

THE RELATIONS IN ANTHROPOMETRICAL AND MOTORICAL FEATURES OF YOUNG BASKETBALLERS AND STUDENTS OF THE AGE 12-13 YEARS OLD (± 6 MONTHS)

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Abstract

Introduction: In this research paper are included students of the age 12-13(± 6 months), males parted in two groups 25 students of two groups from two basketball clubs BC “Bashkimi” and BC “New Basket” from Prizren and 30 other students of elementary school “Lekë Dukagjini” also from Prizren. The students of the clubs have been practicing nearly one year, three times a week, for about one hour. The main *purpose* of this research paper is to notice the differences between the students who practice by their basketball clubs and students that physical education is primarily for them. In this research are used: 5 anthropometrical variables, 4 basic motoric variables and 3 specific motoric variables. *Methods:* The discriminative analysis, and the correlation by Pearson and T-test. There were chosen these hypotheses: H1: It will be expected that anthropometrical and motoric variables have normal distribution results and it was partly reached. H2: It will be expected to reach the important statistical space among the tested groups in the most of motoric variables, and it was verified. H3: It was expected to be differences between tested groups in most of motoric variables and it was verified. *Conclusion:* This research paper introduces the theoretical and practical value that will help the trainers to see the factic state of physical condition of the groups of players and it helps them to select the possible talents for the basketball game from the school student group.

Keywords: Relations, anthropometrical feature, motoric, young basketballers.

Introduction

Basketball nowadays is the game that draws millions of spectators across the world, being watched by ordinary viewers and analyzing and perfecting this game by scientists and sports experts (Gjinolli E., 1982; Blašković, M., Hofman, E., 1983; Marcus, H., 1991). All this is because this game is characterized by attractive and dynamic actions as well as many points scored during a game and given that the winner is often not known until the last seconds of the match (Nixha M., 2003; Rakovica, H., 1997).

Purpose of Research

The main purpose of this paper is to observe the relationship between students exercising in basketball clubs and students that their physical education classes have as their primary activity. Among other things, is provided information on the skills of school students and it is possible to select gifted students for the basketball game.

Methods of Research

In the research sample were included pupils of two basketball clubs of the city of Prizren, 13 players of BC, Union "Prizren and 12 players of BC, New basket" Prizren, age group 12-13 (± 6 months) male and female students of the seventh grade, respectively 30 pupils of the lower secondary elementary school "Lekë Dukagjini" of Prizren.

Students who practice in clubs have an average of about one year that regularly, three times a week, for duration of an hour they conduct their exercises by their coaches with many years of experience in the basketball game. Both clubs perform the exercises separately at the sports center "Sezai Surroi" in Prizren

In this paper were used five anthropometric variables, 4 basic motor variables and 3 specific motor variables. The measurements were made according to the guidelines of the International Biological Program (IBP), as well as according to the rules established by EUROFIT test.

These anthropometric variables were selected with this order: 1. ALB. -Lightness of the body; 2. AWEB. - Weight of the body; 3. ALWO - Length of wings open; 4. APCH. -Perimeter of the chest; 5. APW. -The perimeter of the wing.

Basic Motor Variables (Variables): 1. MJPL - Jumping from Place to Length; 2. MJPA - Jumping from place to altitude; 3. MDBLB - Deep bend of the lower body; 4. MR20M -Running 20 meters from the high start.

Specific Motor Variables (variables): 1. MDBZC - dribble of ball between zigzag cones; 2. MDBTHB - dribble of the ball and throw in the basket; 3. MFK - free kick.

To accomplish the purpose and to substantiate the hypotheses put forward, were used the following statistical methods: discriminatory analysis, correlations by Pearson and T-test.

Results and Discussion

Table 1, shows the results of discriminatory analysis for the group of students in the clubs. Based on Table 1, we notice that most of the variables have a normal range of outputs, followed by three motor variables that characterize the group with a fairly wide range of changing results;

The deep bent of the front body lowered with the result of arithmetic middle 143.04 mm and standard deviation 74.29 mm,

Dribble of throwing ball in the basket for 30 seconds with arithmetic middle score 3.56 score and standard deviation 1.35 score,

As well as the free thrown variant with arithmetic middle score 2.76 and standard deviation 1.58 scored. Regarding asymmetric values, we see that they are normal with a small and mostly positive asymmetry.

Table 1. The basic statistical parameters of student clubs

| | N | Minimum | Maximum | Arithmetic mid | The standard deviation | Skewness | Kurtosis |
|---------------|----------|----------------|----------------|-----------------------|-------------------------------|-----------------|-----------------|
| | | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic |
| ALB | 25 | 1410,00 | 1690,00 | 1548,6800 | 82,14607 | -,083 | -1,204 |
| AWEB | 25 | 300,00 | 750,00 | 463,6400 | 121,35412 | ,883 | ,062 |
| ALWO | 25 | 1380,00 | 1671,00 | 1539,6400 | 85,51212 | -,193 | -1,218 |
| APCH | 25 | 637,00 | 960,00 | 749,3200 | 89,05977 | ,834 | -,122 |
| APW | 25 | 170,00 | 310,00 | 221,6400 | 37,56426 | ,829 | -,244 |
| MJPL | 25 | 1230,00 | 1830,00 | 1542,4000 | 152,62372 | ,027 | -,667 |
| MJPA | 25 | 25,00 | 41,00 | 30,4800 | 4,43584 | 1,028 | ,693 |
| MDBLB | 25 | 30,00 | 320,00 | 143,0400 | 74,29809 | ,608 | ,074 |
| MR20M | 25 | 3,51 | 4,83 | 4,1992 | ,37965 | ,051 | -,901 |
| MDBZC | 25 | 18,66 | 25,81 | 20,9232 | 1,77690 | ,977 | ,759 |
| MDBTHB | 25 | 1,00 | 6,00 | 3,5600 | 1,35647 | -,301 | -,702 |
| MFK | 25 | 1,00 | 7,00 | 2,7600 | 1,58850 | 1,107 | ,948 |

Table 2 shows the results of discriminatory analysis for the schoolchildren group.

From the results of the tab we notice that most of the variables have a normal range of results, but in this group of students in three motor variables the group is characterized by a very broad range of results even for changing.

The deep bent of the front body lowered with arithmetic mid-range 164.66 mm and standard deviation 60.80 mm,

Dribbling and throwing the ball in the basket for 30 seconds with arithmetic middle score 2.80 and standard deviation 0.88 scores,

As well as the free thrown variant with arithmetic middle score 1.73 and standard deviation 1.22 score.

Even in this group of students the values of asymmetry are within normal with small and mostly positive asymmetry.

Table 2. Basic statistical parameters of school students

| | N | Minimum | Maximum | Arithmetic mid | The standard deviation | Skewness | Kurtosis |
|---------------|----|-----------|-----------|------------------|------------------------|-----------|--------------|
| | | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic |
| ALB | 30 | 1395,00 | 1755,00 | 1533,0333 | 87,27068 | ,693 | ,285 |
| AWEB | 30 | 300,00 | 790,00 | 444,7667 | 131,58154 | 1,031 | ,230 |
| ALWO | 30 | 1354,00 | 1760,00 | 1542,8667 | 101,83785 | ,208 | -,300 |
| APCH | 30 | 610,00 | 1070,00 | 742,6333 | 100,61757 | 1,403 | 2,463 |
| APW | 30 | 165,00 | 290,00 | 212,6333 | 32,12742 | ,739 | -,373 |
| MJPL | 30 | 1180,00 | 1830,00 | 1484,9667 | 163,14527 | ,139 | -,665 |
| MJPA | 30 | 15,00 | 45,00 | 27,7333 | 6,29687 | ,612 | 1,019 |
| MDBLB | 30 | 60,00 | 290,00 | 164,6667 | 60,80343 | ,329 | -,371 |
| MR20M | 30 | 3,88 | 5,12 | 4,4583 | ,32670 | ,475 | -,528 |
| MDBZC | 30 | 20,38 | 27,16 | 23,2803 | 1,56606 | ,303 | ,150 |
| MDBTHB | 30 | 1,00 | 4,00 | 2,8000 | ,88668 | -,216 | -,646 |
| MFK | 30 | ,00 | 4,00 | 1,7333 | 1,22990 | ,073 | -,982 |

Table 3, shows the results achieved by Pearson correlation in the motor space. Based on the results of Table 3, we note that correlations have been achieved at both levels of statistical significance .05 and .01.

At level .05, statistical significance has been given by the variables: MDBLB with MJPL (.332), MR20M with MDBLB (-.269), MFK with MR20M (-.268).

At the .01 level of statistical significance were provided variables: MJPA with MJPL (.555), MR20M with MJPL (-.614), MR20M with MJPA (-.594), MDBZC with MJPL (-.372), MDBZC with MJPA -.388), MDBZC with MR20M (.485), MDBTHB with MDBZC (-.521), MFK with MDBZC (-.368) and MFK with MDBTHB (.524).

All other relative values achieved between motor variables are small and irrelevant values so their commentary is unnecessary.

Table 3. Motor Correlations

| | MJPL | MJPA | MDBLB | MR20M | MDBZC | MDBTHB | MFK |
|---------------|-------------|-------------|--------------|--------------|--------------|---------------|------------|
| MJPL | 1 | | | | | | |
| MJPA | ,555** | 1 | | | | | |
| MDBLB | ,332* | ,182 | 1 | | | | |
| MR20M | -,614** | -,594** | -,269* | 1 | | | |
| MDBZC | -,372** | -,388** | -,090 | ,485** | 1 | | |
| MDBTHB | ,048 | ,103 | ,073 | -,173 | -,521** | 1 | |
| MFK | -,096 | ,095 | -,089 | -,268* | -,368** | ,524** | 1 |

Table 4, gives the results of the differences between the tested groups. To recognize the differences between the tested groups, the T-test method is used, whereby the method enables the difference between the groups for a single changing.

Based on Table 4, it is noticed that differences between both levels of statistical significance are achieved .05 and .01, also is noticed that the differences reached are only in the motor space. Differences in the anthropometric space are not differences in the level of statistical significance and their commentary is unnecessary.

The differences between the groups in the motor space are recorded in the changing:

MR20M (20 meters running), with the t-test value $t = -2,684$ and the value of the signal sig. = .010 and the probability difference $p = .01$ and as such is in the benefit of the student group, where the negative value of the T-test indicates that the existing difference is good for measurements (ranked as second or 2), but knowing that the positive values are the ones with the lowest result (shorter time at the passage of the distance anticipated running) we conclude that the difference is in favor of the group of students of the clubs.

MDBZC, the t-test $t = -5.168$ and the important value sig = .000 and the difference in the probability level $p = .01$ and as such is for the benefit of school group, but given the task assigned to accomplishing the foreseen distance in the shortest time possible, we conclude that this difference is also in the best interest of club students.

MDBTHB, with the t-test value $t = 2.406$ and the value of the significant sig = .021 the difference is in the probability level $p = .05$ and as such is in benefit of the group club students.

MFK (Free throws), with t-test value $t = 2.639$ and with significant value sig = .011 the difference is in the probability level $p = .05$ and as such is for the benefit of the group of students of the clubs.

Table 4. T-test between club students and school students

| | Difference | N | Mean | Std. Deviation | t | Df | Sig. 2-tailed |
|--------|------------|----|-----------|----------------|---------------|--------|---------------|
| ALB | 1,00 | 25 | 1548,6800 | 82,14607 | ,680 | 53 | ,500 |
| | 2,00 | 30 | 1533,0333 | 87,27068 | ,684 | 52,178 | ,497 |
| AWEB | 1,00 | 25 | 463,6400 | 121,35412 | ,549 | 53 | ,586 |
| | 2,00 | 30 | 444,7667 | 131,58154 | ,553 | 52,421 | ,583 |
| ALWO | 1,00 | 25 | 1539,6400 | 85,51212 | -,126 | 53 | ,900 |
| | 2,00 | 30 | 1542,8667 | 101,83785 | -,128 | 52,994 | ,899 |
| APCH | 1,00 | 25 | 749,3200 | 89,05977 | ,258 | 53 | ,797 |
| | 2,00 | 30 | 742,6333 | 100,61757 | ,261 | 52,785 | ,795 |
| APW | 1,00 | 25 | 221,6400 | 37,56426 | ,959 | 53 | ,342 |
| | 2,00 | 30 | 212,6333 | 32,12742 | ,945 | 47,554 | ,349 |
| MJPL | 1,00 | 25 | 1542,4000 | 152,62372 | 1,338 | 53 | ,186 |
| | 2,00 | 30 | 1484,9667 | 163,14527 | 1,347 | 52,255 | ,184 |
| MJPA | 1,00 | 25 | 30,4800 | 4,43584 | 1,833 | 53 | ,072 |
| | 2,00 | 30 | 27,7333 | 6,29687 | 1,891 | 51,679 | ,064 |
| MDBLB | 1,00 | 25 | 143,0400 | 74,29809 | -1,188 | 53 | ,240 |
| | 2,00 | 30 | 164,6667 | 60,80343 | -1,166 | 46,324 | ,250 |
| MR20M | 1,00 | 25 | 4,1992 | ,37965 | -2,721 | 53 | ,009 |
| | 2,00 | 30 | 4,4583 | ,32670 | -2,684 | 47,721 | ,010 |
| MDBZC | 1,00 | 25 | 20,9232 | 1,77690 | -5,228 | 53 | ,000 |
| | 2,00 | 30 | 23,2803 | 1,56606 | -5,168 | 48,358 | ,000 |
| MDBTHB | 1,00 | 25 | 3,5600 | 1,35647 | 2,497 | 53 | ,016 |

| | | | | | | | |
|-----|------|----|--------|---------|--------------|--------|-------------|
| | 2,00 | 30 | 2,8000 | ,88668 | 2,406 | 39,943 | ,021 |
| MFK | 1,00 | 25 | 2,7600 | 1,58850 | 2,701 | 53 | ,009 |
| | 2,00 | 30 | 1,7333 | 1,22990 | 2,639 | 44,730 | ,011 |

Analysis and Verification of Hypothesis

Given the purpose of this research and based on the hypotheses set forth for this purpose, and based on the obtained results, the following hypotheses can be verified:

Hypothesis 1. It is expected that the anthropometric and motor changes will have a normal distribution of results. **It has been partially verified.**

Hypothesis 2. It is expected that significant statistical correlations will be achieved between the motor space changes. **It has been fully verified.**

Hypothesis 3. It is expected that there will be differences between the tested groups in most of the motor changes. **It has been fully verified.**

Conclusion with Recommendations

In this research, was treated a total sample of 55 male students of the age group 12-13 (\pm 6 months). The sample consisted of two groups of students with this composition: 25 students of active basketball clubs in Prizren, and students of the 7th grade respectively 30 pupils of the elementary school "Lekë Dukagjini" of Prizren.

In the paper, 12 variables were used, of which 5 anthropometric variables, 4 basic motors and 3 specific motor variables.

The purpose of this paper was to: observe the relationship between the students exercising in basketball clubs and the students that their physical education classes are their primary activity.

From the above results to the basic statistical parameters of the two groups of tested students it can be noticed that most of the variables have a normal range of outputs, followed by three motor variables, which both groups characterize with a very broad outline of results for variables:

Deep bent of the lower body, dribbling the ball and throwing it in the basket for 30 seconds, and free shot motor variation.

From the archived correlations between the motor variables we found that from 21 possible correlative coefficients there were found 12 important connections from which 9 links to the .01 level of statistical significance and 3 interconnections at the .05 level of statistical significance.

The difference between the groups was done through the T-test method where we noticed that there are significant differences between the groups only in the motor space (Morina A., 2008).

Differences achieved in statistical significance levels were evidenced for variables: MR20M (20m jogging), MDBZC (Dribble of the ball between zigzag cones), MDBTHB (Dribble of the ball with throws in 30 seconds), MFK (free shoot), and that all these differences were for the best interest of the group of students in the clubs.

This paperwork presents theoretical and practical value by enabling the trainers the factual state of some of the psychophysical skills of the group of players as well as enabling the selection of potential talents for the basketball game from the group of schoolchildren (Nixha M., 1985; Wissel, H., 1994).

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