

*Иновации, предизвикателства и тенденции в постмодерното образование
Innovations, Challenges and Tendencies in the Post Modern Education*

THE INFLUENCE OF THE MOTOR ABILITIES OF THE SOCIAL STATUS OF THE INDIVIDUAL IN THE GROUP IN FEMALE STUDENTS AGED 10

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Abstract. The basic goal of this research is to determine the motor abilities of the female students aged 10 and their influence on the inter-personal relations in the class, i.e. the influence on the social status of the individual in the primary schools in Skopje, Republic of Macedonia. The sample of variables consists of 2 anthropometric and 6 motor variables, as well as 12 variables for determination of the social status of the individual in the group. The data obtained with the use of the descriptive statistical methods, such as: arithmetic mean, standard deviation, skewness, kurtosis, minimal and maximal result, will give an image about the researched statistical positions, which will be used in the further interpretation of the results of the research. The multivariate statistical methods accurately locate the influence of the motor abilities on the social status of the individual in the group – regressive analysis, where we will determine the influence of the criterion variable on the system of predictors with the coefficients of the partial regression and the coefficients of the multiple regression and the coefficient of determination. The obtained results allow us to make a scientific conclusion at the appropriate level with statistical significance of .05, whereby we notice that the female students who do a sport and have good motor abilities are positively accepted by their peers.

Keywords: female students, class, motor abilities, position - acceptance

1. Introduction

The degree of engagement of the students in the Physical and Health Education is very important for the realization of the goals and tasks in the education, and not only in education, but generally in the relations in the group of peers, as well. The children must form certain characteristics which will be adequate to the behaviour of the group. By belonging to a group of peers, the children seek for their identity, personal autonomy and success in the group. In the early school period the child is open and emancipated for new experiences from all areas of life in order to be adequately accepted as an equal member of the group, and even more as a leader of the group.

Some sociometric researches indicate that a group appreciates the following abilities: the physical strength and ability, boldness, jokes and humour, intellectual abilities etc. The confident children are accepted by the group quickly and easily, whereas the ones who are timid and lack confidence face difficulties in their acceptance.

The class of the student is the dominant group in the school period. This group represents a formal group managed by the form master. However, in this formal group, there are many other complicated relations among the students, which result in the development of new, so called informal groups. All students look for their place within each formal or informal group, trying to elevate their social status to a higher level.

One of the issues of the Physical and Health Education is to improve the quality of education, and with this to successfully influence the overall development of a healthy person, who will be socialized and accepted in a particular social environment.

We start from many subjective factors in order to solve this issue, i.e. the students themselves and their attitude towards the Physical and Health Education. In order to successfully realize the education we need a different approach, a democratic-liberal one, with the purpose for the students not to feel the differences in their motor abilities.

After the physical abilities of the students and the social status of the individuals in the group are determined, it will be clearer which phenomena and issues belong to this area of research. It will be determined which students dominate in their class in terms of gender and motor abilities. However, if the physical ability is just a tool for enforcing something, then a paradox will occur that the Physical and Health Education is just for gifted and talented students, and the other average students will follow them in the course of the educational process.

Hence, the motor abilities of the students and their social status in the class are the basic subject of this research. The following individual goals emerge on the basis of the presented issue and the subject of the research.

1. To determine the physical abilities of the students.
2. To determine the social status of the students in their class – social group.
3. To determine the influence of the motor abilities on the social status of the individuals in the group.

2. Methods

2.1. Sample

A sample group is taken in this research because of the institutionalized division of the respondents in groups, i.e. classes. All the respondents of the groups are considered to be separate entities.

The population of the sample is defined as a population of female students from fifth grade, primary education aged 10 (+, - 6 months). In accordance to the subject,

the research covered 100 female students. We used two anthropological variables, five motor variables and twelve social variables.

2.2. Sample of variables

Anthropological-motor variables: height and weight.

Motor variables: sit-ups (PTP), tapping with a hand (TPR), standing long jump (SD), vertical jump (VIS), running 5x10m. (TRC) and forward bend on a bench (DPK), (EURO FIT – standards).

Sociometric variables: 1. I like playing on the computer more than I like playing outside with the children, 2. I often watch sport on TV, 3. Do you believe you are strong?, 4. Do you train a sport?, 5. Who would you like to be friends with, from your class?, 6. Who would you like to learn with? 7. Who do you not want to be friends with?, 8. Which students would you choose to be part of your team?, 9. Who do you like playing with outside the school? 10. Are you afraid of some children in the class?, 11. Who is the naughtiest in the class? 12. Who is the best sportsperson in your class?

2.3. Method of data processing

The central and dispersive statistical parameters were calculated for each motor variable: arithmetic mean (AS); standard deviation (SD); the assessment of the distribution of the results is tested by skewness (Sk); the homogeneity of the results is tested by kurtosis (Ku), minimal results (Min); maximal result (Max), analysis of correlation.

2. The determination of the social status of the individual of the group is determined by a standard sociometric method, transformed into parametric data.

3. The influence of the motor abilities on the position of the individual in the group is determined by using regressive analysis.

3. Results

The influence of the motor abilities on the central and dispersive parameters for each motor variable are individually presented in Table 1.

Central and dispersive parameters of the motor abilities

Table 1

Variable	Gender	AS	SD	Min	Max	Sk	Ku
1. Weight (TT)	F	39.81	9.53	28	62	0.78	-0.24
2.Height (TV)	F	142.54	5.67	134	155.5	0.58	-0.35
3.Sit-ups (PTP)	F	14.78	6.27	0	23	-0.47	-0.29
4.Tapping with a hand (TPR)	F	35.27	7.30	15	50	-0.26	0.56
5.Standing long jump (SD)	F	117.65	23.78	80	162	0.34	-0.99
6.Vertical jump (VIS)	F	5.83	6.55	0	24	1.55	1.96
7.Running 5x10m. (TRC)	F	26.62	2.03	23.31	30.18	0.11	-0.90
8.Forward bend on a bench (DPK)	F	19.05	6.96	9	32	0.29	-1.00

By analyzing Table No.1, we notice that the central and dispersive parameters, as general indicators of the motor abilities of the female students and the calculated measurements of variability, indicate a relatively acceptable degree of homogenization of the distribution, i.e. it may be assumed that the individual parameters of the respondents are within the limits of the allowed values.

The distribution of the results in a certain number of variables partially deviates from the normal distribution. The results of asymmetry in certain variables indicate the negative tendency of asymmetry, which is determined by the use of skewness values (Sk). By analyzing the data of the variables acquired from the respondents, we found interesting and valuable data for further interpretation.

In variable 1 (Weight – TT), it can be seen that the dispersion of the results (SD) is (9.53), with arithmetic mean AS=39.81. In variable 2, we see that the arithmetic mean is 142.54. There is an asymmetry of the results – skewness Sk=0.78. We can also see that the homogeneity of the results of the female respondents is small. The variable 3 (Sit-ups – PTT) indicates platykurtic homogeneity (Ku) of the results. The arithmetic mean (AS) is 17.42. Tapping with a hand (TPR) is the fourth variable. In this variable, we found the arithmetic value AS=35.27. The maximal value of the test is 44. The value of the arithmetic mean (AS) in variable 5 (Standing long jump – SD) is 117.65. We notice relatively higher values (SD 23.78) in the dispersion of the results (SD). Higher homogeneity (Ku=1.96) of the values of the respondent is found in variable 6 (vertical jump – VIS). We can see that the value of (AS) is 26.62 in variable 7 (running 5x10 – TRC). According to variable 8 (Forward bend on a bench – DPK), the respondents have a value of the arithmetic mean (AS) of 19.05.

Correlations – total Marked correlations are significant at $p < ,050000$ N=100

In the respondents in this area, we found a connection among 7 variables, from which 2 indicate a strong connection, i.e. higher than .70. This is the case in the variables NAUGHTY and DO NOT LIKE COMPANY and the variables NAUGHTY and AFRAID OF. It is clear that the sociological aspect of keeping company is not based on the sport characteristics of the friends, but on other relations. The variables *naughty* and *afraid of* correlate to the variable *Do not like company*. It is clear that the female students completely eliminate such students, not giving any importance to the motor or other qualities of these students.

Regression of the influence of the motor abilities on the position of the individual in the group of respondents (only the statistically important variables are presented).

By analyzing Table No.3, in the total sub-sample of the female students, there is a connection of the overall system of predictor variables for assessment of the motor abilities of the students and the criterion variable “who is the best sportsperson in your class?”. The coefficient of multiple correlation is $RO=.70$, which explains the overall variability of the system of predictors of the criterion variable 45% ($DELTA=.45$). The connection is at a level of statistical significance $Q=.00$. The other 55% in the explanation of the variability of the criterion variable may be the result of other characteristics and abilities of the students. By analyzing the individual influences of the predictor variables on the basis of the (Beta) coefficients of partial regression, we conclude that the variables VIS, SD, VIS, TRC 5x20 have a statistically significant influence on the criterion variable at level of statistical significance $Q=.00$.

Generally, from the results of the partial regression for the influence of the motor abilities in the choice of the best sportsperson in the class, we may conclude that the height, standing long jump, vertical jump and running 5x10 m. have the greatest influence on the respondents aged 10.

Regression of the variable SPORT (*who is the best sportsperson in your class*) of the respondents.

Table 3

Variable	Beta in	Part. Cor	Tolerance	St. Err. of B	T (91)	p-level (Q)
WEIGHT	,128750	,126767	,11284	,11110	1,01564	,312492
HEIGHT	-,253547	,119930	-,37014	,17508	-2,11413	,037239
PTP	-,085157	,093900	-,12425	,13701	-,90689	,366860
TPR	-,177123	,102340	-,19918	,11509	-1,73072	,086890
SD	,660865	,141218	,23128	,04942	4,67975	,000010
VIS	-,271879	,129023	-,34795	,16512	-2,10721	,037850
TRC 5X10	-,364157	,102940	-1,49590	,42286	-3,53758	,000638
DPK	,144030	,100505	,17469	,12190	1,43305	,155269

$RO=.70$

$DELTA=.45$

$F=11.31$

$df1=8$

$df2=91$

$Q=.00$

By analyzing Table.4, in the total sub-sample, there is a connection of the overall system of predictor variables for assessment of the motor abilities and the criterion variable “do you train a sport?” at a level of statistic significance $Q=.01$. The coefficient of multiple correlation is $RO=.43$, which explains the overall variability of the system of predictors on the criterion variable 12% ($DELTA=.12$). This connection is at level of statistical significance of $Q=.01$. The other 88% in the explanation of the overall variability of the criterion variable may be the result of other characteristics and abilities of the respondents. By analyzing the individual influences of the predictor variables on the basis of the (Beta) coefficients of partial regression, we conclude that the variables weight and VIS have statistically significant influence on the criterion variable.

By analyzing the individual predictor variables, through the results of the coefficients of partial regression, it is possible to conclude that the variables which determine the weight and vertical jump have the greatest influence on the criterion variable.

Regression of the variable TRAINING (Do you train a sport?) of the respondents

Table 4

Variable	Beta in	Part. Cor	Tolerance	St. Err. of B	T (91)	p-level (Q)
WEIGHT	,388488	,160816	,018508	,007661	2,41572	,017702
HEIGHT	-,202752	,152142	-,016090	,012073	-1,33265	,185975
PTP	,043076	,119121	,003417	,009448	,36162	,718476
TPR	,090022	,129828	,005503	,007936	,69340	,489828
SD	-,252902	,179149	-,004811	,003408	-1,41169	,161453
VIS	,599797	,163678	,041727	,011387	3,66448	,000416
TRC 5X10	-,229174	,130589	-,051174	,029160	-1,75493	,082637
DPK	-,184792	,127501	-,012183	,008406	-1,44934	,150680

$RO=.43$

$DELTA=.12$

$F=2.72$ $df1=8$

$df2=91$ $Q=.01$

4. Discussion

The results acquired by the application of the test for assessment of the motor abilities indicate an acceptable distribution of the data.

If the age of the respondents is taken into consideration, none of the results of the motor abilities of the female students are surprising, i.e. they are expected, having in mind the results of the research work in this area so far. It is normal for the female students to taller and heavier, which is the result of the earlier development of

the female students. Flexibility, of course, is characteristic for the female students, which in the course of entire whole life is more present in the female gender and it is characterized by higher amplitude of movements.

From the coefficients of correlation, we notice that the respondents do not want to be friends at all with children who are naughty or who they are afraid of, regardless of their motor, intellectual and other abilities.

In female students, according to the data acquired from the regressive analysis, greatest influence on the social status of the individual in the group have those respondents who possess the greatest static force of the arms and the shoulder plexus (vertical jump), explosive force of the legs – *SD* and are generally fast *TRC 5x10*. However, the determined position in this way is not of crucial importance for the acceptance of the individual in the group. We assume that the students at this age period – prepubertal, already have other affinities and needs for belonging to some informal group, and due to these reasons, they credit the belonging to a group to other characteristics, qualities and abilities of the individual.

5. Conclusion

On the basis of the evidence of the data from the basic statistics, we make the following conclusions:

The female students, in average, are taller and heavier than their peers of male gender. The flexibility and segmental speed of the hands is more present in the female respondents (Saiti, B. 2007).

On the basis of the data acquired from the matrix of correlation, we may conclude that:

The respondents who are friends, study together and play in the same team at school, the naughty students are not eligible for company and are not determined as strong.

The results of the multiple regressive analysis indicate that there are certain influences of the motor abilities on the social status of the individual in the group:

1 Motor abilities with greatest influence on the social status of the individual in the group of respondents are:

1.1 The static force of the arms and the shoulder plexus and

1.2 The weight, height, explosive force of the legs and general speed.

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