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A STUDY OF SUCCESS IN LATIN AMERICAN SPORT DANCING

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Abstract. *The research was carried out with the aim of determining whether it is possible to, on the basis of motor abilities, predict the success in Latin American sport dancing. The sample of examinees consisted of 48 male and 47 female dancers, ages 15 to 18, competing as juniors in the dance categories of Serbia and Monte Negro. Their motor abilities were evaluated by means of 21 measuring instruments, while the criterion variable was made up of the success achieved at Latin American sport dance competitions in Serbia and Monte Negro as well as abroad, and was presented in points. The prediction was carried out by performing a regression analysis. The proposed hypotheses on the statistically significant multiple correlations between the numerically presented success rates in Latin American dance and the motor abilities of the sample of male and female dancers were confirmed. A statistically significant influence of motor abilities on the success rate in Latin American sport dance does exist.*

Key words: *Motor abilities, dancers, Latin American sport dance, success rate.*

INTRODUCTION

Sport dancing is a special sport discipline which has the characteristics of both sport and art. Sport dances are the key ingredient of competition programs which are organized all over the world. They are standardized and are performed according to the international rules of the IDSF (International Dance Sport Association). The sport dance competitions primarily include standard (the English waltz, the Tango, the Viennese waltz, the Slow Foxtrot and the Quickstep) and Latin American dances (the Cha cha, the Samba, the Rumba, the Paso Doble and the Jive).

"The study of dance as a discipline demands the development and understanding of the nature of dance, its function within culture, rational judgment and being informed about "strictly official" judging and the latest developments regarding dance form" (Kostić & Dimova, 1997, p. 4). Different dances require different movement techniques. In the course of a dance, the body shifts from one spatial shape to another, which on the one

hand affects the increase in reaction speed, and on the other, demands concrete speed in order to perform the change in form correctly.

The duration of the competition (from the tryouts to the semi finals and finals during the course of one or two days of competition), requires proper fitness and condition, or to be more precise, the ability to dance for extended periods of time, which leads to the increased activation of the cardio-vascular, respiratory and other systems of the body. This creates conditions for the development of stamina, both general and specific purpose, seeing how certain dances are performed with sub maximal intensity.

Considering how the speed of each individual dance is determined by the rules, and that during a competition each dance is performed during the course of one and a half or two consecutive minutes (with a pause of around one minute), dancers need aerobic stamina, dance-specific stamina, as well as speed-specific stamina (which is especially noticeable during the Jive, the Samba, and the Viennese waltz).

The structure of the dance techniques as part of the basic, but also free-style program, requires both the static and dynamic mobility of the joints, the ligaments and the muscles of the whole body. This requires a high level of agility which is a necessary element of dance stamina which has a particular affect on the overall decision of the panel of judges. Naturally, one cannot dance without proper bodily coordination, especially hand and leg coordination.

Dance stands, or to be more precise "positions" (when the body is moving in space in a way that is not obvious to the eye, but still retaining a certain position, which usually happens to dance couples) require highly developed strength and the ability to hold one's balance.

For the successful performance of dance structures each motor ability is relevant to a certain degree (Oreb, 1984; Jocić, 1991; Kostić, 1992, 1994, 1996; Ećimović-Žgajner, 1988; Uzunović 2004).

Some research has proven the significant influence of cognitive abilities, motor abilities, basic music abilities and conative characteristics on the performance success of dance structures (Oreb 1984; Jocić, 1991; Kostić, 1992, 1994, 1996; Kostić, Jocić, & Uzunović, 1999). On the basis of the results of the research in question it can be concluded that, primarily, identical abilities and characteristics have similar affects on dance success in general. The predictive value of functional abilities and anthropometric characteristics has been proven at dance competitions (Kostić, Zagorc, & Uzunović 2004).

The ability to express rhythmic structures can be viewed both as a part of the skills of coordination or as an isolated ability. Kostić (1996) carried out research in order to determine the structure of the ability to express rhythmic structures in the case of sport dancers. Six newly constructed measuring instruments for the evaluation of the ability to express rhythmic structures were used on a sample of 60 sport dancers. On the basis of the obtained results the conclusion was drawn that the applied measuring instruments were adequate for the evaluation of the mentioned abilities in the case of subjects both in and out of training.

During the course of her research, Kostić (1997) tested whether it was possible to affect the development of motor abilities at a specific moment by means of certain training devices. An experimental research method was used. A sample consisting of 45 female subjects, ages 12, 5 up to 14, 5 was divided into an experimental and control group. All the subjects were female dancers of the "Step" and "Royal" dance clubs from Niš. Their motor abilities were evaluated using four instruments for the measurement of coordination, three for strength, four for speed, four for agility and four for balance. The results from the initial and final measurings were processed by means of a univariate and multivariate variance analysis. The experimental treatment complied with the following scheme: 15 min - warm-

up; 45 min - technique; 50 min - choreography and 10 min - stretching. On the basis of the central and dispersion parameters the conclusion was drawn that significant changes had taken place in the results obtained for certain abilities, and were to be found both between the experimental and control groups and during the period between the initial and final measurements of the experimental group. After evening out the two groups the greatest discriminatory value was found in one of the speed variables, one of the agility variables, one of the balance variables and two of the coordination variables.

The prediction of the success rate in sport dancing on the basis of motor abilities was attempted by Kostić & Dimova (1997a) on a sample of 31 male sport dancers aged between 12, 5 and 14, 5. Their motor abilities were evaluated using three measuring instruments for strength, four for speed, four for agility, four for balance and four for coordination. The criterion variable was made up of the number of points that each of the subjects had acquired by collecting points for competition rank and any achieved success. The data was processed by means of a regression analysis. The obtained results confirmed the hypothesis regarding the possibility of predicting the success rate at sport dance competitions on the basis of motor abilities. On the relevance scale the variables for speed, agility, strength and balance took the lead.

The connection between morphological characteristics and speed on a sample of 30 sport dancers from Niš, was examined on the basis of 10 anthropometric measures and four speed variables (Kostić & Dimova (1997b). The results were processed by means of a canonical correlational analysis. A very significant canonical root was obtained. What had the greatest affect on the connection between the morphological characteristics and the motion frequency speed was body weight, average thorax volume, the wrinkles of skin of the biceps and triceps on the one hand, and jumping over a gymnastics bench on the other. It was concluded that the aggravating circumstance to motion frequency speed are body mass and the size of the wrinkles of skin on the arms.

Kostić, Jocić, & Uzunović (1999) carried out research on a sample of 38 students of the Faculty of Physical Education in Niš in order to determine the affects of connative characteristics on the success in the performance of dance structures. The sample of variables encompassed both predictor (for connative dimensions: the Cornell index - version C.I. - N4 and the Ajzenkov Maudsley Personality Inventory) and criterion variables (the rate of the success for the performance of sport dance structures and folk dance structures). The data was processed by means of a regression analysis, and the research confirmed the hypothesis that connative characteristics affect the success rate of the performance of sport dance structures and folk dance structures. What stands out in particular is the influence of anxiety and hypochondria as aggravating factors.

Research was carried out on a sample of 29 female subjects, sport dancers from Niš, aged 11, 5 to 13, 5 in order to determine the possibility of predicting the success rate at sport dance competitions on the basis of certain morphological characteristics and functional abilities (Kostić, Zagorc, & Uzunović (2004). The predictor variables consisted of ten morphological characteristics and nine functional ability variables. The criterion variable was made up of the number of points acquired at sport dance competitions in Serbia and Monte Negro and abroad. The results were processed by means of a regression analysis. The obtained multiple correlation made possible the assumption that it is partially possible to predict the success rate at sport dance competitions in the case of this sample of female subjects taking into consideration their morphological characteristics and functional abilities. The greatest influence on the criterion variable from the area of morphological characteristics came from: systolic and diastolic pressure in a state of rest

and diastolic pressure under strain. Body height, vital capacity and skin wrinkles on the abdomen are near statistical significance, and so their influence on the success rate at sport dance competitions should not be neglected. On the basis of the size of the partial regression coefficient, it can be assumed that in regards to morphological characteristics the female dancers that will be more successful are those that have developed more harmoniously (body weight matches body height and the hips are not wide) and those without any additional fatty tissue.

The conclusion was reached that in regards to functional abilities, female dancers with stable and normally increased systolic and diastolic pressure (depending on their age), at rest or under strain, would probably be more successful at competitions.

Zagorc, Karpljuk, & Friedl (1999) analyzed functional strain in the case of top dancers as well as the possibility of a more precise planning of the training process. Functional strain was determined by measuring heart rate frequency. The authors attempted to determine how long strain of an increased intensity lasts during the course of five Latin American and five standard dances under simulated competition conditions (two minutes of dance, one of rest). They also attempted to find the extent of stamina by means of a modified progressive test on a treadmill (most of the dancers reached the maximum value for heart rate frequency at 18 km/h). The sample consisted of six male and female dancers from Slovenia, competing as juniors (16-19 years of age) in Latin American and standard dance. The results indicated that sport dancers perform most of their dances accompanied by a high level of intense strain, except while performing the English waltz, the Tango, the Samba and the Rumba. While doing the Viennese waltz, the average heart rate frequency reached 178 beats per minute, and an even higher frequency was noted during the Quickstep, 186 beats per minute. Extremely high heart rate values were noted for the Paso Doble and the Jive.

The aim of this research is to determine whether it is possible, on the basis of motor abilities, to predict the success rate at competitions in Latin American and sport dancing.

Two hypotheses have been proposed which suggest a statistically significant multiple correlations between the numerically expressed success rate in Latin American dance and motor abilities in the case of a sample of male and female dancers, members of B-class junior teams.

THE METHOD

The sample of examinees

The sample of examinees consisted of 48 male and 47 female sport dancers, 15±6m to 18+6m years old, belonging to the "older" and "younger" junior category. The dancers incorporated into these sub-samples trained at least three times a week and were B-class competitors. All the dancers had to participate in at least 50% of all the competitions held during the 2001/2002 season in Serbia and Monte Negro. Many of the couples apart from competing in the country also competed abroad at international competitions during the same season. Participation in international events was not limited.

The sample of examinees incorporated dancers who met the stated requirements and who trained in the following clubs: "Spin", "Beodens", "Natalija and Ivica", "Vračar" and "Aurora" in Belgrade; "Step", "Sving" and "The Rojal" in Niš; "Vojvodinadens" in Novi Sad and "Džet-set" in Podgorica.

The variable samples

The variable samples consisted of a set of predictor variables and one criterion variable. The set of predictor variables was made up of 21 motor abilities variables, and the criterion variable was made up of the success rate at Latin American sport dance competitions.

The set of predictor variables consisted of the variables used to evaluate: speed, strength, flexibility, coordination, balance, the performance of rhythmic structures and stamina.

For the evaluation of speed the following measuring instruments were used: foot tapping against a wall (MFTW), the forward extension, twist and the touch (METT) and hand tapping (MHDT).

For the evaluation of strength the following measuring instruments were used:

the standing depth jump (MSDJ), crunches (MCRN), and throwing a medicine ball lying down (MTMB).

For the evaluation of flexibility the following measuring instruments were used:

the bend (MBND), the turn step with a baton (MTB) and the forward extension, feet apart (MEFA).

For the evaluation of coordination the following measuring instruments were used:

the sidestep (MSDS), 20 sidesteps while passing the baton through the legs (M20SB) and skipping over a horizontal jump rope (MSHJ).

For the evaluation of balance the following measuring instruments were used:

standing on one foot (eyes closed) (MSOF), moving forward on a low beam (MFLB), and balance during a turn (MBDT).

For the evaluation of the rhythmic structures performance the following tests were used:

bouncing within three squares (MB3S), turn steps within six squares (MT6S), and hand and foot drumming (MHFD).

For the evaluation of stamina the following measuring instruments were used:

the jump sideways (MJSW), the 60m sprint (M60S), and the queens college step test (MQCS).

The description of the criterion variable

In order to realize the research one criterion variable was necessary: the success rate in Latin American dance (LA).

The criterion variable represents the success rate of the competitors in Latin American dance. The dance couples competed in the following dances: the Cha cha, the Samba, the Rumba, the Paso Doble, and the Jive. It was obtained by adding up all the points obtained at tryouts, the state championship and international competitions in Latin American dance during the 2001/2002 season. The number of acquired points at the aforementioned competitions was added to the number which the male or female competitor "lost" for moving up into a better class or older age category.

At every dance competition in Serbia and Monte Negro there was a federal panel of judges delegated by the competition commission. Their evaluation was based on the criteria described in the official rulebook of Serbia and Monte Negro, which was drawn up on the basis of the rulebook of the International Dance Federation (IDSF).

The method of data analysis

On the basis of the proposed research hypotheses, the basic methods for the analysis of the data obtained by means of the univariate and multivariate methods were determined.

The manifested variables used in this research were analyzed using standard descriptive procedures by means of which the function of their distribution and the basic function indicators were determined.

For the data analysis the statistical programs "SPSS 8" and "Statistika 5" were used.

For the evaluation of the motor abilities level of development and the success rate of sport dance competitors, basic statistical parameters were calculated. The variable distribution was evaluated on the basis of the curve coefficients and the roundness coefficients.

The differences between the cited variables were determined by calculating the *t*-test and the ANOVA.

For the purpose of determining the connection between the predictor set of variables and the criterion variable a regression analysis was performed.

THE RESULTS

The basic statistical parameters of the used motor ability variables for male dancers are shown in Table 1.

Table 1. The basic statistical parameters for the evaluation of motor abilities and the success rate of male dancers

VAR	Min	Max	AS	Std	Sk	Kurt
MFTW	18.00	36.00	27.50	4.26	-.288	-.652
METT	14.00	30.00	20.48	3.67	.828	.507
MHDT	36.00	70.00	56.04	8.30	-.517	-.229
MSDJ	190.00	270.00	223.77	20.66	.339	-.552
MCRN	20.00	70.00	39.72	10.01	.831	.751
MTMB	35.00	92.00	61.72	13.36	.155	-.768
MEND	21.00	40.00	30.77	5.04	-.121	-.597
MTB	22.00	84.00	57.75	12.87	-.583	.320
MEFA	40.00	102.00	67.12	13.98	-.102	-.200
MSDS	9.00	15.30	10.17	1.16	2.128	6.809
M20SB	8.00	14.70	10.70	1.55	.673	.161
MSHJ	8.00	35.00	19.72	4.84	.558	1.081
MSOF	2.80	11.40	7.10	1.66	-.157	.849
MFBL	5.80	9.40	7.50	.89	.167	-.676
MBDT	10.00	14.20	11.00	.95	1.320	1.589
MB3S	2.00	2.80	2.28	.22	.730	-.303
MT6S	7.00	8.00	7.66	.47	-.730	-1.533
MHFD	9.00	23.00	14.66	3.04	-.026	-.013
MJSW	29.00	60.00	48.82	6.32	-.621	.691
M60S	7.00	10.20	8.86	.74	-.629	-.133
MQCS	21.00	45.00	34.10	5.49	-.035	-.095
LA	162.00	669.00	313.54	137.25	1.283	.971

Legend: (MS)-means, (Min) -minimal results, (Max) - maximal results, (Std) - standard deviation, (Sk) - skewness, (Kurt) - kurtosis.

The basic statistical parameters of the used variables for the female dancers are shown in Table 2.

The analysis of the significance of the differences between the means of the groups of male and female dancers at the univariate level was carried out by means of the *t*-test. The results of the *t*-test are shown in Table 3.

Table 2. The basic statistical parameters for the evaluation of motor abilities and the success rate of female dancers

VAR	Min	Max	AS	Std	Sk	Kurt
MFTW	16.00	33.00	26.19	4.04	-.349	-.638
METT	15.00	28.00	20.12	3.11	.872	.125
MHDT	32.00	68.00	56.23	8.41	-1.025	.557
MSDJ	108.00	252.00	188.08	23.14	-.431	2.652
MCRN	20.00	70.00	42.08	11.34	.372	.201
MTMB	25.00	60.00	41.85	7.31	.048	.236
MEND	20.00	46.00	31.46	5.54	.692	.662
MTB	18.00	85.00	46.85	13.97	.628	1.064
MEFA	50.00	106.00	74.29	9.89	.153	1.903
MSDS	9.00	12.80	10.53	.84	.280	.333
M20SB	9.00	14.50	10.63	1.16	1.216	1.980
MSHJ	10.00	30.00	19.51	4.67	.106	-.400
MSOF	3.00	12.40	6.96	2.12	.027	-.452
MFLB	6.00	9.20	7.38	.85	.340	-.608
MBDT	10.00	13.00	10.66	.82	1.794	2.513
MB3S	2.00	2.80	2.27	.25	.874	-.353
MT6S	7.00	8.00	7.65	.47	-.696	-1.585
MHFD	8.00	19.00	14.57	2.51	-.527	-.282
MJSW	35.00	58.00	48.53	4.65	-.370	.436
M60S	7.30	12.00	9.76	1.23	-.340	-.890
MQCS	22.00	47.00	36.76	4.79	-.275	.999
LA	150.00	669.00	303.21	138.88	1.360	.983

Legend: (MS)-means, (Min) -minimal results, (Max) - maximal results, (Std) - standard deviation, (Sk) - skewness, (Kurt) - kurtosis.

Table 3. The *t*-test

VAR	T	P	F	P
MFTW	1.538	.127	1.183	.311
METT	.447	.657	.330	.719
MHDT	.000	.999	.569	.569
MSDJ	8.561	.000	39.056	.000
MCRN	-1.188	.238	1.232	.296
MTMB	9.138	.000	41.921	.000
MEND	-.884	.379	2.711	.072
MTB	4.410	.000	12.964	.000
MEFA	-3.128	.002	6.411	.002
MSDS	-1.868	.065	2.644	.076
M20SB	.100	.920	.665	.517
MSHJ	.232	.817	.030	.970
MSOF	.394	.694	.159	.853
MFLB	.564	.574	.746	.477
MBDT	1.743	.085	1.771	.176
MB3S	.188	.851	.285	.753
MT6S	-.074	.941	.987	.377
MHFD	.137	.891	.034	.967
MJSW	.284	.777	.068	.934
M60S	-4.680	.000	13.026	.000
MQCS	-2.523	.013	3.185	.046
LA	.336	.738	.095	.909

Legend: T - the coefficient of the differences between the means, P - the significance of the difference between the means, F - the Fisher test, P - the significance of the differences in variance

**The regressional analysis of the success rate
in Latin American dance for male dancers**

Table 4. The regressional analysis of the predictor system and the criterion LA in the case of the group of male dancers

R	RSq	F-test	Std. Error	Q
.838	.702	2.911	100.80	.005

Legend: (R) – the coefficient of the multiple correlation of the criterion variable and the predictor system, (RSq) - the coefficient of determination, the F-test, (Q) - the significance of the influence, (Std. Error) - the standard margin of error for the partial regression coefficient.

Table 5. The regressional analysis of the predictor system of variables and the criterion LA in the case of the group of male dancers

Variables	PART-R	BETA	T	Q(BETA)
1 (Constant)			.361	.721
MFTW	.474	.631	2.744	.001
METT	-.405	-.502	-2.258	.003
MHDT	.039	.044	.198	.845
MSDJ	-.252	-.247	-1.325	.197
MCRN	.330	.314	1.781	.087
MTMB	-.224	-.231	-1.171	.252
MEND	-.026	-.023	-.131	.897
MTB	.130	.122	.666	.511
MEFA	.302	.396	1.614	.119
MSDS	-.209	-.169	-1.090	.286
M20SB	-.008	-.008	-.041	.968
MSHJ	.157	.142	.809	.426
MSOF	.327	.268	1.763	.090
MFLB	-.158	-.129	-.814	.423
MBDT	-.249	-.231	-1.313	.201
MB3S	.270	.249	1.430	.165
MT6S	.224	.153	1.179	.253
MHFD	.096	.073	.493	.626
MJSW	-.101	-.110	-.518	.609
M60S	-.033	-.034	-.166	.869
MQCS	-.288	-.238	-1.531	.138

Legend: (BETA) - the standard partial regression coefficient of each predictor variable with the criterion, (PART-R) - the partial correlation, (Q-BETA) - the significance of the correlation of individual predictor variables with the criterion, the *t*-test.

**The regressional analysis of the success rate in Latin American dance
for female dancers**

Table 6. The regressional analysis for the predictor system and the criterion LA for the group of female dancers

R	RSq	F-test	Std. Error	Q
.808	.653	2.147	113.25	.037

Legend: (R) - the coefficient of the multiple correlation of the criterion variable and the predictor system, (RSq) - the coefficient of determination, the F-test, (Q) - the significance of the influence, (Std. Error) - the standard margin of error for the partial regression coefficient.

Table 7. The regression analysis of the predictor variable system and the criterion LA for the group of female dancers

Variables	PART-R	BETA	T	Q(BETA)
1 (Constant)			-2.554	.017
MFTW	.152	.205	.955	.349
METT	-.002	-.121	-.490	.628
MHDT	.381	.528	2.315	.030
MSDJ	-.081	-.197	-1.127	.271
MCRN	-.094	.092	.481	.635
MTMB	.047	.124	.723	.476
MEND	.040	.199	.949	.352
MTB	.066	-.054	-.340	.737
MEFA	.400	.521	2.931	.007
MSDS	-.196	.013	.060	.953
M20SB	.395	.535	2.709	.012
MSHJ	.040	-.153	-.593	.559
MSOF	-.149	-.100	-.540	.594
MFLB	-.187	-.175	-1.038	.310
MBDT	.253	.381	1.701	.102
MB3S	-.175	-.130	-.669	.510
MT6S	.255	.366	1.948	.063
MHFD	.089	.196	.819	.421
MJSW	.149	.277	1.221	.234
M60S	.047	.134	.520	.608
MQCS	.006	-.090	-.503	.620

Legend: (BETA) - the standard partial regression coefficient of each predictor variable with the criterion, (PART-R) - the partial correlation, (Q-BETA) - the significance of the correlation of individual predictor variables with the criterion, the *t*-test.

THE DISCUSSION

On the basis of the insight into the basic parameters of the distribution of the used variables for the evaluation of the motor abilities of male and female dancers (Table 1 and Table 2) it can be concluded that a homogeneity of the samples exists. It can also be concluded that the obtained ability values of the sample of male and female dancers are more favorable than the average results obtained at the measurements carried out on the general population. These were the expected results considering that what was being dealt with were selected subjects that were in training. By analyzing the dispersion results it can be concluded that there is no great variation in the results within each of the variables. In the case of the sample of male dancers significant deviations can be found in the case of the measuring instruments for the evaluation of strength (MSDJ, MTBM and MCRN) and for the evaluation of flexibility (MTB, MEFA). In the case of the sample of female dancers significant deviations could be found in the case of the measuring instruments for the evaluation of strength (MSDJ and MCRN) and for the evaluation of flexibility (MTB). The dispersion measurements indicate that the great majority of the tests were well adjusted for the measurement of motor abilities carried out on the samples in question.

The testing of the hypotheses regarding the normal distribution of the results was carried out on the basis of the measurements of the curve coefficients, or to be more precise,

the symmetry (skewness) and the elongation coefficient (kurtosis). On the basis of the value of the curve coefficient it can be concluded that normal result distribution exists in the case of both samples. The values of the used variables gravitate around 0 (zero). The distinctly positive distribution in the case of the sample of male dancers can be noticed in the test for the evaluation of coordination (MSDS) and balance (MBDT), and in the case of the sample of female dancers in the test for the evaluation of coordination (M20SB) and balance (MBDT). In the case of the elongation coefficient normal distribution is also present. Only in the case of the sample of male dancers in the test for the evaluation of coordination (MSDS) can a leptokurtic distribution be noted, seeing how the value of the kurtosis (6.809) significantly deviates from what is normal.

On the basis of the results obtained regarding the tested differences between the means of the samples of male and female dancers it can be concluded that statistically significant differences exist in the examined abilities of strength, agility and stamina.

The results of the *t*-test (Table 3) in the strength ability area indicate that there is a statistically significant difference between the groups of male and female dancers when it comes to the test results for the evaluation of leg explosive-type strength (MSDJ) and the explosive-type strength of the shoulders (MTBM). The existing difference cannot be ascribed to a greater degree of physical fitness as a result of training. It is the result of their biological predispositions.

The same interpretation can be given in the case of the examined ability of agility. There is a statistically significant difference between the sub-samples used in the tests for the evaluation spinal mobility (MEFA) and shoulder mobility (MTB) in favor of the female dancers.

A statistically significant difference exists also in the case of the examined ability of stamina. The difference can be found in the tests used for the evaluation of anaerobic stamina (M60S) and aerobic stamina (MQCS).

On the basis of the values of the multiple correlation coefficient (*R*), which in this case is .838, it can be concluded that a strong linear bond exists between the predictor variables and the criterion variable LA, or to be more precise, the success rate at Latin American dance (Table 4) in the case of the sample of male dancers.

The influence of the predictor variables on the criterion is explained by a ($RSq = .702$).

On the basis of the significance of the Fisher test ($Q = .005$) it can be concluded that the chosen model is acceptable, or to be more precise, the changes in the regressional model variables trigger significant changes in the value of the dependent variable (the criterion).

For the analysis of the influence of certain variables on the criterion, a standardization of the regression coefficient was carried out and the value for Beta was obtained (Table 5). The greater its absolute value, the more influence the variable has on the criterion. On the basis of the analysis of the regression coefficient and its significance obtained from the value of *Q* (BETA), it could be concluded that the predictor variables for the evaluation of speed which measure the frequency of motion MFTW and METT have the greatest influence on the criterion, which is also partially accomplished by the strength variable which evaluates the repetitive strength of the abdomen MCRN and the balance variable which evaluates statistical balance MSOF.

On the basis of the values of the multiple correlation coefficient (*R*), (.808) it can be concluded that a very strong linear connection exists between the predictor variables and the criterion variable LA, or to be precise, the success rate at Latin American dances (Ta-

ble 6) in the case of the sample of female dancers. The affect is made possible at the $Q = .037$ level of significance with an explanation given in percentiles of around 65% ($RSq = .653$ and the F -test 2.147).

On the basis of the regression coefficient and its significance derived from the value of $Q(BETA)$ (Table 7) it can be concluded that the greatest influence on the criterion is achieved by the predictor variable for the evaluation of speed which evaluates motion frequency speed MHD T , of agility which measures the flexibility of the spinal column and lower extremities MEFA, of coordination M20SB, and the proximity of the statistical significance of the variable for the evaluation of coordination in rhythm MT6S.

As predicted, motor abilities significantly influence the success rate in sport dance. After analyzing the affect of an entire set of predictor variables on the success rate in sport dance, a statistical significance can be determined.

Hierarchically speaking, the contribution of certain variables indicates that the greatest contribution to the mentioned significance originates from the speed variables, which research has already proven, or to be precise, the research carried out by Kostić & Dimova (1997). They have proven the predictive value of motor abilities on the success rate at sport dance competitions, but in the case of a sample of subjects which were engaged in a period of intense growth and development (dancers aged 12, 5 to 14, 5). In the case of the sample of dancers from Niš, the greatest predictive value belonged to the agility, strength and balance variables.

In the case of the sample of the B-class of dancers from Serbia and Monte Negro, apart from the speed variable, the strength, balance and up to a certain extent stamina variables were found to make a significant contribution. Despite expectations to the contrary, the variables for the evaluation of coordination and coordination in rhythm were not statistically significant. This does not by any means indicate that these abilities are of no statistical significance to dancers, but it can be interpreted as the subjects already being in possession of a certain level of coordination skills which enabled them certain ranking. Considering the fact that it was a sample of male dancers it can be concluded that in their case the agility variables are not statistically significant for the success rate in sport dance, seeing how this ability is more profoundly expressed in the case of female dancers due to their morphological structure, but also due to the demands of the dance technique itself.

In the case of the sample of female dancers the speed, agility, coordination, balance and rhythm coordination variables had the greatest individual influence. As in the case of the sample of male dancers, no statistical significance was shown by the variables for the evaluation of coordination, which can be interpreted in the same manner. In addition, statistical significance was not shown by the variables for the evaluation of stamina which can be attributed to the female dancers' already existing stamina (anaerobic stamina in particular), which enabled them to reach a certain competition ranking. Competing requires a certain degree of anaerobic stamina, seeing how all the dances are performed for a period of two consecutive minutes. By merely training competitive dance, female dancers can develop this skill.

CONCLUSION

The proposed hypothesis regarding the statistical significance of the multiple correlations between the numerically presented success rate in Latin American dance and the motor abilities of male dancers (H1) has been verified. By analyzing the regression coefficient and its significance it can be determined that individually the greatest contribution to the success rate in Latin American dance in the case of male dancers is found in the predictor variables for the evaluation of motion frequency speed (MFTW and MPZDO). Also near statistical significance are the variables for the evaluation of abdominal repetitive strength (MCRN) and static balance (MSOF).

The proposed hypothesis which predicts the significance of the multiple correlations between the numerically presented success rate in Latin American dance and the motor abilities of female dancers (H2) has been verified. By analyzing the regression coefficient and its significance it can be concluded that the predictor variable for the evaluation of the motion frequency speed (MHDT), the variable for the evaluation of spinal cord flexibility (MEFA) and the variable for the evaluation of coordination (M20SB) make the greatest individual contribution to the success rate in Latin American dance in the case of female dancers, and that the variable for the evaluation of rhythm coordination (MT6S) is near statistical significance.

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ISTRAŽIVANJE USPEHA U LATINO-AMERIČKOM SPORTSKOM PLESU

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Istraživanje je sprovedeno sa ciljem da se utvrdi da li je moguće na osnovu motoričkih sposobnosti predvideti uspeh u latino-američkom sportskom plesu.

Uzorak ispitanika je činilo 48 plesača i 47 plesačica sportskog plesa starih od 15 do 18 godina u omladinskim plesnim kategorijama Srbije i Crne Gore. Motoričke sposobnosti procenjene su sa 21 mernim instrumentom, a kriterijsku varijablu je činio uspeh postignut na takmičenjima u latino-američkom sportskom plesu u Srbiji i Crnoj Gori i van zemlje izražen brojem bodova. Predviđanje uspeha je učinjeno na osnovu izračunate regresione analize. Postavljene hipoteze o statistički značajnim multiplim korelacijama između numerički izražene uspješnosti u latino-američkom plesu i motoričkih sposobnosti na uzorku plesača i uzorku plesačica potvrđene su. Postoji statistički značajan uticaja motoričkih sposobnosti na uspeh u latino-američkom sportskom plesu.

Ključne reči: Motoričke sposobnosti, plesači, latino-američki sportski ples, uspješnost.