

THE INFLUENCE OF HALF AND FULL DAY STAY ON MOTOR ABILITIES OF PRE SCHOOL CHILDREN

Živorad Marković¹ and Zoran Bogdanović²

¹ Faculty of Pedagogy in Jagodina, Serbia

² University of Novi Pazar, Department of sport and rehabilitation, Novi Pazar, Serbia

Original scientific paper

Abstract

The goal of this research was to determine certain differences in motor abilities of preschool children which are generated under the influence of two different times and daily structures of stay in preschool institutions. This research has transversal character. It was conducted in kindergarten "Dečja radost" in Svilajnac, Republic of Serbia, with the sample of 118 children divided into four characteristic subsamples – according to gender and time of stay in preschool institutions: 26 male examinees with half day stay, 35 male examinees with full day stay, 23 female examinees with half day stay and 34 female examinees with full day stay. Motor abilities were evaluated by appliance of six standardized movement tasks. In the processing of data the following procedures were used: descriptive statistics, multivariate analysis of variance, univariate analysis of variance, discriminative analysis. By the use of multivariate analysis of variance and discriminative analysis it was noted that there is statistically significant difference and clearly defined border between male and female examinees of full day stay and half day stay in relation to their motor abilities. By the use of univariate analysis of variance statistically significant difference was noted in four out of six and for female examinees two out of six researched variables. The improvements in motor abilities statistically validate the idea that full day stay in preschool institutions is educationally more efficient, which should be checked by further empirical research.

Key words: influence, half day stay – full day stay, motor abilities, preschool age

Introduction

The basic assumptions of education of pre-school children aged 3 to 7 start with a child as a physical, cognitive and social and affective being who is active in the process of education. The basics of curriculum of pre-school education were established in 1996 and were applied in 1997/1998. The process of education is based on positive child's motivation, educational programs which respect developing and age conditions of a child, as well as on evaluation of the results (Džinović-Kojić, 2002). In the program the concept was designed in two models – model A and model B. Model A is an opened system of preschool education and it consists of: program introduction, goals, principles, planning and evaluation of educational work and the role of a pedagogue as a practical person, creator, researcher of his own practice. Model B is based on positive experiences of educational practice and it consists of: principles, goals, activity system, organization of life and educational work, cooperation with family and local community. Pilot program based on the model of Maria Montessori which implies education and upbringing of children through work and education of practical life matters in heterogeneous groups, where younger children learn from older children, with the help of specially designed didactic materials, was accepted in some of our preschool institutions. The city secretariat for education of the city of Belgrade made a decision that from 1972/73 they start with constant monitoring of physical development and physical abilities of students in primary and secondary schools (Ivanić, 1996).

The monitoring started in 1983. Three batteries of tests were conducted according to the students' age. Battery for preschool children consisted of: throwing tennis ball, long jump from a stand, throwing of medicine ball, and shuttle run 3x10 meters. In 1995/1996 school year there were some changes in battery of motor tests for monitoring preschool children so that throwing the tennis ball was replaced by bent arm hang, shuttle run 3x10 meters was replaced with a 30 meter running from high start. There are two methodological approaches how to determine physical abilities in preschool education. Numeric approach, which is based on validate metric procedures of testing and number expression of the results of evaluation with the use of international physical units: meter, second and kilogram. The other approach is, so called, descriptive evaluation of motor status where subjective judgment about movement is present and values are expressed in descriptive categories. For this purpose a special scale of development of motor abilities can be used invented by an American scientist M. Gutrich (Gutrich, according to Watson, 1973.) This scale consists of fourteen stages of motor ability development which are incorporated in motor manifestations of each subject in movement tasks. Gutrich divided these fourteen stages into four development categories and these are: child does not make a move – mark 1 and 2; skill in forming phase – mark 3, 4, 5, 6 and 7; achievement of basic movements – mark 8, 9, and 10; and skillful performance with variations in use – mark 11, 12, 13, and 14.

In his research (Perić, 1991) presented there is no substantial qualitative difference between the two methodological systems that imply motor status of preschool children. In kindergarten "Dečja radost" in Svilajnac preschool children attend education programme during half day stay and a full day stay according to model A. A half day stay exists as a form of preparatory groups for children in the year before starting school. A full day stay implies the influence of preschool education which lasts three and more years, during the whole day. A half day stay implies influence of preschool education only one year before starting school and only 'til afternoon. The basic idea of this work is that different lengths of stay in preschool institutions can differently affect motor abilities of preschool children. Research of anthropometric characteristics and motor abilities is the most frequent interest in physical culture. Scientists usually do not evaluate children younger than seven, because children cannot understand the performance of motor tasks, which is influenced by the end of myelination of nervous system which occurs during that time and impacts the length of a child's attention. In researches (Stanković, 1976; Zdravković, 1978; & Kundrač, 1979) it was proved that daily physical exercise significantly affects physical abilities of preschool children. On the sample of examinees between age 6 and 10 (Bala, 1981) did not prove the existence of higher motor dimensions so we can speak only about general factor of motor abilities of preschool children. In this work, (Perić, 1991) with appliance of adequate statistical procedures, eleven motor tasks were determined, which contain all methodological characteristics of standardized tests that would help creating the battery which would be implied in preschool physical education. Depending on the time spent in preschool institutions (Bunčić, 2005) presented the differences in physical abilities of male and female students. The sample of children (Sabo, 2005) starting school also indicates that the boys and girls who attended kindergarten from nursery age until starting school have better results in motor compared to boys and girls who attended kindergarten from the oldest groups until starting school. By comparing the effects of physical education (Bunčić, 2005), performed in experimental groups according to model A and model B, which lasted three years and the effects of physical education in control group which was not involved in institutional physical education before experimental treatment, states best results in the development of motor and motor abilities at children who had physical education according to model A. The *aim* of this research was to determine eventual differences in motor abilities of preschool children which start under the influence of the effects of two different times spend in kindergarten and daily structures of stay in preschool institutions.

Methods

This was empirical research with transversal character, conducted in kindergarten "Dečja radost" in Svilajnac, Republic of Serbia in 2008.

Motor abilities were evaluated during regular morning activities according to the methodology for monitoring physical development and physical abilities of children and youth (Ivanić, 1996). The sample of examinees was formed in relation to the subject and goal, and it was influenced by expert, organizational and material conditions of realization of half day stay and full day stay in kindergarten "Dečja radost" in Svilajnac. This empirical research was realized through the sample of 118 children divided into four special sub samples – according to gender and time of stay in preschool institutions: sub sample of 26 boys - half day stay, 35 boys - full day stay, sub sample of 23 girls - half day stay and sub sample of 34 girls - full day stay. The evaluation of motor abilities was performed by appliance of six standardized movement tasks. All tests were realized in standard circumstances in the gym. During the testing there was the following table of activities: MPAV – walking along Swedish bench with a turn, for the evaluation of balance, MKLC – rolling of a ball between punts, for the evaluation of coordination with a ball, MSDM – long jump from a standstill, for the evaluation of explosive strength of leg muscles; MBMD – throwing medicine ball, for the evaluation of general arm and shoulder strength; MSPD – long jump bouncing with both legs, for the evaluation of explosive leg strength; and M3x10 – shuttle run 3x10 meters, for the evaluation of speed (Bunčić, 2005). The results of this empirical research were processed by adequate mathematical-empirical procedures. In addition to the procedures of descriptive statistics in order to test the significance of motor ability differences of male and female examinees according to the type of stay the following was applied: multivariate analysis of variance, univariate analysis of variance and discriminative analysis.

Results

It can be stated that a group of male examinees with full day stay had better results in walking on Swedish bench with a turn (MPAV), in long jump (MSDM), in long jump with bouncing (MSPD) and in shuttle run 3x10 meters (M 3x10). A group of male examinees with a half day stay had better results in rolling of a ball between punts (MKLC) and throwing medicine ball (MBMD). The largest deviation from the mean value, which is described by the values of standard deviation, has the group of examinees with full day stay in variable throwing the medicine ball. Numeric values of coefficient of variation described heterogeneity of the results, in walking along Swedish bench with a turn for both groups of examinees. Homogeneity of the results is the highest in the shuttle run 3x10 meters for both groups. The values of skewness are with negative mark for long jump from the spot, for both groups, which shows extremely positive asymmetric curve. Kurtosis is, for all variables, less than three, which presents that the results are homogeneous and that the curve is leptokurtic. The values of K-S test show that the distribution of values is in the framework of normal distribution for both groups.

Table 1. Central and dispersive parameters and measures of asymmetry and flatness of motor abilities of examinees during half day stay and full day stay

Variables	M	SD	Error	Min.	Mah.	CV	Int. Sur.	Scu.	Kur.	KS - p	
MRAV - c	122.46	43.83	7.41	57.00	234.00	35.79	107.40	137.51	.84	.21	.284
MRAV - p	146.96	45.77	8.98	82.00	254.00	31.14	128.47	165.45	.45	-.34	.213
MKLC - c	244.63	50.84	8.59	172.00	390.00	20.78	227.16	262.10	.99	.83	.114
MKLC - p	238.77	34.62	6.79	179.00	327.00	14.50	224.78	252.76	.43	.06	.235
MSDM - c	95.71	17.93	3.03	50.00	135.00	18.73	89.55	101.88	-.13	.25	.884
MSDM - p	82.85	23.81	4.67	42.00	112.00	28.74	73.23	92.46	-1.26	1.31	.477
MBMD - c	273.71	57.95	9.80	190.00	450.00	21.17	253.80	293.63	.57	.48	.301
MBMD - p	295.11	43.21	8.47	215.00	420.00	14.64	277.66	312.57	.56	1.11	.153
MSPD - c	52.06	9.75	1.65	36.00	79.00	18.73	48.71	55.41	.87	.81	.238
MSPD - p	65.04	6.11	1.20	55.00	78.00	9.40	62.57	67.51	.35	-.56	.453
M 3x10 - c	118.57	10.44	1.76	98.00	143.00	8.81	114.98	122.16	.07	-.46	.756
M 3x10 - p	125.58	7.59	1.49	117.00	140.00	6.04	122.51	128.64	.73	-.94	.112

Table 2. Central and dispersive parameters and measures of asymmetry and flatness of motor abilities of examinees during half day stay and full day stay

Variables	M	SD	Error	Min.	Mah.	CV	Int. Sur.	Skew.	Kur.	KS - p	
MRAV - c	125.35	43.82	7.51	65.00	270.00	34.96	110.06	140.65	1.23	1.72	.183
MRAV - p	118.00	34.49	7.19	75.00	199.00	29.22	103.08	132.92	.88	-.10	.260
MKLC - c	255.44	40.58	6.96	185.00	390.00	15.89	241.28	269.61	1.07	2.10	.519
MKLC - p	269.74	47.56	9.92	180.00	385.00	17.63	249.17	290.31	.92	1.08	.535
MSDM - c	86.38	17.68	3.03	51.00	119.00	20.47	80.21	92.55	-.17	-.76	.887
MSDM - p	69.09	14.24	2.97	40.00	90.00	20.61	62.93	75.25	-.79	-.40	.875
MBMD - c	245.97	58.09	9.96	60.00	360.00	23.62	225.70	266.24	-.44	2.12	.127
MBMD - p	249.57	50.07	10.44	180.00	360.00	20.06	227.91	271.22	.43	-.64	.792
MSPD - c	52.09	10.15	1.74	36.00	87.00	19.49	48.54	55.63	1.42	2.56	.123
MSPD - p	60.56	7.41	1.54	36.00	72.00	12.23	57.36	63.77	-1.35	3.46	.463
M 3x10 - c	117.82	15.41	2.64	59.00	153.00	13.08	112.45	123.20	-1.09	5.22	.101
M 3x10 - p	126.61	10.03	2.09	118.00	168.00	7.92	122.27	130.95	3.16	10.90	.010

For all six variables, by the insight in Table 2, it can be stated that the group of female examinees with a full day stay had better results, in rolling of a ball between punts (MKLC), long jump from the spot (MSDM), and shuttle run 3x10 meters (M 3x10) variables. A group of female examinees with a half day stay had better results in walking along Swedish bench with a turn (MRAV), throwing medicine ball (MBMD), and long jump bouncing with both legs (MSPD). The largest deviation from the mean value, which is presented by the values of standard deviation, demonstrated the group of examinees with a full day stay in throwing of a medicine ball. Numeric values of the variation coefficient showed heterogeneity of the results, in walking along Swedish bench with a turn for both groups of female examinees. Homogeneity of the results is the highest for the shuttle run 3x10 meters for the group with a half day stay. The values of skewness are with negative mark for long jump from the spot for both groups, which shows extremely positive asymmetric curve.

Table 3. Significance of differences between half day stay and full day stay for male and female examinees according to the evaluation of motor abilities

Analyses	n	F	p
Manova - 1	6	8.863	.000
Manova - 2	6	9.517	.000
Discriminative - 1	6	8.863	.000
Discriminative - 2	6	9.517	.000

Kurtosis is higher than three for long jump bouncing with both legs for half day stay group and shuttle run 3x10 meters for both groups, which indicates that the results are heterogeneous and that the curve is platycurtic.

The values of Kolmogorov-Smirnoff test indicate that the distribution of values is in the frame of normal distribution for both groups of female examinees for all six variables. On the basis of the value of multivariate analysis of variance it can be stated that there is statistically significant difference between full day stay group and half day stay group according to all six researched variables with the level of statistical significance $p=.000$. Discriminative analysis, as the one of the most precise statistical procedures, also indicates the existence of statistically significant difference and clearly defined line border between half day stay group and full day stay group of male and female examinees in relation to researched variables (Table 3.). By the insight in Table 4, from six variables, by the appliance of univariate analysis of variance, there was a statistically significant difference between two groups of male examinees with different time of stay, in four variables: long jump bouncing with both legs, shuttle run 3x10 meters, long jump from standstill and walking along Swedish bench with a turn. Statistically significant differences are in favour of a full day stay group. The group of examinees with a half day stay had better results in rolling of a ball between punts and throwing medicine ball, but they are not on the level of statistical significance.

Table 4. Differences between full and half day stay of male and female examinees according to evaluation of motor abilities by variables

ANOVA	F - 1	p - 1	F - 2	p - 2
Walking along Swedish bench with a turn	4.49	.04	.46	.50
Rolling of a ball between punts	.26	.61	1.48	.23
Long jump from the spot	5.81	.02	15.27	.00
Throwing of a medicine ball	2.51	.12	.06	.81
Long jump bouncing with both legs	35.60	.00	11.77	.00
Shuttle run 3x10 m	8.39	.01	5.80	.02

Statistically significant difference was found between two groups of female examinees with different time of stay in three variables: long jump from the spot, long jump bouncing with both legs and shuttle run 3x10 meters. Statistically significant differences are in a favour of full day stay group, for long jump and shuttle run 3x10 meters, and for long jump bouncing with both legs is in favour of the half day stay group. The group of female examinees with half day stay had better results in walking on Swedish bench with a turn, (MRAV), throwing medicine ball (MBMD), and long jump bouncing with both legs (MSPD) but they are not on the level of statistical significance.

Table 5. Discriminative coefficients between the results of male and female examinees with half day stay and full day stay according to motor abilities

Variables	Discr. coeff. - 1	Discr. coeff. - 2
Long jump bouncing with both legs	.621	.346
Shuttle run 3x10 m	.166	.660
Rolling of a ball between punts	.148	.002
Long jump from the spot	.036	.675
Throwing of a medicine ball	.032	.190
Walking on Swedish bench with a turn	.001	.598

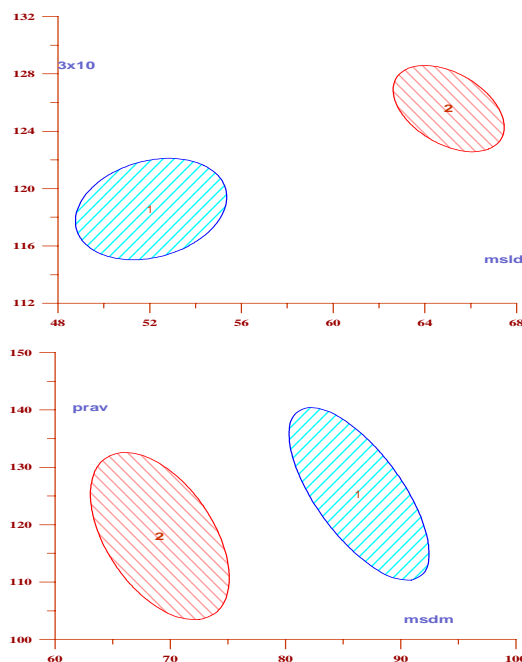
The discriminative coefficients indicate that the biggest contribution to discrimination between different times of stay of examinees according to motor abilities (in fact that the difference is biggest) for long jump bouncing with both legs, with the discriminative coefficient .621, and for female examinees for long jump from the spot with the discriminative coefficient .675. The smallest difference between the two groups of male examinees is found in walking on Swedish bench with a turn with discriminative coefficient .001, and in female examinees in rolling of a ball between punts with discriminative coefficient .002 (Table 5.). 26 male out of 35 male examinees in a full day stay group have defined characteristics, homogeneity is 74.29%, which means that nine examinees have other characteristics and not the characteristics of their group. 23 out of 26 male examinees in a half day stay group have defined characteristics, homogeneity is 88.46% and it is higher. Only three examinees do not have characteristics of their group. 29 out of 34 female examinees in a full day stay group have those characteristics; homogeneity is 85.29%, which means that five examinees have other characteristics from their group.

Table 6. Homogeneity of the results of male and female examinees in half day stay and full day stay according to motor abilities

Stay	m/n - 1	% - 1	m/n - 2	% - 2
Full day stay	26/35	74.29	29/34	85.29
Half day stay	23/26	88.46	20/23	86.96

20 out of 23 female examinees in a half day stay group have defined characteristics, homogeneity is 86.96% and it is higher. Only three female examinees do not have the characteristics of their group (Table 6.).

On the basis of a graph image of ellipsis (interval of trust) it is possible to see position and characteristics of a half day stay group and full day stay group for male examinees according to two most discriminative variables: long jump bouncing with both legs (MSLD) and shuttle run 3x10 meters and for female examinees according to two most discriminative variables: long jump from the spot (MSDM) and walking on Swedish bench with a turn (PRAV). On the Graph 1, for male examinees on abscise (horizontal axis) there are values of long jump bouncing with both legs (MSLD), and on ordinate (vertical axis) there are values of shuttle run 3x10 meters (3x10).



Graph 1. Ellipsis (interval of trust) of motor abilities of male and female examinees according to the most discriminative states.

Full day stay group (1) and half day stay group (2); long jump bouncing with both legs (MSLD) and shuttle run 3x10 meters (3x10); long jump from the spot (MSDM) and walking on Swedish bench with a turn (PRAV).

For female examinees on abscise (horizontal axis) there are values of long jump from a standstill (MSDM) and on ordinate (vertical axis) there are values for walking on Swedish bench with a turn (PRAV). It is possible to notice that according to long jump with bouncing, a full day stay group of male examinees has smaller, and half day stay group of male examinees has higher value of results. In relation to shuttle run 3x10 meters, where a full day stay group of male examinees has smaller values and according to this, better result than a half day stay group of male examinees. For the long jump from the spot, a full day stay group of female examinees has higher, and half day stay group of female examinees has lower value of the results. In relation to walking along Swedish bench with a turn (PRAV) where a half day stay group of female examinees has lower values and as a result better result from a full day group of female examinees.

Discussion and conclusions

Descriptive indicators indicate approximately better results of male examinees with a full day stay in four out of six variables, and for female examinees in three out of six variables. A half day stay has influenced higher improvement in two variables and for female examinees in three variables. Sabo got similar results (Sabo, 2005) in the research on preschool children who were divided into three groups, depending on time of stay in kindergarten. A group of children that had physical exercises from nursery groups and a group of children that exercised from younger age had statistically significant better motor abilities in eleven out of sixteen variables, compared to a group of children that exercised only eight months before going to school. In their research (Marković, Georgiev & Bogdanović, 2008) they indicate differences between boys and girls of preschool age who are not in anthropometric characteristics on the level of statistical significance, while in three out of six variables there was statistically significant difference in favour of boys. In empirical researches (Madić, 1980; Strel, 1981) they also indicate the existence of differences in physical abilities between genders in favour of boys. From six variables, with univariant analysis of variance, in this research, it was found that there was statistically significant difference between the groups of male examinees with different stay in four variables: long jump with bouncing, shuttle run 3x10 meters, long jump from the spot and walking on Swedish bench with a turn. Statistically significant differences were in favour of male examinees in a full day stay group. A group of female examinees in a full day stay group achieved better results in three out of six variables, but the

values for walking on Swedish bench with a turn are not on the level of statistical significance, which is indicated by univariant analysis of variance. In rolling of a ball between punts, throwing a medicine ball and long jump bouncing with both legs female examinees in a half day stay group had better results, but only the values of long jump with bouncing were on the level of statistical significance. Throwing of medicine ball measures explosive strength where inborn coefficient equals 0.80, it reaches its maximum at the age of 22 and from then on it starts to decline rapidly. Explosive strength is characterized by muscle contraction which is initiated by maximal stimulation of central nervous system, during which maximal number of nerves and muscle nerves is engaged, with the goal of performing motor task (movement of a body in space, and action of a body on object). The test result depends on a motor potential of female examinees, general and special motor education and anthropometric characteristics. If we exclude fluctuations of the results, primarily caused by individual examples, apart from the effects of half day stay and full day stay, we have to consider genetic condition of speed with the coefficient 0.90 and high correlation with strength and flexibility. The speed of performing task is conditioned by previous experience and by the speed of noticing motor problem. Knowing about a high level of innateness, which represents limiting factor for the improvement of the results, interpretation of the results is for both variables performed carefully, without attributing main effect for better results, in this case to full day stay. Improvements of the results in motor abilities are statistically valid prerequisite for a relatively reliable conclusion that a full day stay is educationally more efficient which should be verified with future empirical research.

Literature

- Bala, G. (1981). *Struktura i razvoj morfoloških i motoričkih dimenzija dece SAP Vojvodine*. [Structure and development of morphological and motor dimensions of children of AR Vojvodina. In Serbian.]. Novi Sad: Faculty of physical culture.
- Bunčić, V. (1988). *Razlike u motoričkim i morfološkim dimenzijama učenika s obzirom na pohađanje predškolskih ustanova*. [Differences in motor and morphological dimensions of students considering preschool attendance. In Serbian.]. (Master's thesis). Novi Sad: Faculty of physical culture.
- Bunčić, V. (2005). *Komparativna analiza dva modela organizovanja fizičkog vaspitanja u predškolskim ustanovama usmerena na transformacije motoričkih sposobnosti uzrasta 6-7 godina*. [Comparative analysis of two models of organizing of physical education in preschool institutions aimed at transformations of motor abilities of children aged 6-7. In Serbian.]. (Dissertation). Belgrade: Faculty of sport and physical education.
- Đurković, Z. (1995). *Metodika fizičkog vaspitanja dece predškolskog uzrasta*. [Methodics of physical education of preschool children. In Serbian.]. Šabac: College for education of pedagogues.
- Džinović-Kojić, D. (2002). *Fizičko vaspitanje predškolskog deteta*. [Physical education of a preschool child. In Serbian.]. Belgrade: Tipograf.
- Ivanić, S. (1996). *Metodologija praćenja fizičkog razvoja i fizičkih sposobnosti dece i omladine*. [Methodic of monitoring of physical development and physical abilities of children and youth. In Serbian.]. Belgrade: City's secretariat for sport and youth of the city of Belgrade.
- Kundrat, V. (1979). *Problemi intenzifikacije opterećenja u fizičkom vaspitanju dece u predškolskim ustanovama kao faktor usavršavanja nekih funkcionalnih i motoričkih sposobnosti*. [Problems of intensification of loading in physical education of children in preschool institutions as a factor of improving some functional and motor abilities. In Serbian.]. (Dissertation). Belgrade: Faculty of physical education.

- Madić, B. (1980). *Biomotoričke dimenzije kao osnova programiranja nastave fizičkog vaspitanja dece 6-tog godišta u predškolskim ustanovama*. [Biomotor dimensions as a basis of programming of physical education of children aged 6 in pre school institutions. In Serbian.]. (Master's thesis). Skopje: faculty of Medicine.
- Marković, Z., Georgiev, G., & Bogdanović, Z. (2008). Antropometrijske karakteristike i motoričke sposobnosti predškolskog uzrasta – razlike po polu. [Anthropometric characteristics and motor abilities of pre school children – differences in sex. In Serbian.]. In A. Tufekđievski (Ed.), *Collection of works from scientific congress "Programme-organizational expert and scientific dimension of university sport", Pelister 2008*, pp. 368-375. Pelister: Federation of sport in Macedonia.
- Perić, D. (1991). Komparativna analiza metodoloških sistema eksplikacije biomotoričkog statusa dece predškolskog uzrasta. [Comparative analysis of methodological systems of explication of biomotor status of preschool children. In Serbian.]. (Dissertation). Belgrade: Faculty of physical culture.
- Sabo, E. (2005). Uticaj dužine boravka u dečjem vrtiću na razvoj motoričkih sposobnosti. [The influence of a length of stay in kindergarten on the development of motor abilities of boys. In Serbian.]. *Physical culture*, 59(1-4), 17-23.
- Stanković, S. (1976) *Prilog proučavanju uticaja svakodnevnog organizovanog fizičkog vežbanja na poboljšanje određenih morfoloških i funkcionalnih varijabli i motoričkih sposobnosti kod dece starijeg predškolskog uzrasta*. [An annex to the study of influences of daily organized physical exercise on improvement of certain morphological and functional variables and motor abilities of older preschool children. In Serbian.]. (Master's thesis). Belgrade: Faculty of physical culture.
- Strel, J. (1981). *Spremembe med nekaterimi antropometričnim in motoričnimi karakteristikami v obdobju od 11. do 15. leta*. [Relations among some morphological and motor characteristics in ages 11 to 15. In Slovenian.]. Ljubljana: VTŠK - Institut za kineziologiju.
- Watson, I.R., & Lingren, H.C. (1973) *Psychology of the Child* (3rd edition). New York: John Wiley-Sons Inc.
- Zdravković, S. (1978). *Antropometrijske karakteristike i motoričke sposobnosti i njihova povezanost u dece 5. i 6. godišta*. [Anthropometric characteristics and motor abilities and their relation in children aged 5 and 6. In Serbian.]. (Master's thesis). Skopje: Faculty of Medicine.

UTJECAJ POLUDNEVNOG I CJELODNEVNOG BORAVKA NA MOTORIČKE SPOSOBNOSTI DJECE PREDŠKOLSKOG UZRASTA

Sažetak

Cilj istraživanja je bio utvrditi eventualne razlike u motoričkim sposobnostima djece predškolskog uzrasta koje nastaju pod utjecajem efekata dvije različite vremenske i dnevne strukture boravka u predškolskim ustanovama. Istraživanje je transverzalnog karaktera, realizirano u dečjem vrtiću "Dečja radost" u Svilajncu, na uzorku od 118-oro djece podijeljenih u četiri karakteristična subuzorka - prema kriteriju spola i boravka u predškolskim ustanovama i to: subuzorak od 26 ispitanika sa poludnevnom boravkom, 35 ispitanika sa cjelodnevnom boravkom, subuzorak od 23 ispitanice sa poludnevnom boravkom i subuzorak od 34 ispitanice sa cjelodnevnom boravkom. Motoričke sposobnosti procijenjene su sa šest standardiziranih kretnih zadataka. Pored postupaka deskriptivne statistike u obradi podataka dobivenih empirijskim istraživanjem, primjenjena je multivarijantna analiza varijance, univarijantna analiza varijance i diskriminativna analiza. Multivarijantnom i diskriminativnom analizom konstatirana je statistički značajna razlika i jasno definirana granica kod ispitanika i ispitanica poludnevnog i cjelodnevnog boravka, u odnosu na motoričke sposobnosti. Univarijantnom analizom varijance, statistički značajna razlika, između dvije grupe ispitanika, konstatirana je kod četiri od šest varijabli, a kod ispitanica kod dvije od šest istraživanih varijabli. Dobivena poboljšanja rezultata u prostoru motoričkih sposobnosti su statistički validan preduvjet da se o cjelodnevnom boravku, u realizaciji tjelesnog odgoja predškolskog uzrasta, može razmišljati kao o odgojno-obrazovno efikasnijem, što bi trebalo provjeravati budućim empirijskim istraživanjima.

Ključne riječi: utjecaj, poludnevni – cjelodnevni boravak, motoričke sposobnosti, predškolski uzrast

Received: March 29, 2010.

Accepted: May 10, 2010.

Correspondence to:

Asst.Prof. Živorad Marković, PhD

University of Kragujevac

Faculty of Pedagogy in Jagodina

35000 Jagodina, Milana Mijalkovića 14, Serbia

Tel: 00 381 (0)35 22 38 05

E-mail: zimarkovic@yahoo.com