Nonverbal Communication in the Romanian Male and Female Representative Basketball Teams – U16

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Abstract

Major basketball competitions are characterized by complex and rapid attack and defense phases, mainly involving higher execution speed in performing technical procedures as well as individual and collective tactical actions. This research aims at presenting to basketball coaches the results we obtained by applying the PROFILE OF NONVERBAL SENSITIVITY (PONS) nonverbal communication test (N. AMBADY 1980). We consider that the optimization of this type of communication can improve game relations among players, as well as between athletes and coaches, in implementing game tactics and in achieving outstanding performance.

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1. Conceptual delimitations and purpose of the research

The basketball game is characterized by speed, by each player’s obligation to efficiently express himself on any position, by the fantasy of his tactical and technical exercises, his team spirit and spirit of sacrifice, his intelligence, nervous resistance and creativity. Throughout the time, different throwing, passing and dribbling techniques have been developed, together with those related to players’ positioning in the offensive and defensive structures, as well as different forms of communication/interrelations (Predescu and Ghițescu, 2001).

It is important for us to know the type of nonverbal communication and the level at which it is expressed, in order to render game actions efficient, particularly when emotions, state roles are significant, but also in cases where verbal communication is unreliable, ambiguous (Preda, 2006).

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C.F. Shannon, quoted by Dragnea (2002), states the following: “Communication can be defined as the transmission of a message from one point to another, from a source to a receiver”, where the source encodes the information and the receiver decodes it and must understand the language in which it is transmitted (Dragnea and Teodorescu-Mate, 2002).

In basketball, a special communication is represented by message encoding, in order to transmit information in due time or to hide one’s own tactical intentions from the opponent. Numbers, letters or geometrical figures allow a schematization of the game situations, which can be thus expressed in a simpler and faster way during the game.

In this sports game, both verbal communication and nonverbal communication (gestural, visual, tactile and sonorous) are present. We use this description because the purpose of our research is to delimit nonverbal communication in the representative male and female teams made up of boys and girls aged 15 to 16 years old.

1.1. Hypothesis of the research

Nonverbal communication and the disclosure of the “hidden” relations among variables allow us to assert that this represents an important factor for game efficiency.

1.2. Methods of research

The present paper represents a constative pedagogic experiment in which we used the following methods of research: test method, graphical method and statistical-mathematical method, with the statistical parameters of the central tendency - arithmetical mean (X), the statistical parameters of dispersion - standard deviation (S), the coefficient of variability (Cv), Pearson’s coefficient of correlation (r) and the coefficient of determination (r squared = r^2) - parametric statistical tests for quantitative data (Popa, 2008).

2. Design of the research

2.1. Period, location and subjects of the research

The experiment submitted to testing the members of the Romanian representative teams, boys and girls aged 15 to 16 years old. Tests were administered for the girls’ team, on 14 December 2012 at the Olympia Hall, and for the boys’ team on 18 December 2012, at the Romanian Basketball Federation.

2.2. Administered test

We administered the PONS nonverbal communication test (N.AMBADY 1980), translated and adapted by Loredana Ivan (the only scale of cultural and linguistic competences). The test evaluates the capacity to decode nonverbal clues related to face and body (facial expressions, gestures, looks, touches, voice), in order to use dynamic nonverbal messages. This supposes the administration of a questionnaire focused on the correct identification of 40 nonverbal scenes presented in a film. Out of the 40 nonverbal scenes, 20 provide clues at the face level and 20 clues at the body level (arm and body positions). The scenes are displayed on a screen every 6 seconds and each one lasts for 3 seconds. In the 3-second break between the scenes, the athlete must write on a paper the response related to the nonverbal message transmitted by the respective scene. For each message identified correctly the subject will be awarded one point. The values according to which the nonverbal competence level will be established are the following: under 20 points – low nonverbal competence, between 20 and 25 points – medium nonverbal competence, above 25 points – high nonverbal competence.
2.3. Presentation, analysis and interpretation of the results

In Table 1 we present the results obtained by the athletes after the administration of the PONS test regarding their nonverbal competence level, their number of selections and their length in years of sports practice (T = total score, F = awarded points for the identification of the clues situated at the face level/ B = awarded points for the identification of the clues situated at the body level).

<table>
<thead>
<tr>
<th>No.</th>
<th>Surname and name</th>
<th>Obtained score T (F/B)</th>
<th>Nonverbal competence</th>
<th>Nb. of selections</th>
<th>Length in years</th>
<th>Crt. no.</th>
<th>Surname and name</th>
<th>Obtained score T (F/C)</th>
<th>Nonverbal competence</th>
<th>Nb. of selections</th>
<th>Length in years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>V.F.</td>
<td>28 (12/16)</td>
<td>High</td>
<td>2</td>
<td>5</td>
<td>2.</td>
<td>A.T.</td>
<td>27 (13/14)</td>
<td>High</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>S.A.</td>
<td>29 (15/14)</td>
<td>High</td>
<td>2</td>
<td>3</td>
<td>3.</td>
<td>I.S.</td>
<td>31 (15/16)</td>
<td>High</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>A.A.</td>
<td>33 (15/18)</td>
<td>High</td>
<td>3</td>
<td>3</td>
<td>8.</td>
<td>I.A.</td>
<td>33 (15/18)</td>
<td>High</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>11.</td>
<td>F.M.</td>
<td>26 (14/12)</td>
<td>High</td>
<td>5</td>
<td>7</td>
<td>11.</td>
<td>B.D.</td>
<td>34 (15/19)</td>
<td>High</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15.</td>
<td>C.M.</td>
<td>28 (13/18)</td>
<td>High</td>
<td>5</td>
<td>5</td>
<td>15.</td>
<td>I.B.</td>
<td>28 (12/16)</td>
<td>High</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>K.A.</td>
<td>25</td>
<td>Medium</td>
<td>5</td>
<td>5</td>
<td>17.</td>
<td>L.H.</td>
<td>28</td>
<td>High</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Data analysis and interpretation – scores obtained in the PONS test (Table 2):

The mean of the score obtained is $X = 29.5$ points for boys and $X = 27.85$ points for girls. The difference between the two means is $X = 1.65$ points in favour of the boys. Therefore the boys tested scored higher than the girls.

Standard deviation is $S = \pm 2.43$ points for boys and $S = \pm 2.71$ points for girls. The difference is $S = \pm 0.28$ points in favour of the boys. The coefficient of variability $Cv = 8.23\%$ shows us that the homogeneity of the boys’ score is high and the result dispersion is small. The coefficient of variability $Cv = 9.73\%$ shows us that the homogeneity of the girls’ score is high and the result dispersion is small. The difference is $Cv = 0.28\%$ in favour of the boys, which shows us that there are minor differences between the two groups – high homogeneity, small degree of dispersion.

Data analysis and interpretation – number of selections in the national team (Table 2):

The mean of the selections is $X = 4.05$ for boys and $X = 3.15$ for girls. The difference between the two means is $X = 0.9$ selections in favour of the boys. It results thus that the tested boys have more selections in the national team than the girls.

Standard deviation is $S = \pm 3.17$ for boys and $S = \pm 1.46$ for girls. The difference is $S = \pm 1.71$ in favour of the girls. The coefficient of variability $Cv = 78.27\%$ shows us that the homogeneity of the selections in the boys’ national team is small and the dispersion is high. The coefficient of variability $Cv = 46.34\%$ shows us that the homogeneity of the selections in the girls’ national team is small and the dispersion is high. The difference is $Cv = 31.93\%$ in favour of the girls, which shows us that the degree of dispersion in number of the selections is in favour of the girls.

Data analysis and interpretation – length in years of sports practice (Table 2)
The mean of the years of sports practice is X = 5 years for boys and X = 5.5 years for girls. The difference between the two means is X = 0.5 years in favour of the girls. It results thus that the tested girls’ length in years of sports practice exceeds by 6 months that of the boys.

Standard deviation is S = ± 1.74 for boys and S = ± 1.53 for girls. The difference is S = ± 0.21 in favour of the girls. The coefficient of variability Cv = 34.80% shows us that, in boys, the homogeneity of the length in years of sports practice is small and the dispersion is high. The coefficient of variability Cv = 27.81% shows us that, in girls, the homogeneity of the length in years of sports practice is small and the dispersion is high. The difference is Cv = 6.99% in favour of the girls, which shows us that the degree of dispersion of the length in years of sports practice is in favour of the girls.

- Correlation between the scores obtained and the number of selections (Table 2)

Regarding the intensity of the association (Pearson’s correlation) between the obtained scores in the PONS test and the number of selections: For boys, r = 0.553; by comparing the obtained value with Hopkins’ table of 2000, we find out that the degree of connection between these results is high. For girls, r = 0.298; by comparing the obtained value with Hopkins’ table of 2000, we find out that the degree of connection between these results is minor. The values of these correlations prove that the obtained scores in the PONS test are not influenced by the number of selections.

- Correlation between the scores obtained and the length in years of sports practice (Table 2).

Concerning the intensity of the association (Pearson’s correlation) between the obtained scores in the PONS test and the length in years of sports practice: For boys, r = 0.041; by comparing the obtained value with Hopkins’ table of 2000, we find out that the degree of connection between these results is negligible. For girls, r = 0.081; by comparing the obtained value with Hopkins’ table of 2000, we find out that the degree of connection between these results is negligible. The values of these correlations prove that the obtained scores in the PONS test are not influenced by the length in years of sports practice. For a more reliable verification of the compared coefficients of correlation, we calculated the coefficient of determination \( r^2 \), for girls and \( 0.041^2 = 0.001 \) for boys, which shows us that the connection between the two variables is provided by other sources.

By analyzing the scores obtained in the PONS test, we can notice that the tested athletes (girls and boys) have a high level of nonverbal competence, according to the scale of cultural and linguistic competences. (Figure 1)
By analyzing the distribution of the scenes with nonverbal responses expressed through corporal gestures or facial mimicry, we can identify a predominance of the corporal nonverbal responses, as compared to facial nonverbal responses (Figures 2; 3). The more the data are concentrated towards the centre of the radar-type figure, the lower their value expressed in points.
3. Conclusions

It is important for us to know the type of nonverbal communication and the level where it is expressed in order to be able to make game actions more efficient, particularly when emotions, state roles are significant, but also in cases in which verbal communication is unreliable or ambiguous.

Nonverbal communication and the disclosure of the “hidden” relations among variables allows us to assert that this is an important factor in the technical-tactical preparation of the athletes: the hypothesis of our research is validated.

The number of selections in the national team and the length in years of basketball game practice are not relevant to our research/PONS test, because the athletes have not been deliberately taught to use a multitude of nonverbal communication forms for generating technical-tactical advantages during the game. In order to support the above-mentioned statement, we have provided the example of an athlete who scored high in nonverbal competence, although he had been practicing basketball for only 1 year and only had 1 selection in the national team (see Table 1 – athlete B.D.).

Our research emphasized that the number of messages transmitted through body gestures is greater than the number of messages transmitted through facial mimicry.

References