

DIFFERENCES IN THE REPETITIVE POWER BETWEEN SPORTSMEN AND NON-SPORTSMEN OF THE 3RD YEAR OF HIGH SCHOOL STUDENTS

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Original scientific paper

ABSTRACT

The subject of the research is to determine the current state of repetitive power in high school children engaged in sports and those who do not train any sport. The repetitive power of 3rd grade high school students was researched. The study was conducted on a sample of 60 respondents. Three tests were used to test the repetitive power. Repetitive power was measured by trunk lifting in 30s i.e. abs (ABS), push-ups in 30s (PUP), as well as squats within 30s (SQT). The results of motor skills tests have shown that high school students who are engaged in sports are more prepared and achieve greater results than those who do not do any sports.

Key words: motor skills, high school students, repetitive power, motor tests.

INTRODUCTION

The modern world is technology developing very fast and it makes life a great deal easier and simpler, but physical activity decreases, and in many cases, it influences free time of an individual, child and adult leading to entertainment of television, personal computer and similar tech gadgets. The pre-school period is one of the most important periods in a child's life because good or bad grounds are created in that period, which form a person later (Karković, 1998).

Children need to be demonstrated the importance of physical activity which can be an important factor in creating the habit of an active and healthy lifestyle. It contributes to the development and maintenance of human abilities throughout life and plays a major role in achieving an optimal state of health, while reducing the risk of various diseases (Karković, 1998).

Numerous studies have shown that habits of physical exercise should develop from the earliest age. By encouraging physical exercise, the harmony for growth and development, as well as the development of basic motor skills and the adoption of basic motor skills are stimulated. (Hraste, Đurović, Matas, 2009).

Motor games are one of the ways in which a child's motor skills can be stimulated because playing in that period is the core activity in which children spend their time. The content of those games should be as diverse as possible to influence different motor experiences (Bastjančić, Lorgjer, Topčić, 2011).

Motor skills are presumably defined as latent motor structures that are responsible for the infinite number of motor reactions which can be measured and described (Prskalo, 2004). Motor skills can be influenced, and the impact on skills with greater degree of innateness is lower and vice versa (Prskalo, 2004). According to Prskal (2004) the motor skills are: • speed • strength • endurance • flexibility • coordination • precision.

Sekulić and Metikoš (2007) define motor skills as the potential of a person in performing simple and complex voluntary movements with muscle activity, and they divide motor skills on the ability to regulate movement and energy. The ability to regulate motion involves speed, balance, precision, flexibility and coordination abilities and agility, while energy regulation capabilities include repetitive power, explosive power and force, and static force.

The educational process represents an organized process of influencing the subject's anthropological characteristics, an organized process of learning motor motions, and an organized process of influencing the psychophysical status of sportsmen under the direct guidance of a trainer, guide or instructor (Findak, 1997). Physical and health education professors are often challenged to what extent they can influence the development of individual motor skills during the school's educational period. This paper shows the influence of the three-month program for the development of relative repetitive power in third-grade high school students. According to the results of previous research, repetitive power is a motor ability which can be developed more than any

other motor skill in the school's educational process, especially during puberty and high school years. Relative repetitive power represents the ability of sportsmen to overcome the weight of their own body (Milanović, 1997).

METHODS

Respondents sample

The sample of respondents covered 60 pupils in Vogošća High School. 30 students belong to a group of sportsmen, while the other 30 students belong to a group of non-sportsmen. Tested students are between 17 and 18 years of age and attend the 3rd grade of high school.

Measuring instruments sample

Data were collected during physical education classes. Due to the satisfaction of the criterion of objectivity of the measuring instrument, the survey of all respondents was performed personally by the examiner. Respondents are explicitly explained and demonstrated how the task is performed. The objective of the research was explained to them, but only in general. In order to get the maximum engagement of the respondents, criteria for evaluating the progress

of the repetitive development were set. Motor tests were used to measure the repetitive power:

- Abs (for 30sekundi),
- Push Ups (for 30sekundi),
- Squats (for 30sekundi).

A sports stopwatch was used for precise time measurement.

Data processing methods

SPSS statistical package is used for the statistical data processing. In the data processing, basic statistical parameters of descriptive statistics (arithmetic mean, standard deviation, minimum and maximum value, as well as difference between the minimum and max values, sum of all values) are calculated first. The analysis was carried out between the results obtained, as an indicator of the extent to which the research objectives were achieved.

RESULTS WITH DISCUSSION

Table 1 shows mean values and differences between high school sportsmen and non-sportsmen. The table clearly shows the average values of all the tests performed.

Table 1. Group Statistics

	SPORTSMEN AND NON-SPORTSMEN	N	Mean	Std. Deviation	Std. Error Mean
ABS	SPORTSMEN	30	30.90	2.987	.545
	NON-SPORTSMEN	30	23.13	4.305	.786
PUSH UPS	SPORTSMEN	30	29.40	2.044	.373
	NON-SPORTSMEN	30	21.37	2.173	.397
SQUATS	SPORTSMEN	30	28.30	2.351	.429
	NON-SPORTSMEN	30	23.13	1.717	.313

Based on the tests performed, as shown in Table 2, we can clearly see that there are differences between sportsmen and non-sportsmen. Sportsmen have shown better abilities in all applied motor tests. Tests for abs (ABS), push-ups

(PUP), squats (SQT) have shown that there is a statistically significant difference.

The popularization of physical activity must be at a higher level and it is the main weapon in the fight against sedentary lifestyle.

Table 2. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ABS	Equal variances assumed	3.780	.057	8.119	58	.000	7.767	.957	5.852	9.682
	Equal variances not assumed			8.119	51.666	.000	7.767	.957	5.847	9.687
PUSH UPS	Equal variances assumed	.040	.841	14.747	58	.000	8.033	.545	6.943	9.124
	Equal variances not assumed			14.747	57.784	.000	8.033	.545	6.943	9.124
SQUATS	Equal variances assumed	2.806	.099	9.721	58	.000	5.167	.531	4.103	6.231
	Equal variances not assumed			9.721	53.079	.000	5.167	.531	4.101	6.233

As the results of the analysis have shown, the differences between these two groups exist. The reason for this can be a number of cases. It is commonly known that children develop strength in this period, so it is not surprising that sportsmen have done tests with higher values. In addition, motivation plays a strong role. There is a possibility that non-sportsmen were less motivated or generally less motivated as a group.

We can see from the results that sportsmen have made a difference in the results, which should be a warning to both the teacher and the parents to motivate non-sportsmen and make them more interested in some sports, or to teach them a better way to approach the values of sportsmen through physical education classes.

CONCLUSION

We made a cut in the motor tests of the repetitive power of sportsmen and non-sportsmen of 3rd grade high school students, where we immediately found that there are differences in the values of the students. The program provided

adequate control, dosage and distribution of loads for the respective age. A set of measuring instruments used to monitor repetitive power development consisted of three motor tests for the development of relative repetitive power.

In the future, given that this is an insufficiently explored area, a lot of research of a similar type would have to be carried out so that criteria could be established and only then could the results achieved by this research be validly evaluated. It is true that the possibilities for larger kinesiological transformations through physical education classes are almost nonexistent, but some goals can be achieved by methods which will increase the motivation of the students to exercise and do some sort of sport.

As, for example, in this case, non-sportsmen have started doing development repetitive exercises in their free time, with the main motivational factors of: mutual competition, a desire for a better physical appearance and a desire to achieve better results from the tests, and from physical and health culture in general.

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