency of the implementation of the technical-tactical elements of the volleyball players is increased, as well as the general efficiency that would then be successfully implemented in the game. (Abazi et al., 2022)

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