INFLUENCE OF SOME BASIC MOTOR ABILITIES ON THE PERFORMANCE OF BUNNY HOP MOVEMENT

Edis Begatović[1], Almir Atiković[2], Ivan Čuk[3] and Maja Bučar Pajek[3]

[1] *Faculty of Pedagogy, University of Bihać, Bosnia and Herzegovina*
[2] *Faculty of Physical Education and Sport, University of Tuzla, Bosnia and Herzegovina*
[3] *Faculty of Sport, University of Ljubljana, Slovenia*

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Abstract
With this research we wanted to establish whether there is a significant influence of some primary motor abilities on the prediction of success in mastering and performing a basic sport movement called bunny hops on floor. The sample of examinees consisted of (n=97) boys and (n=92) girls of the primary Catholic school centre „Saint Franjo" in Tuzla and their grades range from 1st to 9th, aged between 6 and 15. The sample of predictor variables consisted of the 14-test battery for the estimation of motor abilities. The criteria variable is bunny hop on 9 meters (s). Relations between motor indicators and mark efficiency in executing the situation dynamic stereotype are analysed by the regression analysis. Variable polygon backward has the greatest positive statistically significant influence on preformance, and the reason for it is in the fact that the co-ordination of whole-body movements is in a direct correlation boys (r: 0.625, p<0.01) and girls (r: 0.690, p<0.01) because it has a similar structure movements with the efficiency of the bunny hop performance on the floor. The results of regression analysis predictor system variables explained (boys R .731; girls R .778) of common variance with the criterion, while the correlation of the entire system of predictor variables with the criterion, coefficient of multiple correlation is (boys R^2; .534; girls R^2; .605).

Keywords*: motor abilities, bunny hop, basic sport movement, artistic gymnastic, selection*

Introduction

The bunny hop is basic sport movement which is used like preparation exercises with primarly function for learning artistic gymnastic movements, and also in other sports tachniqes movements. As well it is elementary physical drill in recreation, including educational and professional sports. Bunny hop it's not the gymnastic element from Code of Points (CoP) of the Federation International of Gymnastics (FIG, 2009). It is a basic gymnastic movment that gymnasts learn through the learning process of "complex" gymnastics movment - especially vault elements. The importance of basic sport movement bunny hop (BH) is reflected in the fact that this hop or jump which is performed on the ground in its structure *has five stages (taking off, first flight phase, taking weight on hands, second flight phase, two-footed landing), that is 1/7 of the element on gymnastics vault.* Out of seven stages of vault jump (Prassas, 2002; Čuk & Karácsony, 2004; Ferkolj, 2010; Atiković & Smajlović, 2011) the BH we can use it as a warm-up and easier way of learning elements of jump in an analytical method which is most commonly used while learning gymnastics elements like these. BH are one of the most important sport movement in gymnastics on the vault (Begatović et al., 2010). This authors also did muscle - functional analysis of movment BH and with the help metode (Hay & Reid, 1982) found that the muscle groups and muscles are dominant in all five phases out the hop. Action of muscles can be presented in three main ways of muscle activity: concentric contraction, ecscentric and isometric. During the performance BH the most important role is played by a BH following muscle groups: neck, shoulder, wrist, back, thigh and ankle.

The problem of selection is fairly complex process for artistic gymnastics, in which is necessary for every element (Veličković, 1998). Many authors (Peltenburg et al., 1982; Čuk & Novak, 1985; Todorovski, 1998; Arkaev et al., 2003; FIG, 2003) state that, in artistic gymnastics, coordination and strength, among others, have the most important role. This is understandable bearing in mind that this sport is classified in the group of polystructural, conventional sports models in which core co-coordinating complex motions are derived in accordance with certain aesthetic criteria. For this reason, coordination abilities and a very important criterion when selecting candidates for artistic gymnastics. Elite gymnasts are short in stature, light, and possess high levels of strength, power, flexibility and agility (Bale & Goodway, 1990; Prescott, 1999; Sands et al., 2003).

These „ideal" anthropometric characteristics and physical prerequisites for gymnastics underlie the talent identification process (Petiot et al., 1987; Jordanov et al., 1987; Čuk & Mešl, 1990; Pauole et al., 2000; Čuk & Novak, 1985; Čuk et al., 1992). Considerable variability exists in the ability of talent-selected gymnasts to perform each apparatus. Agility, as well as, leg strength, power and speed are believed to be important physical components necessary for successful performance in many sports and recreational activities. The main problem that arises is the unequal position on how to obtain reliable information related to the quality of information obtained after testing. However, the identification of talent is only the first stage of a continuous process of development through which sporting excellence may be realised.

The contribution of talent identification to the attainment of excellence in Men's Artistic Gymnastics has yet to be conclusively determined. Moreover, as a result of the lack of longitudinal research in this area, the impact of growth and maturation upon the development of talent characteristicsin the young female gymnast is not fully understood. In terms of training, the main changes can be seen in the more systematic approach to selecting gymnasts. In the Sokol times, competitors were selected exclusively on the basis of their competition results whereas these days children are admitted to training gymnastics on the basis of their physical characteristics and mobility abilities at the age of six years Čuk & Novak (1985). Group authors (Čuk et al., 1992) in article presented five years experiences using computer-aided selection of gifted children for male and female gymnastics and rhytmic gymnastics. Čuk et al. (2007) carried out measurements of 40 top gymnasts. They analysis of identical variables has shown that there is no difference in body height and weight of the gymnasts in 1933 and those in 2000, while there is a significant difference in the width of their shoulders and pelvis, the contemporary athletes being wider in their shoulders and narrower in their pelvis. In their research (Kostić et al., 2009) was to determine the nature of the relation between the anthropometric characteristics and coordination skills on a sample of girls and boys. A multivariate analysis of variance showed that there is a statistically significant difference between the coordination skills of the boys and girls. There is no statistically significant connection between the anthropometric characteristics and coordination skills for the sample of boys, while there is one for the girls. Arkaev & Suchilin (2003) also sets the theoretical model of success of top gymnasts. Muscular strength, agility, speed-strength and special properties of durability have meticulous importance for the prognosis of success. The most important coordination abilities of gymnasts are: the ability to analyze certain individual elements of the movement and control them in time and space in terms of their manifestation in complex conditions. Todorovski (1998) explains success in artistic gymnastics as a theoretical, graphical, and for the first time, a mathematical model. Coordination, sectional speed, mobility of shoulders, hips and spine, explosive leg strength, running speed, grip strength, static strength of flexor trunk, repetitive leg strength and flexor trunk primarily have significant relation with success in artistic gymnastics. In researched Veličković (1998) the value to be gotten from the application of all the implemented coordination tests up to that time (19) which are in use for the selection of gymnasts, on a sample consisting of 228 seven year-old boys. The author determined the metric characteristics of all 19 tests and on the basis of the research results proposed a set of 8 measuring instruments for the determination of coordination skills. On the basis of the obtained results, he proposed a reduced set of 4 instruments used for measuring coordination skill to be used in practice.

Bearing on the results from authors Stanković & Malacko (2011) the biggest impact on the individual variables of body coordination have the motor variables of foot tapping on the wall, standing long jump, throwing a medicine ball by lying flat and running 20 m from a high start, and on the coordination of arms and legs variables of running 20 m from a high start, sit-ups and back extensions. Morphologyl and motor abilities have a major influence in the development and expression of co-ordination abilities of boys of this age.

Problem and aim

The main problem of this study was to determine whether some some basic motor abilities may be desirable or limiting for the process of learning and acquisition of BH itself. The aim of this study was to establish motor abilities which lead to the more successful performance of the test "bunny hop" on the 9 meters, that is, it is necessary to determine the significance and relative size of the effect of the variable of motor abilities on one-dimensional criterion defined as success in performance of movement BH.

Methods

Physical fitness tests was measured using the EUROFIT test battery (Adam et al., 1988). This battery consists of several tests which measure the basic motor capacity of the subjects. All tests were performed in the under standardized conditions. For measuring bunny hop distance (cm) and speed passage at 9 meters we used BTS - Wireless Sprint System. Times accurate to $1/100^{th}$ of a second. To measure the characteristics of hop we used the laser system Optojump length of 2 meters. Optojump has high values of reliability, time series are measured in $1/1000^{th}$ second. Optojump we measure the following variables: time of flight phase (s), height of jump (cm). Data obtained in this study were analyzed using a software system for multivariate and univariate data analysis SPSS 17.0 (SPSS Inc, Chicago, USA) data processing was performed at the Faculty of Physical Education and Sport of Tuzla, University of Tuzla. We used standard statistical procedures to determine the following basic parameters and variables. By regression analysis we will try to determine whether the BH is dependent on some motor abilities and that those who have most influence on speed of hop. We calculate basic descriptive statistics for all variables: *n* – no. of performances; *R* – range; *M* – mean; *SD* – standard deviation; *Skew*., *Kurt*. – coefficients of skewness and kurtosis; *KS test* – the results of the Kolmogorov-Smirnov test for normality of distributions with ($p<0.05$). Relations between applied variables of the (motor abilities) were done by matrix of correlation variables. Estimation of the impact of the system of motor variables (as the system of predictor variables) on particular variable of BH 9 m (s) was done by regression analysis. *The examinees' sample* this research is carried out on the sample of ($n= 97$) boys and ($n=92$) girls examinees.

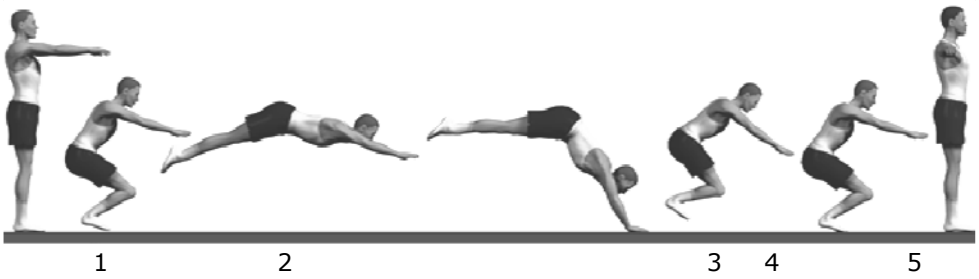

Figure 1: Changes in body position during the performance of bunny hop (1-5 stages)

Table 1. Measuring procedures for data collection using the sports - educational chart, their abbreviations and the dimensions they represent

Abbreviation	Motor Dimension and Variable	Hypothetical dimension measured
	Speed of movement	
PT	Plate tapping in 20 seconds (frequency)	Speed and the coordination of limb movement
LT	Leg tapping in 15 seconds (frequency)	Speed of alternate movements with the leg
	Flexibility	
SR	Sit and reach (mm)	Flexibility of the lower back and hamstring muscles
SF	Shoulder flexibility (mm)	Flexibility of the shoulder zone
	Strength	
TMB	Medicine ball throwing from siting position 2 kg (cm)	Muscular strenght of arms and shoulders
SUP	Sit-ups in 60 seconds (frequency)	Strenght of the trunk muscules
LT	Lifting a torso from lying postion maximum repetation (frequency)	Strength of abdominal muscles
SJ	Squat jump (time of flight phase) Opto Jump (seconds)	Explosive strength
SVJ	Standing vertical jump (cm)	Explosive strength
SBJ	Standing broad jump (cm)	Muscular strenght of the legs
BJD	Bunny jump distance (cm)	Muscular strenght of the legs
BAH	Bent arm hang (seconds)	Muscular endurance of the shoulder girdle and arms
	Coordination of movment	
PB	Polygon backwards (seconds)	Co-ordination of whole-body movements
BJS	Bunny hop 9 meters (seconds)	Co-ordination of whole-body movements
BJF	Bunny hop 9 meters (frequency)	Co-ordination of whole-body movements

Table 2. Basic descriptive statistics for all variables; the results of the Kolmogorov- Smirnov test for normality of distributions KS test with ($p<0.05$)

Variable	R		X±SD		Skew.		Kurt.		KS test	
Gender	Boys (n=97)	Girls (n=92)	Boys (n=97)	Girls (n=92)	Boys (n=97)	Girls (n=92)	Boys (n=97)	Girls (n=92)	Boys (n=97)	Girls (n=92)
Plate tapping (f/20 s)	12-47	10-44	29.61±7.31	29.52±7.49	-.29	-.40	-.42	-.17	.81	.87
Leg tapping (f/15 s)	10-22	13-25	16.67±2.46	17.32±2.23	-.27	.67	-.14	.93	.95	1.34
Sit and reach (mm)	40-280	80-280	148.61±58.13	194.51±44.47	.04	-.43	-.83	-.12	.95	.80
Shoulder flexibility (mm)	470-1200	560-1080	854.23±135.26	796.74±118.20	.02	.12	-.25	-.19	.67	.62
Sit-ups (f/60 sec)	4-55	6-57	32.90±10.54	31.40±9.10	-.07	-.13	-.30	.34	.58	.79
Lifting a torso (f)	3-71	4-53	25.62±12.49	24.60±10.70	1.08	.37	1.78	-.12	1.34	1.07
Polygon backwards (s)	10.6-67.6	11.5-60.4	27.7±11.7	28.5.±10.4	.84	.72	.63	.09	.86	1.08
Sargent vertical jump (cm)	7-48	12-42	22.72±7.96	23.39±6.41	.71	.41	.37	-.48	1.21	.99
Standing broad jump (cm)	62-193	58-178	123.46±28.66	117.08±26.42	.30	.20	-.42	-.46	.99	.60
Squat jump (s)	.227-.527	.214-459	.357±.054	.352±.053	.09	-.16	.39	-.60	.61	.57
Bunny jump (cm)	50-136	52-125	82.02±18.60	82.23±15.00	.51	.47	.54	.38	.84	.68
Bent arm hang (s)	1-78	1-57	17.79±19.74	15.56±14.14	1.47	1.43	1.29	1.26	2.02*	1.96*
Medicine ball throwing 2 kg (cm)	80-688	95-410	271.42±117.90	239.35±81.65	.95	.24	.99	-.97	1.44*	1.14
Bunny hop 9m (s)	3.45-30.00	2.77-24.45	8.28±4.25	13.88±4.18	2.09	1.53	6.96	2.15	1.33	1.88*
Bunny hop 9m (f)	6-20	6-23	11.68±3.49	8.73±3.49	.39	.83	-.59	.21	1.15	1.37*

Legend: *N* – no. of performances; *R* – range; *Min*, *Max* – lowest and highest value; *M* – mean; *SD* – standard deviation; *Skew.*, *Kurt.* – coefficients of skewness and kurtosis; *KS test* – Kolmogorov Smirnov test normality of the distribution; (*p) *KS* test- Significance at the $p<0.05$ level (2-tailed).

Table 3. Correlation between bunny hop and basic motor abilities boys (n=97)

Variable	PT	LT	SR	SF	SUP	LT	PB	SVJ	SBJ	SJ	BJD	BAH	TMB	BJS	BJF
PT	1	.792**	-.128	.202*	.589**	.505**	-.427**	.596**	.694**	.546**	.576**	.325**	.765**	-.276**	-.288**
LT		1	.000	.056	.545**	.459**	-.474**	.550**	.669**	.529**	.546**	.446**	.640**	-.358**	-.331**
SR			1	-.234*	-.035	-.099	-.043	-.159	-.062	-.020	-.050	.069	-.127	.008	-.060
SF				1	.030	.128	.023	.114	.113	.012	.156	-.085	.176	-.111	-.105
SUP					1	.546**	-.503**	.601**	.673**	.686**	.501**	.527**	.498**	-.527**	-.469**
LT						1	-.405**	.485**	.497**	.456**	.221*	.292**	.387**	-.390**	-.345**
PB							1	-.505**	-.645**	-.612**	-.459**	-.571**	-.434**	.625**	.597**
SVJ								1	.750**	.720**	.487**	.478**	.726**	-.437**	-.486**
SBJ									1	.708**	.642**	.518**	.736**	-.517**	-.537**
SJ										1	.480**	.539**	.611**	-.549**	-.504**
BJD											1	.364**	.604**	-.392**	-.402**
BAH												1	.344**	-.424**	-.484**
TMB													1	-.311**	-.388**
BJS														1	.814**
BJF															1

Legend: Correlation is significant at the **(p<0.01 level) and *(p<0.05 level) 2-tailed.

Table 4. Correlation between bunny hop and basic motor abilities girls (n=92)

Variable	PT	LT	SR	SF	SUP	LT	PB	SVJ	SBJ	SJ	BJD	BAH	TMB	BJS	BJF
PT	1	.746**	.187	.158	.496**	.546**	-.500**	.622**	.659**	.632**	.423**	.176	.737**	-.496**	-.484**
LT		1	.141	.163	.451**	.474**	-.499**	.578**	.633**	.538**	.447**	.162	.628**	-.481**	-.439**
SR			1	.029	.138	.065	-.315**	.198	.290**	.188	.198	-.002	.253*	-.293**	-.222*
SF				1	.259*	.034	.006	.080	.111	.175	.179	-.024	.249*	-.058	-.046
SUP					1	.534**	-.456**	.502**	.574**	.550**	.457**	.343**	.538**	-.488**	-.514**
LT						1	-.373**	.513**	.482**	.507**	.317**	.404**	.482**	-.528**	-.518**
PB							1	-.616**	-.561**	-.614**	-.483**	-.305**	-.484**	.690**	.720**
SVJ								1	.725**	.759**	.482**	.285**	.715**	-.616**	-.593**
SBJ									1	.725**	.556**	.238*	.697**	-.531**	-.525**
SJ										1	.466**	.360**	.591**	-.620**	-.657**
BJD											1	.153	.465**	-.423**	-.471**
BAH												1	.089	-.275**	-.287**
TMB													1	-.503**	-.495**
BJS														1	.863**
BJF															1

Legend: Correlation is significant at the **(p<0.01 level) and *(p<0.05 level) 2-tailed.

Table 5. Multiple linear regression analysis for the dependent var.between bunny hop and individual variables

Gender	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Age	6-8 year		9-11 year		12-14 year		6-14 year	
Variable	*β*		*β*		*β*		*β*	
Plate tapping (f/20 s)	.196	.092	.119	-.239	-.303	.063	.186	.070
Leg tapping (f/15 s)	.141	-.495	-.088	.021	.459*	-.049	.018	-.054
Sit and reach (mm)	-.084	-.177	.080	-.248	.234	.205	-.035	-.109
Shoulder flexibility (mm)	-.247	-.244	-.353	.134	.211	-.011	-.163*	.003
Sit-ups (f/60 s)	-.002	-.009	-.504	-.130	-.264	-.241	-.187	-.063
Lifting a torso (f)	.009	-.245	.174	-.140	-.118	-.197	-.069	-.247*
Polygon backwards (s)	.125	.132	.812*	.236	1.053*	.743*	.383*	.411*
Sargent vertical jump (cm)	-.161	-.291	-.023	-.465	-.106	.182	-.048	-.131
Standing broad jump (cm)	-.242	-.015	-.312	.494	.225	-.051	-.198	.110
Squat jump (s)	-.203	.309	.255	-.959	.206	1.000	-.145	-.188
Bunny hop (cm)	.052	-.154	.340	-.124	-.158	-.081	.017	-.014
Bent arm hang (s)	-.304	.086	.118	.160	.060	.297	-.011	.050
Medicine ball throwing 2 kg	.050	.373	-.021	-.152	.143	.186	.038	-.013
R	.617	.841	.818	.815	.873	.832	.731	.778
R^2	380	.706	.670	.664	.761	.692	.534	.605
F	.944	1.547	2.964	2.961	3.929	2.730	7.311	9.020
p	.531	.258	.016*	.012*	.006*	.026*	.000*	.000*

Legend: *Beta (β)* - individual impact of each standardized predictor variable on the criterion variable, **p* - the set level of statistical significance of each predictor variable's impact on the criterion variable p<0.05-0.00; Ro^2 - multiple correlation squared, or the predictor variables' total system variance; *R* - multiple correlations of the whole system of predictor variables with the criterion variable; *F* - testing of significance by means of F-ratios, **p* - the set of statistical significance of the impact of the whole system of predictor variables on the criterion variable p<0.05.

They are healthy pupils randomly selected, aged from 6 – 15 who regularly attended their PE lessons and who do not have any physical disabilities or injuries that could affect the results of this research. All of the examinees are pupils of the primary school „Saint Franjo" in Tuzla and their grades range from 1st to 9th. It is also important to emphasize that the prerequisites for their PE lessons at school were optimal. Measurements were carried out on PE classes in the morning shift from 9-12 hours, in the months of March, April and May 2011, the school year. All measurements were carried out in a sports hall. Test points were provided the necessary equipment instruments tested the same quality. The order of measurement was always the same. All kids who participated in this study were subjected to testing under the same conditions. The instruments were calibrated and the standard of each day prior to measurements. All measurements were carried out by two professors of PE and Sport, two teachers of PE and Sport, with the help of students 4 years of the Faculty of PE and Sport of University of Tuzla who were trained to assist in the investigation. In the research methods were used, oral, demonstrations, analytical methods, synthetic, and practical methods combined. Measurements were performed small gruops at between 13 to 15 kids in the each class. At each workplace measured one timekeeper and one secretary. *The sample of varijable* consisted of the variables that estimate motor abilities and from the variables of gymnastics skills. On the occasion of the experience of other motor tests that were available to us in physical education and sports (Claessens & Lefevre, 1998; Katić et al., 2002; Miletić et al., 2004; Veličković & Petrović, 2005; Delaš Kalinski et al., 2011; Delaš Kalinski et al., 2008, Bonacin et al., 2011).

Results and Discusion

Based on the analysis of test results test bunny hop (Begatović et al, 2010) created the new composite test which is a situational test that proved to be a suitable measuring instrument for further use in practice in the selection for artistic gymnastics, especially on the vault. The test proved high level of reliability (Begatović et al., 2010) Cronbach's alpha (α=.927). With analysis of gymnastic movements bunny jumps forward element has its primary goal in establishing the dominant motor abilities the performance of the selected movment. Based on the functional - anatomic analysis enabled the selection of exercises that will prepare trainees for the proper physical performance of the selected movement. Descriptive statistics and Kolmogorov Smirnov test show all variables except bent arm hang – girls and boys, medicine ball throwing 2 kg - boys, bunny hop 9m (s) - girls, bunny hop 9m (f) are normal. Higher values lifting a torso (f), bent arm hang boys and girls (s), bunny hop 9m (s) - girls, bunny hop 9m (f) - boys kurtosis and skewnes are by what causes this variable hasn't normal distribution probably because randomly selected and because this element have not had the opportunity to continue to practice on classes in school. In the correlations matrix (Table 3) criterion variable from the BH (s) effectuated statistically significant correlation with free variables: bunny hop 9m (f) (r: 0.814, p<0.01), polygon backwards (s) (r: 0.625, p<0.01), sqaut jump (cm) (r: -0.549, p<0.01), sit-ups (f/60 sec) (r: -0.527, p<0.01), and standing broad jump (cm) (r: -0.517, p<0.01). In the correlations matrix (Table 4) criterion variable from the BH (s) effectuated statistically significant correlation with free variables: bunny hop 9m (f) (r: 0.863, p<0.01), polygon backwards (s) (r: 0.690, p<0.01), sqaut jump (cm) (r: -0.620, p<0.01) and sargent vertical jump (cm) (r: -0.616, p<0.01). The reason for the high relation between BH (s) and BH (f) is that children who performed smaller number of jumps for a shorter period of time quickly perform a task. Results of all six regression analysis of the criterion variable BH (s) (Table 5), provide enough information about the effects of the appropriateness of the variables on the success of the performance bunny hop on 9 m (s). Common of variance is between (*R: 0*.73-0.87) with the criterion is explained with the predictor system of variables, while the correlation of the entire system, the predictor variables with the criterion, coefficient of multiple correlation is between (Ro^2: 0.53-0.76). The analysis of individual variables impact in (Table 5) showed that the highest and statistically most important influence of the criteria variables from the BH 9m (s) are with the following individual variables bos and girls 6-14 years: polygon backwards boys (β: 0.383, p<0.001) and girls (β: 0.411, p<0.001) boys shoulder flexibility (mm) (β: -.163, p<0.001) and lifting a torso (f) (β: -0.247, p<0.001). The following group of motor variables were chosen to assess the basic motor abilities identified in previous studies as relevant for the successful performance of motor skills among 6-14 years old children (Delaš Kalinski et al., 2011) psychomotorhythmic coordination, strength (explosive, repetitive and static), and flexibility. Explained that for the successful performance of BH this exercise has the maximum coordination of all body because its open kinetic chain and where the movements of upper and lower extremities replacment very high speed but all the body. Based on the data thus obtained by the respondents who have had better results in polygon backwards, shoulder flexibility and lifting a torso can be concluded that they showed in most cases and better results in the mentioned hop. The value of the results of this study is limited by a number of restrictive factors. As with all studies of this type, the value of the results of course depends on the representativeness of the sample of entities and variables. The possibility for generalization of the result is limited only to a hypothetical population sample of respondents, that is, it does not have universal value for the selection, but on the other hand it can be a good indicator in the selection of children. Most gymnastics schools possess their own methods and their own batteries of measuring instruments which provide the necessary information about the motorical abilities of the candidates. Although there are some certain

overlaps, differences are apparent both in the treatment of certain motor abilities, as well as in the implementation of measuring instruments for their diagnosis.

Conclusion

In this paper we establish which motor abilities lead to the more successful performance of the test "bunny hop". There is a relatively strong relationship between several motoric variables and performance in a sample bunny hop. Having analyzed the received results, we came to the conclusion that boys and girls who have had better results in motor abilities polygon backward (co-ordination of whole-body movements) can quickly and perform better bunny hop. Explained that for the successful performance of bunny hop this exercise has the maximum co-ordination of all body because its open kinetic chain and where the movements of upper and lower extremities replacement very high speed but all the body.

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UTJECAJ NEKIH MOTORIČKIH SPOSOBNOSTI NA IZVEDBU ZEČJEG SKOKA

Sažetak

U ovom istraživanju željeli smo utvrditi postoji li značajan utjecaj nekih motoričkih sposobnosti na predviđanje uspjeha u savladavanju i obavljanju pokreta pod nazivom zečji skok. Uzorak ispitanika činili su učenici (n=97) i učenice (n=92) osnovne škole Katolički školski centar „Sveti Franjo" iz Tuzle, od 1 do 9 razreda osnovnoškolskog obrazovanja, uzrasta od 6 do 15 godina. Uzorak prediktorskih varijabli sastojao se od 14 testova za procjenu motoričkih sposobnosti. Kriterijsku varijablu predstavljali su zečji skokovi naprijed na 9 metara (s). Odnosi između motoričkih pokazatelja i analize učinkovitosti u izvršavanju dinamičkog stereotipa analizirane su uz pomoć regresijske analize. Varijabila poligon natraške ima najveći pozitivni statistički značajan utjecaj na izvedbu, a razlog za to ogleda se u činjenici da je koordinacija pokreta cijelog tijela u izravnoj korelaciji sa izvedbom kod učenika (r: 0.625, p<0.01) i učenica (r: 0.690, p <0.01) jer ima sličnu strukturu pokreta s izvedbom zečjeg skoka na tlu. Rezultati regresijske analize sustava prediktorskih varijabli objasnili su (učenici R=0.731; učenice R=0.778) zajednički dio varijance s kriterijem, dok je korelacija cijelog sustava prediktorskih varijabli s kriterijem, odnosno koeficijent multiple korelacije iznosio (učenici R^2=0.534, učenice R^2=0.605).

***Ključne riječi**: motoričke sposobnosti, zečji skok, osnovni motorički pokreti, sportska gimnastika, selekcija*

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Correspondence to:
Assist.Prof.Almir Atiković, Ph.D.
University of Tuzla
Faculty of physical education and sport
75000 Tuzla, 2. Oktobra 1., Bosnia & Herzegovina
Phone: +387 (0)35 278 536
E-mail: almir.atikovic@untz.ba