Original Article

Manifestation of the psychic adaptability skill in performance sport in female volleyball players of C.S. Știința Bacău

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Abstract:

Purpose

This research has the purpose to present a study to highlight the psychic sport adaptability skills of the female volleyball players of the C.S. Știința Bacău volleyball team which has played in the national championship and won the both the Romanian Champion title and the Romanian Cup.

Materials and methods

The paper is an ascertained study performed on 12 volleyball players with an age between 23 and 38. This study was conducted in May 2013 and on this occasion we verified the hypothesis according to which the psychic sport adaptability skills of the players from the C.S. Știința Bacău volleyball team have high values, which influence the competition results. In order to assess the sport adaptability skills, the assessment was made by filling in the Athletic Coping Skills Inventory (ACSI-28) Test, created by Smith, Schutz, Smoll and Ptacek (in 1995). During the research we used the following methods: documentation, observation, testing, statistical-mathematical method (Excel 2003) and analytical method.

Results

The results are summarized on the 7 skills, processed and analysed based on the following: arithmetic mean, standard deviation, maximum and minimum values and highlight the skills which allow the players' adaptability to the volleyball characteristics.

Conclusions

The analysis of the results recorded after the 12 volleyball players completed the ACSI-28 Test emphasized the fact that psychic sport adaptability skills of players from the C.S. Știința Bacău volleyball team have high values which confirmed our hypothesis. The study emphasized that the players recorded higher average values for self-confidence and motivation for achievement (11.00 points) and goalsetting and mental training (10.50 points). The lowest value mean of the skills was recorded at obedience during training and competitions with 7.33 points. The 12 sportswomen accumulated individual scores between 47 and 76 points, which underlines the necessity not to disregard every player's psychological features, desires, ideals, preferences and individual characteristics.

Key words: ability, adaptability, skill, sport, volleyball.

Introduction

Volleyball is a complex sport, whose result depends on the co-players which occupy positions and locations on the court according to the game's regulations. Performance volleyball intensively requires the psychomotor resources of the sportsmen practising it. Adaptability to effort comes from the physical and psychic work involved which may contribute to attaining sports performances.

At the level of great performance team, we can observe an acceleration of the training adaptability for an alert, dynamic and powerful game. The sports performance in volleyball, as in other sports has “a bio-psychosocial value realised within an official competition, as a result of a multiple ability determined and assessed on the basis of some criteria or scales rigorously established” (Dragnea, A., 1996, p. 61).

Performance and cumulative sports result are obtained according to self awareness which “cannot be considered complete if the sportsman does not clarify his/her psychic processes, qualities and personality features and complex informational, decisional and motivational psychic” (Epuran, M., 2011, p. 85), during the multiple confrontations with unexpected situations appeared during the training and competitive process. The value of the results in sports games comes from “an objective sequence and combination of reactive changes until stable adaptability” (Solodkov, 1990, p. 5), which is formed and emphasized according to the training activities.

The sports result depends on the emotional stability and concentration of attention, stability determined by the level of functional adaptabilities obtained during the training and competition sports activity. The skill stability from an aptitudinal perspective can be “indirectly determined on the basis of longitudinal and transversal studies and investigations” (Neagu N., 2012, p. 29).

During the sports competition, reaching performances is determined by the “self-commitment ability”, which “should reveal the possibilities of adaptability” (V. Cojocariu, 2003, p.101) to ever-changing situations, issued in sports competitions

The sports performance of a female volleyball team is influenced by the ability of the six players on the court to adapt to the stress caused by fatigue, opponents’ reactions and game conception, by their desire to win, by their ability to cope with emotions and to wish for victory, by their capacity to indulge commentaries and noise produced by the audience.

During the training process, the coach “shall focus on the abilities of the players that he/she will make the most of” (Teodorescu, S., Bota, A., Stănescu, M., 2007, p. 51), but this requires the knowledge of the abilities of each component of the team and game characteristics.

Taking into account the fact that the results in competitions are those which certify the efficiency and correctness of the sports training and the knowledge of the possibilities of adaptability and skills developed in time constitutes a necessity imposed by “the sequence of distinct stages which will repeat creating a rhythmic development” (Grapă, F., Mârza D., 1998, p. 19). In volleyball, setting and accomplishing goals need constructive and reconstructive work according to each opponent team depending on the players’ personal predispositions and accumulations.

Purpose and hypotheses of the research

This research has the purpose to present a study in order to highlight the psychic adaptability skills in female volleyball players of the C.S. Știința Bacău volleyball team, playing in the Division A1 National Championship which has won both the Romanian Champion Title and the Romanian Cup. This study represents a necessity because the manner of adaptability of the players depends on the opportunity to get a good result, namely winning a place on the podium.

The research had as a purpose to verify the hypothesis according to which the psychic sport adaptability skills of the players of the C.S. Știința Bacău volleyball team have high values, a fact which allows a top place in the national classification.

Method

The research used the following methods: documentation, observation, and testing, statistical-mathematical method, graphical method and analytical method. In order to assess the psychic sport adaptability skills we used the Athletic Coping Skills Inventory Test (ACSI-28), which was created by Smith, Schutz, Smoll and Ptacek (1995). The test contains 28 items and measures psychological skills, such as: players’ performance under pressure, fighting opponents, goalsetting/ mental training, concentration, freedom from worry and coachability. Each item has four answers assessed on a numerical scale from 0 to 3. The points for choosing the answers are as follows: 0 points for *almost never* (AN), 1 point for *sometimes* (S), 2 points for *often* (O) and 3 points for *almost always* (AA).

The assessment of the adaptability skills of the volleyball players included in our study was performed at the end of the National Championship and the Romanian Cup, during the first week of May 2013. Used by Smith and Christensen, 1995, this ACSI – 28 test has proven to be a rather modest performance prognosis element for professional baseball players. We considered that the test can offer a series of data regarding the adaptability of the 12 female volleyball players, taking into account that they have been brought into our team from many clubs from our country or from abroad. Filling the test was optional, but all players manifested their desire to participate in this study. Whenever some of the players needed clarifications, the test being in Romanian, an authorized English translator helped them.

Results

The answers to the applied questionnaire were collected and are found and processed in Table no.1. The seven sports adaptability skills, assessed by the applied test, are as follows: management of adversity circumstances, obedience during training, concentration during competitions, level of self-confidence and motivation for achievement, level of mental training and goalsetting, ability to cope with under-pressure situations, level of freedom from worry and coachability.

Table 1. Results of the volleyball players of the ACSI-28 Test

	Age	C1	C2	C3	C4	C5	C6	C7	Total
Crt. no.	23	8	6	10	12	12	9	9	67
1	28	8	6	10	12	12	9	9	66
2	25	8	5	9	12	12	9	9	64
3	35	10	9	11	10	12	8	10	70
4	26	7	6	11	12	12	9	9	66
5	25	10	12	12	12	11	10	9	76
6	25	8	7	10	11	6	8	6	56
7	38	10	9	9	12	12	8	11	71
8	32	7	7	9	10	11	8	9	61
9	23	6	7	6	8	7	9	9	47
10	32	9	6	10	11	10	6	7	59
11	26	8	8	9	10	9	10	5	59
12	26	8	8	9	10	9	10	5	59
Average	28.17	8.25	7.33	9.67	11.00	10.50	8.58	8.50	63.50
Standard deviation	4.91	1.29	1.92	1.50	1.28	2.11	1.08	1.68	7.72
V. max.	38	10	12	12	12	12	10	11	76
V. min	23	6	5	6	8	6	6	5	47

Legend: *C1 = performance in under-pressure situations, C2 = obedience during training and competitions, C3 = concentration in competitions, C4 = level of self-confidence and motivation for achievement, C5 = goalsetting/mental training, C6 = ability to cope with under-pressure situations, C7 = freedom from worry and coachability.*

The assessment of the players by this test implies the analysis of results for the 7 skills calculated after adding the points recorded at the four subscales. For a skill, 12 points recorded is the maximum and 0 points is the minimum, and at this test, a subject can accumulate between 0 and 84 points.

The age of the 12 players ranges between 23 and 38 years, therefore, there is a difference of 17 years between players. The average value is 28, the age of 17 being considered good for a team which wants to get good results. Seven out of the 12 players are under the average age and 5 above.

Skill C1 represents the performance of players under great pressure circumstances, the manner in which they cope with **adversity situations** (table no 1). During a volleyball game, it is important for a sportswoman to keep herself positive and enthusiastic, calm and self-controlled, at difficult moments of the game. Even when they lose points, or things go worse in terms of coordination of actions of the players in the court, they should come back to the right behaviour as soon as possible after some possible mistakes. This skill is made up of the points from items 5, 17, 21 and 24. The average value is 8.25 points, the maximum value is 10 points and the minimum value is 6 points. As it can be observed, these values are in the upper half, which proves a good adaptability of the 12 players to the adversity situations.

Skill C2 which shows the level of **obedience during training and competitions** includes the points gathered from the players' statements at items 3, 10, 15, 27. This skill assesses the manner in which each player is open towards the learning process during training, the manner in which constructive critics are accepted without being taken as personal offences, punishments or intentional denigrations. The points collected at the four subscales have, at the team's level, an average value of 7.33 points with extreme values of 5 and 12 points. Five players recorded values of 5 and 6 points, six between 7 and 9 points and only one player recorded the maximum value of 12 points for this skill. These results raise a question regarding the disposition towards learning and accepting critics, complying with the requirements, which may be also constructive. We consider that this aspect is influenced by the players' age and experience.

Skill C3, which assesses the level of **concentration in competitions** reflects the manner in which the analysed sportswomen are able to focus on the tasks imposed by the training and game circumstances whenever unexpected adverse situations occur. This skill is assessed by the results gathered from the 12 players of items 4, 11, 16, 25. The points collected at the four items have, at the team's level, an average value of 9.67 points, with extreme values of 6 and 12 points. One sportswoman recorded 6 points, 10 players recorded between 9 and 11 points and one recorded the maximum value of 12 points, for this skill. These results prove a good concentration both during the training and competition acts for a majority of players which is very important for the competition activity of a team. We consider that this aspect is determined by the players' interest, motivation, but also by the professional formation manner accumulated in time.

Skill C4, represented by the level of **self-confidence and motivation for achievement** comprises the points accumulated from the answers given by the players for items 2, 9, 14, 26. The level of self-confidence and motivation for achieving sports results measures and assesses the manner in which a player is confident and positively motivated during training and games, the extent to which she works in order to improve her skills, the manner in which she is engaged in reaching and achieving goals. The points gathered at the four items have, at the team's level, an average value of 11.00 points, with extreme values of 8 and 12 points. Only one sportswoman recorded 8 points, 5 players recorded between 9 and 11 points and 6 sportswomen recorded a maximum value of 12 points. These results demonstrate a high level of self-confidence and motivation during

training and competitions for the majority of players. The high scores for this skill prove the existence of a good motivation at the team's level based on self-confidence of every player, but also on the possibility of valuable results. Skill **C5** deals with the manner of **goalsetting and realisation of mental training** and is assessed according to the answers given at items 1, 8, 13, 20. The level of mental training and goalsetting shows the sportswomen's involvement in establishing their own goals, specific for performance, but also their manner of achievement. The points gathered from the four items, have, at the team's level, an average value of 10.50 points, with extreme values of 6 and 12 points. Only one sportswoman recorded 6 points and another one 7 points, 4 players recorded between 9 and 11 points and 6 sportswomen recorded the maximum value of 12 points, for this skill. The results underline a strong involvement in goalsetting, but also in the mental awareness of the possibility to achieve them, which is a decisive for the competition activity of a team. The high scores for this skill demonstrate the fact that sportswomen, growing up to adulthood, are preoccupied with goalsetting and are mentally preparing themselves for games, clearly having a "game plan" in order to perform as well as possible during the match.

Skill **C6**, dealing with the level of manifestation of the **ability to cope with under-pressure circumstances**, is formed of the results recorded from the statements at items 6, 18, 22, 28. The level of the ability to cope with psychic under-pressure circumstances is represented by the players' type of performance in competition tensed moments and circumstances determined by the negative accumulation of points. The points gathered from the four items have, at the team's level, an average value of 8.58 points, with extreme values of 6 and 10 points. For this skill, a sportswoman recorded 6 points, 9 sportswomen recorded between 8 and 9 points and 2 sportswomen recorded 10 points each. These results show a good level regarding the ability to cope with under-pressure circumstances appeared during the training process and match performances. The good scores for this ability demonstrate the existence of a good resistance to psychic pressure of every player.

Skill **C7** which represents the correspondence between freedom from worry and **coachability** was assessed according to the answers for items 7, 12, 19, 23. The level of the correspondence between freedom from worry and the coachability constitutes an indicator which influences the sports results especially, but also it helps remarking every player within the team. The points collected from the four items have, at the team's level, an average value of 8.50, with extreme values of 5 and 11 points. A sportswoman recorded 5 points, one sportswoman 6 points, one sportswoman 7 points, seven sportswomen recorded 9 points each, sportswoman 10 points and one 11 points. The results recorded demonstrate that most of the sportswomen are freed from worries and have a good level of coachability. However, the freedom from worry and coachability did not record values too high. The scores for this skill prove the existent deficiencies which must be solved during the training process.

Discussion

Research regarding the psychic sport adaptability in female volleyball players, measured and assessed by the ACSI-28 test is rare. We found a study performed by M., Omar-Fauzee, & colab., in 2009 (p. 97-108), in which imagery and coping strategies are revealed in sport performance, a study realised on performance athletes (boys and girls), which "has found that athletes of higher skill level employ all functions of imagery more frequently than athletes participating at lower skill levels".

Regarding the total number of points recorded by each volleyball player (see graphic no. 1), we can observe that these are found between 47 and 76 points. These values are placed at the upper half of the general score. The score mean per group, 63.50 points, is also placed in the upper half of the score (a score between 0 and 84 points).

Fig. 1 – Representation of the general score of the volleyball players

The 12 sportswomen accumulated individual scores as follows: one sportswoman had under 50 points (namely 47 points), three sportswomen under 60 points, 5 sportswomen under 70 points and 3 sportswomen under 80 points. None of the sportswomen recorded a maximum score of either 84 points or the minimum 42 points. The analysis of the players' behaviour according to the dominant skills has highlighted interesting facts.

Out of the 12 players, only three have obtained 10 points each for the performance in high-pressure circumstances (C1), they remain positive on the court even when things go wrong; they recover quickly after

some mistakes and after facing difficult obstacles. For obedience during training and competitions (C2) only one player recorded 12 points, the other reached a total of between 6 and 9 points, considering the result of a team rather negative, while sportswomen should be open and receptive to the tasks.

The level of concentration in competitions (C3) has high values for seven players (10- 12 points), which shows that they are able to concentrate well on the tasks for training and competition, and during difficult moments. The level of self-confidence and motivation of achievement (C4) had the maximum points for 6 out of the 12 female players and a high score, close to maximum for other five. This emphasizes the fact that the female volleyball players are motivated during training and competition, working hard to improve their skills and achieve the goals of performance. For the subclass of **goalsetting and mental training** (C5) it can be observed that the six players have a maximum score and other three have a score close to the maximum.

For the subclass which assesses the ability to cope with under-pressure circumstances (C6) it can be observed that only two sportswomen have high scores, which underlines the fact that they perform very well in tensed situations and competition under-pressure circumstances. For the ability to assess **freedom from worry and coachability** (C7), still two out of the 12 players do not worry about an inefficient performance at a certain moment or about how the others perceive the manner in which they perform.

Conclusions

The analysis of the results recorded after the ACSI-28 test was filled in by the 12 volleyball players has highlighted the following:

1. The hypothesis according to which the psychic sport adaptability skills of the volleyball players from C.S. Știința Bacău have high values is confirmed. However, the skill which deals with obedience during training and competitions – C2 (namely compliance, conformity, submission, subordination) as well as the skill which refers to freedom from worry and coachability -C7, show also values which are placed in the lower half of the maximum score to be reached, which implies special attention to how teams are formed at difficult times during the competition games;

2. The mean of the skills' value has the highest score at the level of self-confidence and motivation of achievement (C4) of 11.00 points and at the goalsetting and mental training skill (C5) of 10.50 points. These values represent an advantage which contributes to attaining sports results and which needs to be exploited both during the training process and during competition performance;

3. The mean of the skills' value has the lowest score at obedience during training and competitions (C2) of 7.33 points, which means that the coaches have to take it into account during training and especially during competitions;

4. The standard deviation has values between 1.08 and 2.11 and shows a mixed team, which is perfectly real taking into account the psychological particularities, desires, ideals and preferences of every player, but also the different ages which the coach should consider during their training and match performance.

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