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MONITORING OF SPRET EFFECTS ON SENIOR ELEMENTARY SCHOOLBOYS AND SCHOOLGIRLS INVOLVEMENT IN RECREATION

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Abstract

Purpose. Development of technology facilitates the production and communication, but at the same time reduces physical activities necessary for pupils in order to ensure them proper growth and development in biological, motor and social terms. The model of sporting-recreational competitions of pupils, SPRET, fosters self-organization and it is based on public records of participating students in those activities that they themselves created.

Methods. In a sample, consisting of 89 boys and 82 girls, SPRET model was experimentally applied for a period 21 day. Each individual participation is marked and additional points are given for successfulness in competitions and contribution to the organization. There is only a team placement that is based on participation of an individual from a particular class. The project object is the degree of pupils' engagement in extracurricular sporting-recreational activities. We monitored the effects of SPRET model application on increase of the volume of extracurricular activities of elementary school pupils during the experimental realization of the project and three months later.

Results. Girls' involvement in recreation raised after the SPRET model application from 17.1% to 31.7% in those female pupils who are regularly engaged in recreation (at least three times a week), and three months after the number of these pupils decreased slightly to 28.0%. Statistically significant difference compared to the initial measurement is $p = 0.00$, the value of $\chi^2 = 24,713$ at 8 degrees of freedom. In boys, involvement in recreation raised from 39.3% to 40.4% after the project, i.e., 41.6% three months later, in those pupils who are regularly engaged in recreation. Statistically significant difference is on the level $p = 0.02$, the value of $\chi^2 = 18,212$ at 8 degrees of freedom.

Conclusions. After SPRET model application, physical activity of both male and female pupils has permanently raised.

Keywords: SPRET Model, public records, encouraging to physical activity, pupils' involvement, pupils' organization

Introduction

In order to find ways that would make pupils interested in physical activity, we are seriously addressing the idea of sporting-recreational competitions (hereinafter SPRET) in elementary school. SPRET is organized as an extracurricular activity and is based on pupils' self-organization, where it raises awareness of the importance of physical education and the need for constant physical activity. Linking PE instruction to life and work becomes a necessity of modern teaching process. Nowadays, pupils are very burdened with daily school tasks. In school, most of the time they spend sitting, and after the classes they are loaded with plenty of homework, which, again, they do in sitting positions. Additionally, reading and participating in various school clubs again means sitting. Studying, studying and just studying or inactivity, inactivity and just inactivity. However, we do not advocate the thesis that one should not study and be a good student, but we only want to point out the problem and the importance of physical education in classes, especially in form of extracurricular forms of work. A pupil is a "working" human with round the clock duties. Stress due to assessment, checking and writing assignments are additional burden to pupils. Students should rest, rehabilitate, they should be offered to satisfy their needs for motion. Through regular physical education classes it is not possible to affect properly growth and development, in order to improve health and create habits for exercising.

This leads to the necessity of imposing extracurricular forms of work. However, when selecting the, attention should be paid to what students really want, to their interests. The desire and need for socializing, travel, sports and recreational activities dominate in adolescent period (D. Pantic, 1981; B. Bokan, 1985). Hence the need, or better said, the obligation of physical education teachers to design and implement contents through which students will meet their needs and desires, aimed at healthy life where physical activity is part of the culture of living. Primary Education Curriculum stipulates that the third PE class, which is regular and compulsory for all students, is for the students to choose activity, sport which they prefer according to the possibilities offered by particular schools and local community. This class in expanded form should be realized in extracurricular time where students can choose activities for themselves, an activity to participate in, and through which they will be realized. However, school clubs are attended by a small number of students - only the most capable, while others have no place in them.

The period of puberty and adolescence is deemed to be period of great and tumultuous changes

in the life of every individual, both in physical and in psychological development and maturation. It is a period when a strong need of self-actualization and self-affirmation emerges in all students. The advocate of humanistic psychology, Abraham Maslow (A.H. Maslow, 1982) puts emphasis on the motive for self-actualization sometimes even before the basic biological motives for survival, such as, for example, hunger. Puberty is a very sensitive period in the life of every human being and should be filled with diverse range of contents through which the student will become aware of his/her values and qualities. Each person is searching for his/her identity which is fully established only when a person experiences himself/herself as a fully separated individual from the others, with specific, unique composition of needs, motivations, value system, style, behavior, and all integrated in a firm and connected system (N. Kapror-Stanulović, 1988, pp. 105).

SPRET Model is one of the ways that enables each student to find the activity for himself/herself, the activity in which he/she can fully distinguish himself/herself. For, although all students attend PE classes, only few schools organize additional sports activities within the school. Only, the already affirmed athletes - those who are already competing in their clubs - participate in school competitions. However, SPRET model involves all students regardless of gender, age, ability, weight. In our SPRET model students are encouraged to participation and creativity. They choose from the offered range of sports and recreational activities where and how to participate. Scoring system that rewards each initiative and creativity, shall induce students to organize events on their own, which further motivates and educates them, as the organization requires different knowledge and skills that must be acquired to make the whole thing successful. The role of PE teachers is reflected in orienting of students in the right direction, helping them to organize and channel their energies towards acquiring new knowledge, skills, and abilities, because success will further motivate them to be active.

Research methods

The main method used in this study is an experiment. We have chosen this method because it is a rational and objective method. The initial measurement was done and then an experimental factor was applied. The final measurement was performed after administration of the experimental factor. The third measurement was performed three months later to determine the durability of the achieved effects. The experiment was done with a single group.

The aim of the research

The aim of this research is to monitor the effects SPRET model on involvement of schoolboys and schoolgirls and monitoring of change of habits in physical activity in after-class time, as well as SPRET's effect on the regular physical education classes.

Research Tasks

The research tasks were:

1. To incite schoolboys and schoolgirls to physical activity, so that physical culture should become part of the culture of living.
2. Nurture the habit of exercising so that it continues to exist for a long period of time, for at least three months after our project in pupils both sexes.

Hypotheses

1. Involvement in physical activities of schoolboys and schoolgirls shall increase in after-class time.
2. Increased involvement of schoolboys and schoolgirls in physical activities during in after-class time shall last for at least three months after the project.

Statistical data processing

Within the descriptive statistical analysis for each of the variables in which the results are expressed in proportional or scale rank, the measures of central tendency (arithmetic mean) will be determined as well as the measures of result dispersion (variance, standard deviation, arithmetic mean). The form of data distribution in these variables will be determined by indicators of skewness and kurtosis curve distribution. The assessment of the degree of data

Research results with discussion

Table 1. Involvement of boys in recreation in free time

			Involvement in recreation					Total
			1	2	3	4	5	
			Never and I do not care	Never but would like to	Sometimes, when I have time	Yes, at least once a week	Regularly at least three times a week	
Measurement	1	Count	3	12	23	16	35	89
		% initial	3,4%	13,5%	25,8%	18,0%	39,3%	100%
	2	Count	1	1	33	18	36	89
		% final	1,1%	1,1%	37,1%	20,2%	40,4%	100%
	3	Count		3	23	22	37	89
		% after three months		4,5%	3,4%	25,8%	24,7%	41,6%%
Total		Count	8	16	79	56	108	267
		%	3,0%	6,0%	29,6%	21,0%	40,4%	100%

$$\chi^2 = 18,212$$

$$DF=8$$

$$p = 0.02$$

For the questionnaire item number 9 "People in their free time, you of course, are engaged in various activities. How often in your free time do you active go in for some sports or recreation?" (Table 1), there is a

distribution matching in the population from which the samples with normal distribution were extracted shall be determined based on the results of the test set by Kolmogorov and Smirnov.

The main data distribution is displayed in the descriptive statistics with the usual indicators of mean value and dispersion of responses by the standard deviation and variance coefficient. Statistically significant differences in response categories in all three measurements were tested by χ^2 .

Data processing was done in the applicative computer statistical program SPSS 12.0 for Windows.

For monitoring the effects of SPRET model in continuous scale of intensity, a comparative statistical method of t-test was used comparing the arithmetic means between the three measurements.

The survey used a questionnaire technique to collect data immediately before, three weeks later, i.e., upon the completion of the experiment and 3 months after the project realization. Five-degree Likert type scale technique was used to range the answers.

Instruments

A questionnaire was used as the basic instrument (Appendix 3), uniform before and after the testing. The questionnaire was used at the territory of Belgrade in the survey which included 506 students in five primary and five secondary schools in December 1988 (D. Mitic, 2001; pp. 163-169). We compared our data with this survey and some other surveys performed in diploma papers. The questionnaire was modified in several items, adapted to our project and it contains 26 cloze type items.

statistically significant difference $p = 0.02$, value of $\chi^2 = 18.212$ at 8 degrees of freedom. This indicates to the fact that in the course of the project, the students' involvement in sport and recreation significantly increased.

The number of boys who were engaged recreation in their free time "regularly, at least three times a week" increased after the experiment from 39.3% to 40.4%. In the next three months the number

of students increased to 41.6% (Table 1). The boys showed a desire for regular exercise during and after the application of SPRET model.

Table 2. Involvement of **girls** in recreation in free time

			Involvement in recreation					Total
			1	2	3	4	5	
			Never and I do not care	Never but would like to	Sometimes, when I have time	Yes, at least once a week	Regularly at least three times a week	
Measurement	1	Count	7	10	32	19	14	82
		% initial	8,5%	12,2%	39,0%	23,2%	17,1%	100%
	2	Count	1	3	37	15	26	82
		% final	1,2%	3,7%	45,1%	18,3%	31,7%	100%
	3	Count	1	2	46	10	23	82
		% after three month	1,2%	2,4%	56,1%	12,2%	28,0%	100%
Total		Count	Count	15	115	44	63	246
		%	%	6,1%	46,7%	17,89%	25,6%	100%

$$\chi^2 = 24,713$$

$$DF=8$$

$$p = 0.00$$

For the questionnaire item number 9 "People in their free time, you of course, are engaged in various activities. How often in your free time do you active go in for some sports or recreation?" (Table 2), there is a statistically significant difference $p = 0.00$, value of $\chi^2 = 24.713$ at 8 degrees of freedom. This indicates to the fact that in the course of the project, the students' involvement in sport and recreation increased.

The number of girls who were engaged recreation in their free time "regularly, at least three times a week" increased after the experiment from 17.1% to 31.7%. In the next three months the number of students increased to 28.0% (Table 1). The tendency of girls to regularly exercise is clearly evident after the application of SPRET model.

The boys showed a desire for regular exercise during and after the application of SPRET model.

Table 3. Involvement in physical activity of boys in free, after-class time

			Active daily				Total
			1	2	3	4	
			15 min.	30 min.	1 hour	More than 1 hour	
Measurement	1	Count	3	21	24	41	89
		% initial	3,4%	23,6%	27%	46,1%	100%
	2	Count	0	8	32	49	89
		% final	0%	9%	36%	55,1%	100%
	3	Count	3	13	21	52	89
		% after three month	3,4%	14,6%	23,6%	58,4%	100%
Total		Count	Count	42	77	142	267
		%	%	15,7%	28,8%	53,2%	100%

$$\chi^2 = 13,029$$

$$DF=6$$

$$p = 0.04$$

For the questionnaire item number 10 "How active are you during the day?" (Table 3), there is a statistically significant difference $p = 0.04$, value of $\chi^2 = 13.029$ at 6 degrees of freedom. The level of activity, thanks to the incitement and scoring system provided by SPRET model, increased to the fantastic one hour a day. The number of boys who have been active for over an hour a day was constantly growing so at the

first measurement it was 46.1%, 55.1% at the second and 58.4% at the third one. Taking into account that the project was done in autumn and the third measurement was in winter season when the possibility of movement, as a rule, is lower than in summer, especially in rural areas, it can be concluded that students satisfied their need to move through physical exercise in a club, sports center, school or at home.

Those boys who were active only 15 minutes a day increased their activity during the project, so that prior to the project there was 3.4% of these students

while there was 0% of them after the project, and 2.2 three months after the project. Those who were little active woke up for the duration of the project.

Table 4. Involvement in physical activity of girls in free, after-class time

			Active daily				Total
			1	2	3	4	
			15 min.	30 min.	1 hour	More than 1 hour	
Measurement	1	Count	6	22	37	17	82
		% initial	7,32%	26,83%	45,12%	20,73%	100%
	2	Count	2	25	27	28	82
		% final	2,44%	30,49%	32,93%	34,15%	100%
	3	Count	4	15	29	34	82
		% after three month	4,88%	18,29%	35,37%	41,46%	100%
Total		Count	Count	62	93	79	246
		%	%	25,20%	37,80%	32,11%	100%

$$\chi^2 = 12,00$$

$$DF=6$$

$$p = 0.06$$

With the girls there were no no statistically significant differences in involvement in physical activity in free, after-class time.

Conclusion

The number of boys who were engaged in recreation in their free time "regularly, at least three times a week" has increased after the experiment from 39.3% to 40.4%. In the next three months the number of students increased to 41.6%, which is a statistically significant difference of $p = 0.02$, value of $\chi^2 = 18.212$ at 8 degrees of freedom. The number of girls who were engaged in recreation in their spare time "regularly, at least three times a week" increased after the experiment from 17.1% to 31.7%. In the next three months the number of such students dropped to 28.0%, which is a

statistically significant difference on the level of $p = 0.0$, value of $\chi^2 = 24.713$ at 8 degrees of freedom. The tendency of students to regularly exercise is clearly noted after application of SPRET model.

The number of boys who have been active for over an hour a day has constantly been growing so at the first measurement was 46.1%, 55.1% at the second and 58.4% at the third, which is a statistically significant difference of $p = 0.04$, value of $\chi^2 = 13.029$ at 6 degrees of freedom.

This confirms the first and second hypothesis "It will increase the involvement of students in physical activity in extracurricular time" and "Increased engagement of students in physical activities in after class time lasts for at least another three months after the project.

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