

RELATIONS OF SELF-TESTIMONIES ABOUT SWIMMING SKILLS WITH THE ACTUAL SITUATION IN THE POOL

Mario Lovrić¹ and Mislav Papec²

¹Ivan Goran Kovačić Elementary school, Vinkovci, Croatia

²Graphics school in Zagreb, Zagreb, Croatia

Original scientific paper

Abstract

The sample consists of 264 pupils from two primary schools in Vukovar-Srijem County, of which 144 are pupils from elementary school M. Reljković Cerna and 120 students from elementary school Ivana Brlić Mažuranić Rokovci-Andrijaševci. The pupils originally completed a questionnaire on self-assessment of swimming knowledge according to Špehar, Gošnik and Fučkar-Reichel (2010) consisting of 12 multiple choice answers of 1 to 5 (I do not know, weak, medium, good, very good) level of swimming knowledge. The second part of the research was conducted at the Lenije swimming hall in Vinkovci, within the swimming school in the "Learn to swim" project. Pool testing was conducted in a way that the knowledge of swimming was evaluated by three kinesiologists, who based the basics of adopting swimming knowledge (Grčić-Zubčević, 1998) determined the initial condition in the pool. Multiple regression analysis established a high, statistically significant degree of correlation between the methods of assessment of swimming knowledge, and accordingly we conclude that the children in this sample well assessed their knowledge of swimming.

Key words: elementary school students, swimming knowledge, self-evaluation, multiple regression analysis.

Introduction

Swimming is an activity that is part of cyclic monostructural sports activities (Milanović, 2013), with equal movements of hands or pendulum that follow a balanced footwork. Swimming knowledge can be classified into the same important category as walking, running or jumping. Of particular importance is the importance of swimming in dangerous situations where our knowledge of swimming can save life. Also, good swimming knowledge can save another life if needed. In addition to the mentioned body, there are a number of positive factors affecting the versatile and harmonious development of man, and it can be said that swimming knowledge for modern man is directly in the function of his training and preparation for life and work in modern society (Findak, 2002). Swimming is a fundamentally and utilitatively an important motor skill that is carried out in a special medium - leads, which, by its characteristics (density, viscosity, buoyancy, hydrostatic pressure and thermodynamics), provides sports, recreational and rehabilitative activities for infants, children, adults and third-generation persons. To raise awareness and to present the benefits of the media and to carry out possible activities therein, today and in the future will represent the sports, health, education and cultural resources of society. History is the teacher of life, so it is necessary to remember the old Greeks, who compared the knowledge of swimming with literacy, so they said that the ignorant "can not read or swim". Also, there are many health benefits. Swimming has great and irreplaceable influence on the development of the child, which is manifested in the morphological, functional, psychological, biomotor and intellectual development of the young organism (Tošić, 2009). Some of them have a positive effect on the

cardiovascular system, the respiratory system, the child's posture, or the harmonious growth and development of the child. Swim or swim training in the pre-puberty increases static and dynamic volume of the lips, improving the connection and condition of the big and small airways, and shows that swimming training at this time stimulates lung growth, in line with the development of air passage and alveolar pulmonary spaces (Cuurteix, Sur., 1997). Besides contributing to improved childhood development, swimming can affect the body's posture if a disease such as scoliosis, lordosis, or obesity occurs. Since modern-day children are growing dominantly with computers and modern technology, thus neglecting movement and activity, more frequent and early problems caused by hypokinesia that reflect poor childhood, impaired bone structure, and increased subcutaneous fat tissue. In order to avoid or reduce the negative consequences of swimming, significant preventive-corrective and therapeutic influences on the organism of the young child can be achieved (Topuzov, 1999). Using water-based activities improves body shape and develops strength, coordination, volume of movement, and muscular and cardiovascular endurance (Broach and Dattilo, 1996). If the child passes the swimming school and successfully overcame, the possibility of unwanted situations and injuries is minimal. Since swimming takes place in the water medium, the joints on the joints are reduced, so bone damage is almost impossible. Also, swimming knowledge provides safety for the child, raises the level of confidence and satisfaction (Rogers, Hemmeter, Wolery, 2010). With the earliest youth, swimming and playing in the water are an indispensable activity for children to entertain. In order for a child to fit in with other children in such a game, one has to

know how to swim or unfortunately make it swim to be accepted by others. Often such behaviors lead to themselves and other children in danger of drowning. Therefore, the primary goal should be to teach the child to be safe in the water. Children learn most about the game and therefore use and use the game in swimming lessons (Nada Grčić-Zubčević, 2003). Swimming knowledge is also essential in all other water activities that are carried out either as a sport, recreation or kinesitherapy that will be used by the child both at an early age and through life. As stated above, the primary goal of non-lubricant training at younger age is safety in the water medium. The secondary goals emphasize the health benefits of swimming in middle and senior age. It is well known that a man wants to live long and high quality so swimming is an excellent "tool" that a modern man can raise the quality of life.

Problem and aim

At present, the Republic of Croatia does not undertake compulsory training of non-swimmers in elementary schools, which is a major problem due to the fact that many children are unable to attend private tuition lessons. Present are some of the projects related to training of non-swimmers carried out in larger areas of the Republic of Croatia, but this is by no means sufficient to allow all children to pass the training of the undamaged and thus reduce the possibility of unwanted situations.

There are 46% of non-swimming children in the second grade of primary school (Jusup Dodig, 2012) in Međimurje by initial check-up of the third grade of elementary school school year 2011/2012. 80% of students can not cross 25 feet (Horvat, 2012). Studies in the city of Split have shown that pupils from the second to fourth grade of primary school show a better knowledge of swimming where it is shown that 33% of the pupils (Kuzmanić, 2013). The Red Cross Society of Osijek in 2003 conducted a survey on a sample of 10500 third grade children in 186 elementary schools in Slavonia and Baranja. The results of the survey were devastating. About 60% of children of that age are non-swollen. However, in order to obtain more specific data, it is necessary to analyze the results of self-survey of the surveyed students and to conduct initial tests at the gym. Given that students evaluate their swimming significance through the survey, the question arises as to how valid this assessment is.

The concept of self-efficacy in his model of evaluation was introduced by Canadian psychologist Albert Bandura, which means assessing his / her own abilities to successfully perform different tasks or behaviors. Bandura (1997) determines self-efficacy as an individual's assessment of their own ability to organize and execute certain actions needed to achieve the desired outcomes. Rosenberg (1965, according to Bezinović, 1988) defines self-esteem as a positive

or negative attitude toward oneself. The Rosenberg Self-Esteem Scale (RSES) is based on the self-assessment and assessment of global self-esteem, e.g. a general evaluation of self-esteem. This refers to the degree of conviction of a person to his / her own abilities, their own success, importance or value (Grolnick and Beiswenger, 2006, according to Burić, Macuka, Sorić and Vulić-Prtorić, 2008). People who have high self-esteem are respectful of prices, are considered worthy and have a positive opinion about themselves.

On the other hand, people with low self-esteem are often not accepted, often underestimated and have negative opinions about themselves. Therefore, the problem of this research is to establish the correlation of self-knowledge about swimming knowledge with the objective condition in the pool. The aim of this research is to determine whether there is any correlation in the results of self-study on swimming knowledge with the assessment of pool knowledge by three experts. The correlation was tested by a five-step scale of swimming pool knowledge according to Grčić-Zubčević (1998) and a self-assessment of swimming knowledge according to Špehar, Gošnik and Fučkar-Reichel (2010) composed of 12 multiple choice answers of 1 to 5 students Subjectively evaluate the level of swimming knowledge.

Methods

Data collection

The first part of the research was conducted in the classroom. Swabian assessment questionnaire, constructed by Špehar, Gošnik and Fučkar-Reichel, 2010, was used. The questionnaire was filled by the students with the help of physical and health education teachers who are familiar with the way the questionnaire is completed. The questionnaire consisted of 12 multiple choice answers of 1 to 5 (I do not know, weak, medium, good, very good), where students evaluate the level of swimming knowledge subjectively. Participation in the research was voluntary and anonymous. The second part of the research was carried out at the Lenije Swimming Pool in Vinkovci, within the swimming school in the "Learn to Swim" project. Pool testing was conducted in a way that the knowledge of swimming was evaluated by three kinesiologists, who based the basics of adopting swimming knowledge (Grčić-Zubčević, 1998) determined the initial condition in the pool. Initial evaluation took place at the first lesson training course. Based on the demonstrated knowledge of swimming, students are divided into five categories according to defined criteria: unsuitable, floating, floating, floating beginner and swimmer.

Sample of respondents

The survey was conducted on a suitable sample of 264 students of two Vukovar-Srijem County primary schools. The sample of respondents in this study consisted of Ivana Brlić Mažuranić Rokovci-Andrijaševci elementary school students and Matija Antun Reljković from Cerna.

The sample consisted of pupils from the 5th to the 8th grade of elementary school. 264 students, 144 primary school students M.A. Reljković Cerna and 120 elementary school students from Ivana Brlić Mažuranić Rokovci-Andrijaševci were interviewed and tested.

Sample variables

The prediction set of variables is defined as 12 content claims that describe the subjective assessment of swimming knowledge. Credits are associated with five-grade grades, from grade 1 to know to grade 5 very well. The following 12 statements on swimming knowledge were evaluated: floating, keeping the eyes open under the water, swimming in deep water, jumping to the feet and head, moving from a horizontal position to a vertical one and vice versa, diving, diving for

objects from the floor, swimming front crawl, backstroke and butterfly stroke. The criterion variable is a table with ratings of the swimming knowledge of swimming ranging from 1 to 5. The described five-step scale criteria: unsuitable, buoy, semi-diver, swimmer beginner and swimmer.

Methods of data processing

The data processing was made using the software package 10.0. The first step in data processing was the classical rendering of basic statistical variables distribution parameters. For all variables, the standard central (arithmetic mean, AS) and dispersion parameters (standard deviation, SD, range, RAS, minimum, MIN, maximum, MAX, skewness, SKEW and kurtosis, KURT) are calculated. To establish the correlation of one scale with the other, a regression analysis was used.

Results and discussion

Table 1. Frequency (n) and percentage of response grouped according to subjective estimation of swimming knowledge with claims 1 to 12.

Self-estimation of swimming skills (questionnaire)		FREQ./ %	Evaluation				
			1 UNKNOWN	2 POOR	3 MEDIUM	4 GOOD	5 EXCELLENT
1.	I can float (calmly lie on the surface).	n	3	16	120	67	58
		%	1,03	6,09	45,45	25,37	21,96
2.	I can keep my eyes open under water.	n	6	31	89	80	58
		%	2,29	11,74	33,71	30,30	21,96
3.	I can swim in deep water.	n	21	105	36	60	42
		%	7,95	39,77	13,63	22,73	15,90
4.	I can jump on my feet.	n	53	82	38	76	15
		%	20,07	31,06	14,39	28,78	5,68
5.	I can jump on my head.	n	53	82	84	30	15
		%	20,07	31,06	31,81	11,36	5,68
6.	I know how to move from a horizontal to a vertical position and vice versa.	n	8	58	99	47	52
		%	3,03	21,96	37,50	17,80	19,69
7.	I can dive.	n	3	6	68	81	106
		%	1,15	2,27	25,75	30,68	40,15
8.	I can dive for objects on the bottom.	n	12	10	69	112	61
		%	4,56	3,78	26,13	42,42	23,10
9.	I can swim breaststroke.	n	9	48	111	89	7
		%	3,42	18,18	42,04	33,71	2,65
10.	I can swim front crawl.	n	99	30	52	68	15
		%	37,50	11,36	19,71	25,75	5,68
11.	I can swim backstroke.	n	152	22	22	39	29
		%	57,57	8,33	8,33	14,79	10,98
12.	I can swim butterfly stroke.	n	196	16	31	14	7
		%	74,24	6,06	11,75	5,30	2,65

Legend: n - entities; %- percentage

Table 2. Distribution (n) and percentage of total population of students in Ivana-Brlić Mažuranić Elementary School and M. A. Reljković Elementary School in 2016, grouped according to the degree of acceptance of swimming knowledge.

Swimming knowledge acquisition	Mark	N	%
1. Not adapted/unsuitable	1	108	40,90
2. Floater/buoy	2	87	32,95
3. Semi-swimmer	3	53	20,07
4. Swimmer beginner	4	8	3,04
5. Swimmer	5	8	3,04

Legend: n- entities; %- percentage

Table 3. Arithmetic mean (AS), standard deviation (SD), frequency (n) for the questionnaire according to the degree of acceptance of swimming knowledge.

SELF-ESTIMATION OF SWIMMING SKILLS (QUESTIONNAIRE) AND EVALUATION OF SWIMMING KNOWLEDGE IN THE WATER		Statistical parameters		
		n	AS	SD
1.	I can float (calmly lie on the surface).	264	3,64	0,89
2.	I can keep my eyes open under water.	264	3,64	0,96
3.	I can swim in deep water.	264	2,95	1,27
4.	I can jump on my feet.	264	2,68	1,24
5.	I can jump on my head.	264	2,57	1,15
6.	I can move from a horizontal to a vertical position and vice versa.	264	3,29	1,10
7.	I can dive.	264	4,07	0,88
8.	I can dive for objects on the bottom.	264	4,04	0,75
9.	I can swim breaststroke.	264	3,14	0,85
10.	I can swim front crawl.	264	2,50	1,36
11.	I can swim backstroke.	264	2,13	1,49
12.	I can swim butterfly stroke.	264	1,56	1,05
Evaluation of swimming knowledge in the water		264	1,95	1,01

Table 4. Beta coefficients and their significance self-assessment of their own estimation of the adoption of swim knowledge and real state in the water.

SWIMMING KNOWLEDGE ACQUISITION		Statistical parameters		
		β	T	P
1.	I can float (calmly lie on the surface).	0,17	2,35	0,0114*
2.	I can keep my eyes open under water.	-0,07	-1,02	0,0192
3.	I can swim in deep water.	0,30	3,65	0,0321*
4.	I can jump on my feet.	1,05	5,37	0,0000*
5.	I can jump on my head.	-0,07	-0,40	0,6856
6.	I know how to move from a horizontal to a vertical position and vice versa.	-0,26	-2,54	0,0115*
7.	I can dive.	0,11	1,43	0,1517
8.	I can dive for objects on the bottom.	-0,43	-7,80	0,0000*
9.	I can swim breaststroke.	0,28	5,37	0,0000*
10.	I can swim front crawl.	0,13	1,42	0,1566
11.	I can swim backstroke.	-0,25	-2,69	0,007*
12.	I can swim butterfly stroke.	-0,22	-2,44	0,0150*
Evaluation of swimming knowledge in the water		0,71	2,55	0,0115
		R= 0.81; p<0.00000*		

Legend: β - standardized regression coefficient; T-coefficient of significance; P- percentage; R-degree of correlation.

Table 1 shows the percentage of subjective responses of students who have assessed their swimming knowledge. Table 3 calculates the arithmetic mean and the standard deviation of subjective and objectively estimated swim knowledge. We can conclude that students evaluate simple floating tasks well, while more demanding elements and swimming techniques are estimated

to be poorly adopted. Multiple regression analysis (Table 4) established a high, statistically significant ($p < 0.05$) degree of correlation ($R = 0.81$; $p = 0.0000$) between two methods of assessing the swim knowledge of the students tested in the school year 2015/16. From the β coefficients value, statistically significant correlation contribution varies with 1, 3, 4, 6, 8, 9, 11 and 12 we can

conclude that the children in this sample correctly assessed their knowledge of swimming. Based on the obtained results, an alternative hypothesis is accepted which shows that there is a statistically significant correlation between the results in the self-study of the student with the actual swimming pool condition. In Table 2, the students were grouped according to an objective assessment of swimming knowledge in the pool and were classified into five groups according to the criteria for adopting swimming knowledge. From the table it is evident that the highest percentage of pupils is classified into the initial two categories: unsuitable 40.9% and buoy 32.95%.

Conclusion

The results of this research have shown that students of elementary schools Ivana Brlić Mažuranić Rokovci-Andrijaševci and Matija Antun Reljković from Cerna well rated their knowledge of swimming. Multiple regression analysis established a high degree of correlation between the two methods of assessing swimming knowledge.

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Given the results that are somewhat different than expected, it can be assumed that the influence of last year's non-swimmer training, which was attended by a large number of respondents who also participated in the study, influenced a better assessment of swimming knowledge. However, many years of practical work in non-lubricant training and the results of many authors confirm that an objective assessment of water status can not replace self-pollination as a survey.

The estimate of the swimmers' knowledge of an educated kinesiologist is much more objective. The respondent within one grade must meet more criteria, while in the self-assessment (interview) the respondent in the given statement only evaluates one criterion in a subjective manner. Therefore, self-knowledge about swimming knowledge through the survey can help us to form a "rough" and superficial image of the swim knowledge of a particular population. For a "deeper" analysis of swimming knowledge the survey is not enough and it is necessary to use the swim swimming assessment of swimmers.

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POVEZANOST SAMOISKAZA O ZNANJU PLIVANJA SA STVARNIM STANJEM U BAZENU

Sažetak

Uzorak ispitanika čini 264 učenika dviju osnovnih škola Vukovarsko-srijemske županije, od čega su 144 učenika iz osnovne škole M. A. Reljković Cerna te 120 učenika iz osnovne škole Ivane Brlić Mažuranić Rokovci-Andrijaševci. Učenici su prvotno ispunjavali upitnik o samoprocjeni plivačkog znanja prema Špehar, Gošnik i Fučkar-Reichel (2010) koji se sastoji od 12 tvrdnji s višestrukim izborom odgovora od 1 do 5 (ne znam, slabo, osrednje, dobro, izrazito dobro) kojima učenici subjektivno procjenjuju razinu znanja plivanja. Drugi dio istraživanja proveden je na vinkovačkom dvoranskom plivalištu „Lenije“, u sklopu škole plivanja u projektu „Naučimo plivati“. Testiranje u bazenu je provedeno na način da su znanje plivanja ocjenjivala tri kineziologa, koji su na temelju ljestvice usvojenosti znanja plivanja (Grčić-Zubčević, 1998.) utvrdili inicijalno stanje u bazenu. Višestrukom regresijskom analizom utvrđen je visok, statistički značajan stupanj korelacije između dvije metode procjene plivačkog znanja pa sukladno tomemožemo zaključiti da su djeca u navedenom uzorku dobro procijenila svoje znanje plivanja.

Ključne riječi: učenici osnovne škole, samoiskaz, stvarno znanje plivanja, višestruka regresijska analiza.

Received: January 03, 2017

Accepted: March 20, 2017

Correspondence to:

Mario Lovrić

Ivan Goran Kovačić Elementary school,

Vinkovci, Croatia

Tel: 032 332 390

E-mail: ured@os-igkovacica-vk.skole.hr