COMPARATIVE STUDY REGARDING THE LEVEL OF DEVELOPMENT OF ENDURANCE IN THE URBAN AND RURAL ENVIRONMENT EIGHTH GRADE PUPILS

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Abstract
Endurance is a much studied motor skill, researched by physical education scientists in Romania and abroad. This research aimed to highlight its level of development in eighth grade pupils from an urban and a rural environment.The study's task was to record the data regarding the performances during the 800m/1000m challenge of pupils from two 8th grades in an urban environment, and pupils from two 8th grades in a rural environment, from Bacau and Bacau County.This research started from the following hypotheses:
1. Knowing the performance level of eighth graders from a rural environment compared to eighth graders from an urban environment could constitute a landmark for improving the school curricula at this level. The conclusions of the study highlighted the existence of a better endurance capacity in the female pupils from the rural environment.
Key words: *running, endurance, pupil*

INTRODUCTION

The professional literature present an abundance of definitions for endurance, but one of the complex ones is given by T. Ardelean in 1981, describing it as "the man's ability to deal with the fatigue caused by the muscle activity performed during an effort of a precise intensity and a determined regime, without any modification in the intensity. The main factor limiting and affecting it is the fatigue." R. Manno (1992), as cited in Tudor Virgil (1999), defines endurance as being "the motor skill that allows man to oppose fatigue during a long term effort." Weineck (1992) defines it in simpler terms, saying that endurance is the "athlete's mental ability to resist fatigue."

No matter what definition one uses, when talking about the development of this motor skill, one must take into account a series of particularities of the people subjected to this process. In this case, the 8th grade pupils are in full process of transformation, because of the functional modifications present at this age. The annual increase in height of up to 10 cm, with proportions modified due to the growth of extremities, leads to a drop in the children's coordination ability. The repeated and already mastered movements are not generally affected (J. Weineck, 1992), that is why this study focused on those situations in which the environment and the training conditions can influence the performance level. Endurance is a motor skill that is relatively easy to improve, that is why we believe that an observational study could reveal aspects that the physical education teachers in rural and urban environments could take into consideration when coming up with their annual plans.

AIM, HYPOTHESIS AND RESEARCH METHODS

The main aim of the study was to highlight the possible differences in the level of development of endurance in eighth grade pupils from an urban environment, compared to 8th grade pupils from a rural environment.

This research started from the following hypothesis:
1. Knowing the performance level of eighth graders from a rural environment compared to eighth graders from an urban environment could constitute a landmark for improving the school curricula at this level.

The research methods used in this study were:
a) The documentation method;
b) The observation method;
c) The statistical-mathematical method of recording and interpreting the data.

RESEARCH SUBJECTS

The subjects of this study were 8th grade pupils from the "Alecu Russo" School of Bacau (Table 1) and the "Al.I. Cuza" of Bacău (Table 2), for the urban environment, and the "Gheorghe Doja" School (Bacau County) (Table 3) and the "Gheorghe Doja" School (Gâşteni) (Bacau County) for the rural environment (Table 4). These grades were chosen because the number of female and male pupils was relatively equal. This research included only the top 10 performances of the male

subjects, and the top 5 results of the female subjects, presented in tables 1-4.

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DEVELOPMENT OF THE RESEARCH

The research was conducted between April 27 and May 20, 2014, during which in all of the four schools the pupils worked to develop their endurance, a stage ended with the control challenge of 800m running for the girls, and 1000m running for the boys.

The endurance challenge took place in Bacau, in the same day, with all the pupils, at the athletics hall that had a circular track of 200m, in order to have the same testing conditions. The timing was done electronically, using the ALGE TIMING device from the gym where the study was conducted. The running was done separately on schools, and on fame and male subjects. The pupils from the rural environment were brought to Bacau with the agreement and support of the parents, the challenge being conducted outside the school hours. The subjects' results are presented in the tables below. The first 10 values represent the male subjects' performances during the 1000m challenge, while the following *five belong to the female subjects, recorded during the 800 m running challenge.*

RESULTS OF THE RESEARCH

Table 1. The results recorded by the 8th graders from the "Alecu Russo" School of Bacau during the endurance challenge

No.	Name	Grade	Birth year	Result (min.)
1	A.M.	VIII	1999	3.39
2	A.R.T.	VIII	1999	4.01
3	B.R.	VIII	1999	4.10
4	B.A.R.	VIII	1999	4.22
5	F.D.	VIII	1999	4.31
6	H.I.R.	VIII	1999	4.32
7	B.S.M.	VIII	1999	4.43
8	R.P.I	VIII	1999	4.47
9	M.M	VIII	1999	4.39
10	L.C.D.	VIII	1998	4.37
11	A..B	VIII	1999	4.36
12	C.G.	VIII	1999	5.03
13	T.A.M.	VIII	1999	4.49
14	P.S.	VIII	1999	4.50
15	N.A	VIII	1998	4.28
The males' average result				**4.18**
The females' average result				***4.52***

Table 2. The results recorded by the 8th graders from the "Al.I. Cuza" School of Bacau during the endurance challenge

No.	Name	Grade	Birth year	Result (min.)
1	R.A.	VIII	1999	4.46
2	N.C.C.	VIII	1999	4.42
3	M.L.	VIII	1999	4.39
4	T.D.	VIII	1999	4.37
5	S.D.	VIII	1999	4.50
6	C.A.R.	VIII	1999	5.01
7	E.F.C.	VIII	1999	5.03
8	I.C.	VIII	1999	4.39
9	V.S.	VIII	1999	4.52

10	O.R.	VIII	1999	4.50
11	*N.G.*	*VIII*	*1999*	*4.32*
12	*A.A.*	*VIII*	*1999*	*5.08*
13	*P.A.M.*	*VIII*	*1999*	*3.48*
14	*B.B.*	*VIII*	*1999*	*3.49*
15	*T.O.*	*VIII*	*1999*	*4.26*
The males' average result ***The females' average result***				**4.55** ***4.32***

Table 3. The results recorded by the 8th graders from the "Gheorghe Doja" School during the endurance challenge

No.	Name	Grade	Birth year	Result (min.)
1	B.R.	VIII	1999	4.15
2	F.A.	VIII	1999	4.20
3	T.T.A.	VIII	1999	4.14
4	D.D.	VIII	1999	4.33
5	L.O.F.	VIII	1999	4.41
6	C.F.	VIII	1999	4.42
7	R.A.	VIII	1999	4.53
8	R.G.	VIII	1999	4.49
9	A.D.	VIII	1999	4.51
10	P.S.	VIII	1999	4.52
11	*C.D.*	*VIII*	*1999*	*4.26*
12	*G.C.*	*VIII*	*1999*	*4.45*
13	*A.C.*	*VIII*	*1999*	*4.39*
14	*T.A.*	*VIII*	*1999*	*4.27*
15	*Z.A.*	*VIII*	*1999*	*4.20*
The males' average result ***The females' average result***				**4.37** ***4.31***

Table 4. The results recorded by the 8th graders from the "Gheorghe Doja" School (Gaşteni) during the endurance challenge

No.	Name	Grade	Birth year	Result (min.)
1	A.C.	VIII	1999	5.05
2	R.B.	VIII	1999	4.54
3	N.V.	VIII	1999	4.49
4	L.G.	VIII	1999	4.52
5	L.A	VIII	1999	5.06
6	A.A.R.	VIII	1999	5.07
7	F.I.	VIII	1999	5.13
8	D.I.	VIII	1999	4.55
9	H.A.	VIII	1999	5.10
10	R.R.	VIII	1999	5.12
11	*R.L*	*VIII*	*1999*	*4.21*
12	*M.D.A.*	*VIII*	*1999*	*3.35*
13	*N.L.*	*VIII*	*1999*	*3.40*
14	*P.M.*	*VIII*	*1999*	*4.09*
15	*S.C.*	*VIII*	*1999*	*4.12*
The males' average result ***The females' average result***				**5.03** ***4.02***

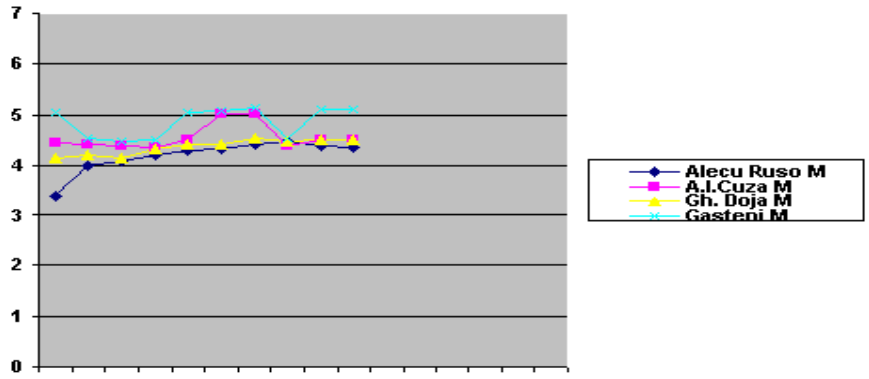

Figure 1. The results recorded by the male pupils from an urban environment compared to pupils from a rural environment, during the 1000m endurance challenge

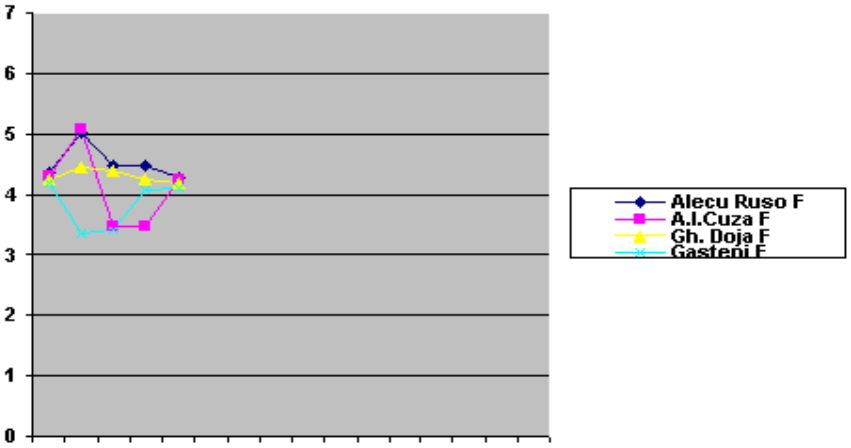

Figure 2. The results recorded by the female pupils from an urban environment compared to pupils from a rural environment, during the 800m endurance challenge

CONCLUSIONS

The study led to the following conclusions:

The endurance is more developed in the rural environment female subjects, where the average value was of 4.31 min for the "Gheorghe Doja" School, and of 4.02 for the "Gheorghe Doja" School (Gaşteni), compared to the average value of 4.52 min for the "Alecu Russo" School of Bacau and of 4.32 min for the "Al.I. Cuza" School of Bacău. In the case of the male subjects, the situation is somewhat surprising, because the best results were recorded by the pupils from the "Alecu Russo" School of Bacau, with an average of 4.18 min, followed by the ones from the "Gheorghe Doja" School, with an average of 4.31, then by the ones from the "Al.I. Cuza" School of Bacau (4.55 min), and finally by the male subjects from the "Gheorghe Doja" School (Gaşteni), with an average value of 5.03 minutes.

The discussions we had with the pupils from the four schools emphasized the fact that generally the boys spend more time in front of a computer than girls. The better values of the male subjects from the "Alecu Russo" School of Bacau are also the result of the fact that they are practicing various sports, which gives them extra physical training. On the other side, the rural environment female subjects are much more active, participating, outside the physical education classes, in all of the house activities together with their families, while the urban environment girls live a more sedentary lifestyle, mainly preferring the movie theater.

As a general conclusion, one can say that the endurance ability does not have a very good level in any of the groups of pupils comprised in the study, a fact that shows once again the need to introduce a new educational strategy that would allow physical education to successfully achieve one of its goals, to form new generations of healthy young people with a strong personality. One of the solutions for this problem would be a restructuring of the school syllabus by introducing more physical education classes.

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