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INFLUENCE OF OUT-OF-SCHOOL SPORTS/MOTOR ACTIVITY ON SCHOOL SUCCESS

VPLIV IZVENŠOLSKE GIBALNE/ŠPORTNE AKTIVNOSTI OTROK NA UČNI USPEH

Abstract

The relations between the participation in out-of-school sports activities and success in school were studied using a sample of 2023 fourth-class pupils of primary schools in the Gorenjska region (1048 boys and 975 girls). Data were collected by means of a questionnaire, which was designed based on information obtained in previous studies (Petrovi? et al., 1998). The basic goal of our research was to establish potential statistically significant differences between the frequency of participation in out-of-school sports activities and success in school as well as between the form of participation in out-of-school sports activities and success in school. Statistically significant differences between the variables were verified by means of the chi-squared test. The research confirmed that statistically significant differences do exist. Pupils who regularly participate in sports activities are more successful at learning. Similarly, there is also a statistically significant difference between learning success and the form of a sports activity. Pupils training in sports clubs or under trainers' supervision achieve better school results than those who participate in non-organised sports activities.

Key words: primary school, school success, learning success, out-of-school sports activity

Izvleček

Na vzorcu 1048 učencev in 975 učenk četrtega razreda osnovnih šol v gorenjski regiji smo ugotavljali relacije med izvenšolskim ukvarjanjem s športom in učnim uspehom. Podatke smo zbrali z anketnim vprašalnikom, sestavljenim na osnovi rezultatov predhodnih raziskav (Petrovič et al., 1998). Osnovni cilj naše raziskave je bil ugotoviti, ali obstajajo statistično značilne razlike med načinom izvenšolskega ukvarjanja s športom in splošnim učnim uspehom. Statistično značilne razlike med spremenljivkama smo ugotavljali s Hi-kvadrat testom. Raziskava je potrdila, da statistično značilne razlike obstajajo. Deklice in dečki, ki se redno ukvarjajo s športom, dosegajo boljši učni uspeh. Podobne rezultate smo ugotovili tudi pri ugotavljanju statistične značilnosti med učnim uspehom in obliko športne aktivnosti. Otroci, ki vadijo v športnih klubih in pod vodstvom trenerja, dosegajo boljši učni uspeh od tistih, ki se s športom ukvarjajo v neorganiziranih oblikah.

Ključne besede: osnovna šola, učni uspeh, izvenšolska športna dejavnost

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INTRODUCTION

The World Health Organization (WHO) has classified movement/sports inactivity among the three most common causes of mortality nowadays. The WHO quotes that lack of physical activity causes two million deaths a year. Some authors (Fras, 2001, 2002) classify smoking as the first and physical inactivity as the second mortality risk factor.

Problems related to physical inactivity occur with adults as well as children who have been assuming a sedentary lifestyle. Walking or cycling to school has been replaced by the use of the public transport, computer games and television programs have replaced playground games. According to the WHO report, more than two thirds of children are not sufficiently physically active (Agita mundo – movement for health, 2002), being thus deprived of the positive influence of movement. Research findings designate children who perform sports activities on a regular basis as those with lower percentage of fat in total body composition than children who are physically inactive (Malina, 1991; in Pišot, & Završnik, 2001). Physically active children also have higher bone density, better aerobic endurance, a higher level of functional-motor abilities (Beunen, Malina, Renson, Simons, Ostyn, & Lefevre, 1992; in Pišot, & Završnik, 2001), are less overweight and thus have a normal physical weight (Pišot, & Završnik, 2001). Transversal studies prove that even in five-year-old children with better functional activities lower values of blood pressure were recorded (Dietz, & Gortmaker, 1985; in Pišot, & Završnik, 2002).

The role of physical activity with children and adolescents is not only to assist in development of motor efficiency of their organisms and the habit of performing regular physical activity, which is the only condition preventing chronic non-contagious diseases in the adulthood. It also ensures complete bio-psychosocial development of children. Physical activity aims at establishing a proper influence on cognitive development (intellectual development, development of thought, acquisition of theoretical concepts and knowledge) as well as on emotional and social development (positive self-image and socialisation). The progress in one field causes changes and progress in other fields (Pišot, & Završnik, 2002). Therefore, the development of motor abilities in children is to be considered in a broader sense, rather than merely in relation to physical activities (Gardner, 1995).

To young people, physical activity is a way of communication, it helps them become self-confident, experience success, establish interpersonal relations and integrate into society (Agita mundo – movement for health, 2002). The role of movement in a child's social and emotional development is discussed by Tomori (1990, p. 32), stating that a lack of physical activity in childhood leads to more serious consequences later in the adulthood.

In order for the physical activity to have any effect at all it has to be performed on a regular basis. General expert opinion is that unorganized physical exercise performed once a month has no effect on the psychosomatic status of individuals, except for the publicity and hedonistic effect (Petrovič, Ambrožič, Sila, & Doupona, 1998). Expert opinion differs with respect to the definition of the frequency of a regular sports activity. Some experts consider physical activity to be regular if performed at least twice a week (Petrović, Ambrožič, Sila, & Doupona, 1996; Petrović et al., 1998), while the WHO defines regular activity as movement/sports activity performed daily for at least thirty minutes (Agita mundo – movement for health, 2002). The intensity of exercise is to be mentioned here as well. For a long time, only a highly intensive exercise - as the basic element of physical training for the physical endurance model - was considered beneficial to

health. The recent recommendations of American experts promote physical activity for a health model that differs from the previous model basically because it stimulates moderate physical activity. Today we are confident that positive effects on health result not only from a highly intensive physical activity, namely moderate movement suffices (Fras, 2001).

There is a large discrepancy between the WHO's recommendations on the frequency of regular physical activity and the frequency of weekly hours of sports education in the first years of elementary school education in the Republic of Slovenia. According to the WHO's recommendations, three school hours of physical education per week are insufficient to produce a beneficial effect on children's development. In addition to the sports education provided by schools, out-of-school movement/sports activity has to be performed, the type of activity being chosen by children and/or their parents.

Several researchers (Brilej, 1995; Končan, 1998; Lebar, 2000; Pavlič, 1997; Pirnat, 2000) studied the possibilities of performing out-of-school movement/sports activities in the Republic of Slovenia. Accurate analysis of different Slovene towns, municipalities and tourist areas was carried out, including the inventory of sports facilities, descriptions and evaluations of movement/sports programmes, analyses of the trainer staff structure and the internal organization of the performers of movement/sports activities (financing, the transition from public to private ownership, marketing) as well as the proposals for further measures aimed at increasing individuals' possibilities of joining the movement/sports activities. Research mostly focuses on the possibilities of adults, individuals, older than 18, to participate in movement/sports activity. Some research data are available about the possibilities of high-school students (age 15 to 18). Data about the possibilities of elementary-school children (age 6 to 15) are extremely rare. Therefore, an accurate study on actual possibilities of young children to join organized forms of out-of-school movement/sports activities should be carried out. In our opinion, the schools themselves represent the principal location where such activities are carried out, since they ensure the facilities and the staff involved in the performance of movement/sports activities. As such, schools represent public, non-profit and secondary providers of sports activities. They are the object of the public interest and are thus financed from the state budget.

To take a step closer to the abovementioned study, we collected data on the current situation with regards to the possibilities of children aged 6 to 15 to participate in out-of-school sports activities in elementary schools in the Gorenjska region. Elementary schools involved in the study as providers of out-of-school sports activities claimed to be satisfied with the variety of motor/sports activities offered to children of different age, gender and interest group. A third even considered their offer to be excellent. However, it would be interesting to compare their claims to the opinions of children participating in those activities. According to schools, the interest for the motor/sports activities they offer is considerable, in some schools even exceptional. They estimate the current facilities for motor/sports activities to be very good (more than 25%), adequate (approximately 50%), bad (less than 25%). Schools were also asked to comment upon the possibilities of further expansion of the motor/sports activities. The main reservation, as stated by the providers of the motor/sports activities, was the additional education of the current staff and recruitment of new trainers. The lack of adequate staff is the major problem. Trainers involved in sports programmes in schools are financially poorly rewarded. As a consequence, most trainers soon give up voluntary work, which in turn results in lower quality of motor/sports programmes and less qualified trainers. It prevents schools from offering each child an out-of-school activity that suits his developmental characteristics and personal interests' best.

Organized motor/sports activity, being conducted by professional staff, is generally considered to be of higher quality than non-organized exercise in terms of intensity, duration, type of exercise and the course of progress. However, it should be stressed that not all forms of organized sports activities are quality exercise. In order to determine the level of quality of the performance of sports activities, data on trainers' education do not suffice. The actual quality of the performance of the motor/sports activities should be evaluated. Different approaches are adopted in working with children than in working with adults. Quality planning, namely the choice of adequate contents of sports activities, and quality performance of the motor/sports activities with children must include the knowledge of the basic rules of children's growth and development as well as their developmental characteristics. One-sided goals are not based on this principle. As such, they do not take into account the primary goals of sports activities on the part of the children (creativity, success, pleasure, amusement, play) and lead to approaches and methods (the choice of unsuitable learning techniques and teaching methods) that are incongruent with the principles of motor development, psychomotor learning and are in addition aggressive to children (Pišot, 1999).

Quality motor/sports activity has a positive effect on children's development. At the same time, it develops all abilities and personal characteristics required to achieve success in school. The general learning success depends on a number of different factors. Some of them are external, which a child cannot influence in any way. These factors are the education within the family, the social and economic status of the family, the broader milieu, teacher's errors in the evaluation and physical conditions of the environment (temperature, light, noise, furniture and other equipment, learning facilities). Different means and approaches (for example, movement) may influence some internal learning factors, namely physiological factors (the learner's physical condition, health and emotional state) and psychological factors (intellectual and emotional abilities, the learner's self image, certain personality traits like caution, accuracy and persistence, cognitive styles and previous knowledge) (Marentič-Požarnik, 1988).

The relationship between out-of school motor/sports activities and learning success has so far seldom been the object of research, however, most of the research findings report a positive statistical correlation between the two.

In the research by Petrovič, Strel and Ambrožič (1982) a correlation was made between the general learning success, the grade in mathematics and the out-of-school motor/sports activities of children. The relation between the level of participation in out-of-school motor/sports activities and good learning results proved to be statistically significant. The best learners achieved both the highest grades in school and acquired the highest level of motor abilities. Female learners who achieved excellent learning success in mathematics also achieved the highest levels of motor abilities.

Papič (1997) studied the relationship between the level of motor abilities and grades in mathematics. In her research, she related grades in mathematics to values in the sports educational file of children attending classes one to four. The research involved 287 school children. They were divided into two groups according to their learning success in mathematics (77 children with excellent grade) and according to the values in their sports educational file (54 children with above average values). The research data prove the relation between the grade in mathematic and motor abilities represented by the values in the sports educational file to be statistically significant. Thus, elementary school children (class one to four) with above average results in the sports educational file, i.e. children who participated in regular quality motor/sports activities,

also achieved high learning success in mathematics. Also, children with excellent grade in mathematics achieved high results in the sports educational file (Papič, 1997).

Novak (1998) studied the relationship between the general learning success and swimming abilities of 328 school children attending the third class in eleven elementary schools in Koper. She discovered statistically significant relations between swimming abilities and learning success. The relations were more evident with girls. School children with highly developed swimming abilities achieved a better learning success.

The research conducted by Petkovšek (1984) studied the correlation between the out-of-school sports activity frequency and the general learning success. She discovered motor/sports activity increased in proportion to learning success. Most children with excellent and very good learning success frequently participated in sports activities, while children with good and sufficient learning success participated in sports activities only occasionally. Children with insufficient grades never participated in sports activities.

The research carried out so far points to a statistically significant relation between the motor/sports activity and the general learning success. In our research, the problem and the goal were based upon these findings. However, the focus of our study was the relation between the frequency (regular, occasional) and the form (organized, non-organized) of participation in out-of-school sports activities and general learning success. Statistically significant relations were sought with school children attending the fourth class of elementary schools in the Gorenjska region. Our hypothesis stated that children regularly engaged in organized forms of sports activities achieve a better learning success than children engaged in sports activities occasionally and in non-organized forms.

METHOD

Participants

The research covered elementary schools in the Gorenjska region. In June 2000 fourth-class children were asked to participate - from 34 central schools or 69 elementary schools considering also the branch schools. As many as 33 central schools and their branch schools in the Gorenjska region confirmed their co-operation in the research. The final number of respondents was 2023 - of which 1048 males and 975 females, namely 84.3% of children initially involved in the study. A high response rate provides for the objectivity of the data obtained in the research.

The youngest child was nine years old and the oldest was thirteen years old. The average age of children involved in the research was 10.5 years (SD = 0.5 year).

Instruments

The questionnaire used in this study was designed on the basis of data collected in the longitudinal researches by Petrovič, Ambrožič, Sila, & Doupona (1996, 1998). The purpose of the questionnaire was to carry out an inquiry among children attending the fourth class. The questionnaire included the following variables: gender, age, frequency or level of participation in out-of-school sports activities.

Respondents were asked to evaluate how often they participate in sports activities. Frequency of participation was evaluated on 6-point scale (value 1: "I do not participate in sports activities at all."; value 2: "I participate in sports activities a couple of times a year."; value 3: "I participate in sports activities once to twice a month."; value 4: "I participate in sports activities once a week."; value 5: "I participate in sports activities twice to three times a week."; value 6: "I participate in sports activities every day.").

Answers were interpreted by means of three variables:
a) Regular sports activity (values 5 and 6);
b) Occasional sports activity (values 2, 3 and 4), and
c) Non-active (value 1).

Form of participation in the sports discipline most frequently practised by individual respondents.
Respondents were also asked to choose one or more forms among seven forms (form 1: "I train in a sports club."; form 2: "I train in a sports association / school group."; form 3: "I train under a trainer's supervision."; form 4: "I do not train."; form 5: "I participate in sports activities alone or with my parents."; form 6: "I participate in sports activities with friends."; form 7: "I do not participate in sports activities at all.") of participation in the sports disciplines given. If no given forms applied to an individual pupil, they could write their additional answer.

Answers were interpreted by means of three variables:
a) Organized form of sports participation (forms 1, 2 and 3)
b) Non-organized form of sports participation (forms 4, 5 and 6)
c) Non-participation in sports activity (form 7).

General learning success was evaluated as the general learning success in the third grade of the elementary school or in the previous school year.

Procedure

Data were collected from June 1 to June 23, 2000. The first contact with schools participating in the research was established by means of a telephone conversation with the school's headmaster. After the headmaster agreed to the school's participation in the research, the administration of questionnaires was discussed (with the headmaster and the fourth-grade teacher(s)). In some schools researchers personally explained the teachers and pupils the purpose of the inquiry and gave general instructions for the administration of the questionnaire, whereas other schools decided to carry out the inquiry using in-house staff. Questionnaires were sent to the latter, with instructions and a stamped envelope for the filled-in questionnaires attached. In both cases, pupils individually filled in the questionnaires. Additional explanations, if needed, were given by the researcher present or by the teacher supervising the inquiry. The expected time for the administration of the questionnaires was ten minutes, thus the inquiry was carried out either during the break, during or after the school lessons.

In accordance with the goals and hypotheses of the research, basic statistical parameters (frequency of individual answers, cumulative frequency, arithmetic mean, minimum and maximum value, standard deviation) were calculated for individual variables. Contingency tables were used to determine statistically significant relations between the frequency of participa-

tion in movement/sports activities and the general learning success as well as relations between the form of participation in movement/sports activities and the general learning success. The dependence between the variables was verified by means of the chi-squared test.

RESULTS

Table 1: Classification of school children according to the general learning success

LEARNING SUCCESS	f	f%	F
insufficient	15	0.7	0.7
sufficient	102	5.0	5.8
good	393	19.4	25.2
very good	662	32.7	57.9
excellent	851	42.1	100.0
Total	2023	100.0	

Legend:
f – frequency or number of values
f% - percentage of values
F – cumulative frequency

M = 4.10
SD = 0. 93

The general school success is represented in each value with the school children attending the fourth class in elementary schools in the Gorenjska region. Data in the Table 1 indicate that in the third grade (the school year 1998/99) the majority of these children achieved excellent general school success (42.1%), 12.3% achieved very good general school success, while the rest were less successful. Insufficient results were recorded only in 0.7% of children. The arithmetic mean (M) of the general school success of children involved in the research was very good. This data is confirmed also by low standard deviation (SD).

The largest share of pupils with excellent and those with very good school success participate in out-of-school sports activities at least two to three times a week. The majority of children with good learning success engage in sports activities every day. The bulk of children with sufficient and insufficient learning success participate in motor/sports activities two to three times a week (see Table 2). Of physically inactive children most are pupils with good learning success (34.1%). The majority of pupils engaging in sports activities occasionally achieved excellent and very good learning success. However, their share among all respondents is 20.4 % of all pupils with very good and 13.7 % of pupils with excellent school success. Pupils with excellent learning success are by far the most physically active. As much as 79.5 % of pupils with excellent learning success engage in sports activities at least twice a week, their share being 33.4 % of the total. The results indicate that the increase in learning success (the number of successful children) is parallel to the frequency of out-of-school motor/sports activity. There is an important difference in learning success between pupils engaging in sports activities regularly and those engaging in sports activities occasionally. Learning results of children participating in sports activities once a week are more similar to those of children participating in sports activities occasionally than to those of children who engage in sports activities regularly. The chi-square test proved the difference between the frequency of engagement in out-of-school sports activities and the general learning success to be statistically significant. These variables are highly correlated.

			GENERAL LEARNING SUCCESS				Total
			insufficient, sufficient	good	very good	excellent	
VALUE	1	fe	16	60	58	42	176
		ft	10.2	34.2	57.6	74.0	176.0
		%VALUE 1	9.1%	34.1%	33.0%	23.9%	100.0%
		%SUCCESS	13.7%	15.3%	8.8%	4.9%	8.7%
		%Total	0.8%	3.0%	2.9%	2.1%	8.7%
	2	fe	2	13	26	22	63
		ft	3.6	12.2	20.6	26.5	63.0
		%VALUE 2	3.2%	20.6%	41.3%	34.9%	100.0%
		%SUCCESS	1.7%	3.3%	3.9%	2.6%	3.1%
		%Total	0.1%	0.6%	1.3%	1.1%	3.1%
	3	fe	3	20	17	22	62
		ft	3.6	12.0	20.3	26.1	62.0
		%VALUE 3	4.8%	32.3%	27.4%	35.5%	100.0%
		%SUCCESS	2.6%	5.1%	2.6%	2.6%	3.1%
		%Total	0.1%	1.0%	0.8%	1.1%	3.1%
	4	fe	14	49	92	89	244
		ft	14.1	47.4	79.8	102.6	244.0
		%VALUE 4	5.7%	20.1%	37.7%	36.5%	100.0%
		%SUCCESS	12.0%	12.5%	13.9%	10.5%	12.1%
		%Total	0.7%	2.4%	4.5%	4.4%	12.1%
	5	fe	48	123	235	340	746
		ft	43.1	144.9	244.1	313.8	746.0
		%VALUE 5	6.4%	16.5%	31.5%	45.6%	100.0%
		%SUCCESS	41.0%	31.3%	35.5%	40.0%	36.9%
		%Total	2.4%	6.1%	11.6%	16.8%	36.9%
	6	fe	34	128	234	336	732
		ft	42.3	142.2	239.5	307.9	732.0
		%VALUE 6	4.6%	17.5%	32.0%	45.9%	100.0%
		%SUCCESS	29.1%	32.6%	35.3%	39.5%	36.2%
		%Total	1.7%	6.3%	11.6%	16.6%	36.2%
Total		fe	117	393	662	851	2023
		ft	117,0	393.0	662.0	851.0	2023.0
		%VALUE	5.8%	19.4%	32.7%	42.1%	100.0%
		%SUCCESS	100.0%	100.0%	100.0%	100.0%	100.0%
		%Total	5.8%	19.4%	32.7%	42.1%	100.0%

Table 2: Differences in the general school success according to the frequency of participation in sports activities
Legend:

fe – empirical (actual) frequencies
ft – theoretical frequencies
value 1: Absence of participation in sports activities.
value 2: Participation in sports activities a couple of times a year.
value 3: Participation in sports activities once to twice a month.
value 4: Participation in sports activities once a week.
value 5: Participation in sports activities twice to three times a week.
value 6: Participation in sports activities every day.

			GENERAL LEARNING SUCCESS					Total	Pearson's χ^2
			insufficient	sufficient	good	very good	excellent		
FORM	1	fe	5	18	95	194	266	578	0.011
		ft	4.3	29.1	112.3	189.1	243.1	578.0	
		%FORM 1	0.9%	3.1%	16.4%	33.6%	46.0%	100.0%	
		%SUCCESS	33.3%	17.6%	24.2%	29.3%	31.3%	28.6%	
		%Total	0.2%	0.9%	4.7%	9.6%	13.1%	28.6%	
	2	fe	1	20	58	98	132	309	0.632
		ft	2.3	15.6	60.0	101.1	130.0	309.0	
		%FORM 2	0.3%	6.5%	18.8%	31.7%	42.7%	100.0%	
		%SUCCESS	6.7%	19.6%	14.8%	14.8%	15.5%	15.3%	
		%Total	0.0%	1.0%	2.9%	4.8%	6.5%	15.3%	
	3	fe	1	20	73	183	247	524	0.000
		ft	3.9	26.4	101.8	171.5	220.4	524.0	
		%FORM 3	0.2%	3.8%	13.9%	34.9%	47.1%	100.0%	
		%SUCCESS	6.7%	19.6%	18.6%	27.6%	29.0%	25.9%	
		%Total	0.0%	1.0%	3.6%	9.0%	12.2%	25.9%	
	4	fe	0	25	74	82	68	249	0.000
		ft	1.8	12.6	48.4	81.5	104.7	249.0	
		%FORM 4	0.0%	10.0%	29.7%	32.9%	27.3%	100.0%	
		%SUCCESS	0.0%	24.5%	18.8%	12.4%	8.0%	12.3%	
		%Total	0.0%	1.2%	3.7%	4.1%	3.4%	12.3%	
	5	fe	2	26	102	210	306	646	0.002
		ft	4.8	32.6	125.5	211.4	271.7	646.0	
		%FORM 5	0.3%	4.0%	15.8%	32.5%	47.4%	100.0%	
		%SUCCESS	13.3%	25.5%	26.0%	31.7%	36.0%	31.9%	
		%Total	0.1%	1.3%	5.0%	10.4%	15.1%	31.9%	
	6	fe	5	48	172	314	387	926	0.662
		ft	6.9	46.7	179.9	303.0	389.5	926.0	
		%FORM 6	0.5%	5.2%	18.6%	33.9%	41.8%	100.0%	
		%SUCCESS	33.3%	47.1%	43.8%	47.4%	45.5%	45.8%	
		%Total	0.2%	2.4%	8.5%	15.5%	19.1%	45.8%	
	7	fe	2	1	14	2	4	23	0.000
		ft	0.2	1.2	4.5	7.5	9.7	23.0	
		%FORM 7	8.7%	4.3%	60.9%	8.7%	17.4%	100.0%	
		%SUCCESS	13.3%	1.0%	3.6%	0.3%	0.5%	1.1%	
		%Total	0.1%	0.0%	0.7%	0.1%	0.2%	1.1%	
Total		fe	15	102	393	662	851	2023	
		ft	15.0	102.0	393.0	662.0	851.0	2023.0	
		%FORM	0.7%	5.0%	19.4%	32.7%	42.1%	100.0%	
		%SUCCESS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
		%Total	0.7%	5.0%	19.4%	32.7%	42.1%	100.0%	

Table 3: Differences in the general school success according to the form of participation in sports activities

Legend:

fe – empirical (actual) frequencies
ft – theoretical frequencies
form 1: Training in a sports club.
form 2: Training within a sports association / school group.
form 3: Training under a trainer's supervision.
form 4: Absence of training.
form 5: Participation in sports activities alone or with my parents.
form 6: Participation in sports activities with friends.
form 7: Absence of participation in sports activities.

The results of the research confirm a statistically significant relationship between the general learning success and the frequency of participation in out-of-school sports activities (Table 3). Children participating in organized forms of out-of-school sports activities achieve better learning success. Respondents engaged in sports activities in sports clubs or under a trainer's supervision achieved a significantly better learning success than respondents engaged in non-organized forms of sports activities or those who do not participate in sports activities at all. The best statistical correlation was established between the learning success and organized sports activity supervised by a trainer (the independence hypothesis was refused by means of risk lower than 0.0%). In terms of statistical characteristics, the participation in sports activities in sports clubs lagged only slightly.

The importance of organized forms of sports activity is also confirmed by poor learning success of children not engaged in any form of sports activity. The largest share of those achieved good learning success (60.9%). Children with sufficient and insufficient learning success represent an extremely large share, namely 13.3% out of 19.8% of all respondents who stated complete absence of participation in sports activity. Children who are not engaged in any form of sports activity achieve the lowest learning success out of all fourth-grade children in the Gorenjska region. Between the variables a statistically significant correlation was established.

The learning success and participation in sports activities with parents or individually highly correlate ($p = 0.00$). Children engaged in this form of sports activity achieved better learning success. However, the results are questionable due to the fact that the statement given in the questionnaire is not explicit enough (engaging in sports activity with parents should be stated separately from individual engagement in sports activity) and because of the multiplicity of statements chosen, since the data analysis took into account all answers of a respondent, not only the answer indicating the most characteristic out-of-school sports activity. The same is true of the results indicating a statistically significant relationship between the learning success and the form of sports engagement by the statement 'I do not participate in sports activities at all'.
The results also showed that engagement in sports activities with friends and participation in school sports associations/groups are not correlated.

DISCUSSION

The research confirmed a statistically significant relationship between the frequency of out-of-school motor/sports activity and the general learning success as well as between the form of out-of-school motor/sports activity and the general learning success. Children participating in sports activities on a regular basis achieve better learning success. The independence hypothesis between the variables was refused by means of risk lower than 0.0 %. The same results were recorded as the dependence between learning success and the form of sports activity was established. Children who train in sports clubs and those engaging in sports activities under a trainer's supervision achieve better learning success than those participating in non-organized forms of sports activity.

These results match the results obtained in similar studies. The research carried out by Petrovič, Strel, & Ambrožič (1982), and Petkovšek (1984) shows that regular participation in organized sports activities, besides the obligatory sports education in schools three times a week, is significantly related to better learning success.

The results mentioned above probably allow for numerous interpretations. It is feasible that greater participation in sports activities on the part of more successful children originates in the fact that they are interested in many different matters and thus participate in different out-of-school activities, including sports activities. Better learning success also prevails on parents to allow their children to spend their free time participating in various out-of-school activities, instead of spending it all on the preparation for the following school day. When learning success becomes poorer, the first measure parents usually take is to prevent their children from further participation in out-of-school activities.

The second and a more likely interpretation of the relationship between out-of-school participation in sports activities and learning success is based on scientific findings related to the integration of a child's development. Movement or participation in sports activities conditions children's development in general. A weakened motor development also means a weakened cognitive, emotional and social development. Movement thus also develops personal characteristics representing the internal factors in the learning success, namely physiological factors (the learner's physical condition, health and emotional state) and psychological factors (intellectual, emotional and social abilities as well as the learner's self image). According to the theory on internal and external factors in learning success, movement/participation in sports activities could be defined as an external factor with crucial influence on the formation of internal factors.

However, we have no evidence of the actual influence of sports exercise on learning success. To obtain such evidence, an experimental study should be carried out, so that results of the experimental group could be compared to those of the control group. Only by means of an experimental research it would be possible to draw conclusions based on actual scientific data regarding the effect of movement/sports activity on learning success.

On the basis of the findings of our research we may conclude that it is of critical importance to enable every child to engage in organized forms of the sports activity (s)he is interested in, that is the sports activity (s)he prefers. (S)He will attend such sports activity regularly, thus developing in all areas as much as possible. "Since the basic condition for quality, effective and pleasant participation in sports activities is complied with only when a sports activity is chosen according to an individual's interests and wishes as well as adjusted to their needs, capabilities and knowledge" (Pišot, & Sila, 2000, p. 182).

In our opinion, school represents a unique opportunity for schedule, organization, logistics and supervision of movement activities for young people. It is the school's duty and responsibility to ensure all aspects of children's and adolescents' growth and development. According to the data by the WHO, in most countries the school's regular sports activity programme is the only systematic opportunity for young people to participate and learn about physical activity (Agita mundo – movement for health, 2002).

Healthy individuals represent a social and economical benefit for a state. Regular physical activity results in lower health care costs, higher productiveness, more successful education, less sick leaves and greater economical profit (Agita mundo – movement for health, 2002). Physical activity and health bear positive effects on the society as a whole, thus they change from a merely private gain into the public gain, accounting for public finance invested into activities that promote motor/sports activity and a healthier lifestyle. So we should continue to strive for the adoption of effective public health measures aimed at promoting physical activity and, consequently, improvement of public health (Pišot, & Završnik, 2002).

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