

COMPARATIVE ANALYSIS OF MOTOR ABILITIES OF STUDENTS FROM URBAN AND RURAL AREAS

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Original scientific paper

Abstract

Urbanization and modernization of villages has led to digitization, internet and social networks in rural areas generally do not lag behind in comparison to urban areas, and so the effect we have is fewer young people who participate in the work on the farm and other rural activities. Objective of this research is to determine whether there are statistically significant differences in motor variables between male and female pupils, early school age, who live and go to school in urban and rural areas in the municipality of Modriča. The research was conducted throughout two identical tests ranging one year, precisely in May 2011 and in May 2012. The number of questioned children was 351 male and female pupils at the fourth and fifth grades Primary school „Sveti Sava“ from Modriča and its regional rural departments. All the questioned were tested by battery tests „EUROFIT“, and analyzed in seven variables in the field of motor abilities. Based on the results it was concluded that in the majority of the tested variables no statistically significant differences in motor abilities between male and female pupils early school age who live and go to school in urban and rural areas. Minor differences that emerged in the first and second test in certain variables are in favor of the male and female pupils from urban areas, and it is presumed that is a consequence of larger choice of activities which they can find in urban environment.

Key words: Differences, early school age, village, motor abilities

INTRODUCTION

Modernization of the village has led to the country spends less time outdoors, and that we have less young people who participate in regular rural activities. It is important to mention that in Bosnia and Herzegovina largely present effects of past war, where many villages destroyed, and in doing so has led to many socio-demographic changes which directly reflects on the state of the school population. Consequences of war can best be seen through out the authoritative data of Ministry of Education and culture of Republic Srpska, the equipment room for physical education in (2012), which indicates that the 522 regional section in the Republic Srpska, only 48 of them have room for physical education. Identical conditions as in Modriča, where the teaching of physical education in schools in urban and rural areas performed in drastically different conditions.

In the young school age, how provides Nićin (2000), there are very significant differences in motor abilities of children in relation to geographic-climatic factors, socio-economic factors and relationship between society and the individuals to physical exercise. Koković (2004) under consideration determination that an individual engaged in sports in the first place puts social-economic status of parents. On the other

hand, Maksimović and Matić (2006) established that parents' education, their qualifications, type of place where they spent childhood, type of the current residence of the family and realized results of parents in sports, have a greater influence of economic characteristic on the physical activity of their children. Also, a large number of studies (Mikalički, Hošek-Momirović & Bala, 2006; Mikalički, Čokorilo, & Pantelić, 2006; Tubić, 2006; Matić & Jakšić, 2007) confirm that the attitudes of parents towards systematic exercise, residential status of the family, sports engagement of parents and the cultural level of the family important indicative factors of activity young school pupils. The authors who have researched differences in motor abilities between boys and girls in urban and rural areas have come to different conclusions. The conclusions of the research that they have acquired Mitić (1980), Sredić (2003), Eiben, Barabás, and Németh (2005), Šegregur, et al. (2010), Gadžić (2011), Neljak, et al. (2011) better results had kids from urban areas, while a study conducted by Petrić and Blažević (2008), Tinazci and Emiroğlu (2010), Harasin et al. (2011), Cetinić, et al. (2011) and Gadžić and Vučković (2012) showed the opposite. Diversity of the obtain results in previous studies, indicate to the complexity of the problem research.

The aim of this study is to determine whether there are statistically significant differences in motor variables between male and female pupils early age who live and go to school in urban and rural areas in the municipality of Modriča. In accordance with mentioned we assume that boys and girls will not significantly differ in selected motor variables in relation to the boys who live in rural areas.

METHODS

Participants

Population from which the sample of male and female pupils of early age of the Primary school „Sveti Sava“ from Modriča and its three branch rural section (Dugo Polje, Koprivna, Vranjak). The sample consists of pupils in fourth and fifth grade chronological aged 10-11 years old. A random sample consisting of 381 respondents (169 questioned children-first test, 212 questioned children-second testing), while 102 questioned children were from rural area (48 male pupils and 54 female pupils).

Instruments

All pupils are tested by Battery tests \ "EUROFIT \ " as administered by the Committee for the development of Sports Council of Europe (Eurofit, 1993).

The following tests were used (Hadžikadunić et al., 2000):

- Flamingo balance test (FLB) - general balance

- Plate tapping (PLT) - speed of alternative motion
- Sit and Reach (SAR) - flexibility in the hip joints
- Standing Board Jump (SBJ) - explosive strength of the leg muscles
- Sit-ups in 30 seconds (SUP) - repetitive muscle strength and abdominal muscles flexor in hip joints
- Bent Arm Hang (BAH) - static force arm muscles and shoulder belt
- Shuttle run 10x5m (SHR) – agility

The research was conducted through two tests, the first in May 2011 and the second in May 2012. Second test was carried out under identical conditions as the first, of the same age, in the same schools, the same time keepers, but not of the same sample.

STATISTICAL ANALYSIS

Signification of mean differences between pupils from urban and pupils from rural areas was tested by *t-test* for independent samples. Signification was assessed at the level of $p=0,05$. For data processing is used statistical package IBM SPSS Statistics.

RESULTS

Comparative analyzes were done for each gender separately for the first and second test.

Table 1. Differences in motor abilities between boys from urban and rural areas (first test).

Variables	t	p
FLB (.1s)	-1.713	.090
PLT (25 n/s)	-1.4	.165
SAR (cm)	-.872	.386
SBJ (cm)	-.776	.440
SUP (30 n/s)	-1.1	.274
BAH (.1s)	-.372	.710
SHR (.1s)	-3.451	.001

In the first test, T-test for independent samples showed a statistically significant difference for boys only in variables SHR ($p = 0.01$) in favor of boys from urban areas as Table 1 shows. By girls are statistically significant difference occurs in the PLT variables ($p=0.05$) and SHR ($p = 0.01$) as

Table 2. Differences in motor abilities between girls from urban and rural areas (first test).

Variables	t	p
FLB (.1s)	.038	.969
PLT (25 n/s)	-2.257	.027
SAR (cm)	.007	.994
SBJ (cm)	.359	.720
SUP (30 n/s)	-.463	.664
BAH (.1s)	.714	.478
SHR (.1s)	-.3755	.000

shown in Table 2. By girls results were also in favor of girls from urban area.

In second testing T-test showed statistically significant differences by boys SAR variables ($p=0.05$) and SHR ($p=0.01$) in favor of boys from

urban areas as Table 3 shows, while us girls in Table 4 indicates that a significant difference

exists only in SHR variables ($p=0.05$) in favor of girls from urban areas.

Table 3. Differences in motor abilities between boys from urban and rural areas (second test).

Variables	t	p
FLB (.1s)	1.117	.267
PLT (25 n/s)	-1.067	.289
SAR (cm)	2.303	.023
SBJ (cm)	1.860	.066
SUP (30 n/s)	.751	.454
BAH (.1s)	.995	.322
SHR (.1s)	-3.309	.001

Table 4. Differences in motor abilities between girls from urban and rural areas (second test).

Variables	t	p
FLB (.1s)	-.135	.893
PLT (25 n/s)	-1.465	.146
SAR (cm)	1.392	.167
SBJ (cm)	1.091	.278
SUP (30 n/s)	-.457	.649
BAH (.1s)	1.619	.108
SHR (.1s)	-2.494	.034

DISCUSSION

Due to the very small number of research in Bosnia and Herzegovina in the area of motor abilities from a different living environment, research was carried out in order to examine the differences between motor abilities of male and female pupils and pupils who live and go to school in urban and rural areas. Results of the applied T-test showed to us the existence of significant statistics differences in some variables, while the majority of the variables there is no statistically significant difference between male and female pupils from urban and rural areas.

The first experiment (May, 2011) girls and boys from urban areas have achieved better results on tests whose successful fulfillment requires good *coordination*, *agility* and *speed endurance* (SHR, $p=0.01$), while statistically significant difference occurs more with girls and in the *speed of alternative motion* (PLT, $p=0.05$) and it is also in favor of the girls from the urban area.

The second testing (May, 2012) has given similar results, more precisely, in the majority of variables there is no statistically significant difference between male and female pupils from urban and rural areas. The difference among boys emerged with variables representing *coordination*, *agility* and *speed endurance* (SHR, $p=0.01$) and *flexibility* (SAR, $p=0.05$) in favor of the boys from the urban area. In the case of the girls statistically significant difference was only in the variables whose successful fulfillment requires good *coordination*,

agility and *speed endurance* (SHR, $p = 0.05$) and it is also in favor of pupils from urban areas.

From the above it can be seen that there are very small differences in motor abilities between the two analyzed samples and that only two or only one of the seven variables tested appeared as statistically significant difference. Minor differences that have emerged in favor of the male and female pupils are from urban areas. Similar conclusions were given by Badrić and Petračić (2007) who compared the motor abilities of urban and rural areas in Croatia. The results showed that in most of the tests were not noted statistically significant differences, except for the value of the test to assess the flexibility in the favor of female pupils from rural areas. Also, Bathrellou, et al. (2007) were researching the level of physical activity of pupils from urban and rural areas in Cyprus and came to the conclusion that there is no statistically significant difference between the level of physical activity of children in urban and rural areas.

Very small differences that have emerged in favor of pupils from urban areas are due to the greater involvement of the pupils in the sports section. This assumption has a basis in the precise description of the state of sports and physical education in the municipality of Modriča (Tadić, 2013), which indicates that pupils from urban areas have a greater choice for inclusion in the sports section and significantly better material conditions for the implementation of the physical education class, and we presumed that the

environment is the first factor that influenced the existence of minimal differences in favor of pupils from urban areas. The similar conclusions were written down by Peña Reyes, Tan, and Malina (2003), who compared the level of physical activity of pupils from urban and rural areas, and better results in tests of explosive and repetitive strength and endurance of body that showed pupils from urban areas attributed habits in a exercises, physical education in schools and different lifestyles. Also, Sjolie, and Thuen (2002) are during the research of the effects of living conditions in the physical activity of young urban and rural areas in Norway concluded that the respondents in urban areas more often go hiking and ride a bicycle from their peers from rural areas and that relate with infrastructure facilities which provides urban area, in regard to existence of cycle track and foot paths.

As in our research the largest differences occurred in the coordination, it should be noted that coordination as "motor intelligence" is largely determined by social factors in which the child lives and grows up: in which the material conditions is his family, whether does the child live in the city or in the village, does the child goes to school or not, what is child's school, whether there is in the family an incentive for the development of intelligence or not and so on (Tomić, 2010; as cited in Gadžić, 2011).

PRACTICAL ASPECTS

Based on the obtained results it can be concluded that in the majority of the tested variables no statistically significant differences in motor abilities between male and female pupils who live and go to school in urban and rural areas in municipality Modriča, partly by thus confirms our assumptions. Minor differences that have emerged in favor of pupils from urban areas is primarily a consequence of environmental factors, as a wealth of content and the possibility of an urban community provides stimulating environment for motor development of pupils.

The obtained conclusions are the basis for future research in the municipality Modriča, regarding this problem, where in the future to determine the sample is no difference in the majority of variables. Also, it is necessary to determine whether environmental factors that have affected only the existence of a minimal difference in favor of male and female pupils from urban areas. Given the lack of research on this topic in Bosnia and Herzegovina, and is generally less deal with the village, the research should be extended to a larger geographic area and compare the results obtained from different geographic and climatic environment that Bosnia and Herzegovina has no doubt.

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Received: 03. September 2013

Accepted: 23. November 2013