

JOSIP MARIĆ
MILAN BLAŠKOVIĆ
STJEPAN JERKOVIĆ
VLADIMIR JANKOVIĆ
TONI SORŠAK

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Faculty of Physical Education, University of Zagreb

THE RELATIONS BETWEEN FLEXIBILITY AND GRECO-ROMAN WRESTLING TECHNIC THROW OVER BREAST BY FRONT WAIST HOLD

/wrestling, Greco-Roman/ flexibility/ physical education students/ testing/

The results in flexibility tests explained 13% of the variance of the criterion wrestling technique. Training aimed at the development of the spine and hips flexibility is recommended, being of benefit to the analysed wrestling technique.

The most frequent task in kinesiology is to examine relations among various psychosomatic dimensions and achievement in sports activities. In those researches main object is to attain as best as possible estimation of the equitation of specification of sports discipline. Wrestling is considered as member of polystructural acyclic group of sports, for which great complexity is characteristic. In the case of Greco-Roman wrestling up today about 400 different elements of technique are registered and in the case of free style wrestling number of elements goes over 1000. Recent developments in modern wrestling, with great enrichment of tactical and technical elements, posed against researches a problem of taxonomy and classification of wrestling elements. Marić, J. (1979) suggested classification of Greco-Roman wrestling holds technique in standing position as:

1. Pushings down
2. Overturnings
3. Throws over breast
4. Hip throws
5. Throws over shoulder
6. Pullings to the back

Great number of researches in wrestling was aimed to estimate influences of wrestling on development of different psychosomatic and anthropometric dimensions. Somewhat less number of researches were aimed to estimate influence of level of different psychosomatic abilities and anthropometric characteristics on achievement in wrestling. The success criterion is defined in two ways: for the educational aspect criterion is defined by competent judgment and for competitive (agonistic) aspect by competition score.

The aim of the research is to estimate relations between some manifest motoric variables of flexibility and technique throw over breast front waist.

METHODS

The study is done on the sample of 103 students of Faculty of Physical Education in Zagreb. The subjects were 18 to 25 years old. The number of subjects ensures that correlation coefficients greater or equal to .19 could be regarded as statistically significant on .05 level.

For the assessment of flexibility 5 tests are devised: the test with the pondered stick (MFLISK) measuring elbow flexibility, side rotation (MFLBOR) for trunk flexibility, "wrestling bridge" (MFLMOS) for spine flexibility, front bow on stool (MFLPRK) and front split (MFLCES) for hip flexibility.

The criterion dependent variable was throw over breast front waist, wrestling technique (BUPF). This technique is proposed because of its great complexity. The performance is characterized by the specific falling back. The estimation of performance was judged on scale of 5 points by 11 competent judges.

The relationships were estimated by means of regression analysis. For all measured variables basic statistics and tests of normality of distributions were calculated.

RESULTS AND DISCUSSION

The basic statistics and the normality of distribution tests are shown in Table 1. All variables are normally distributed. The criterion variable distribution is slightly dragged toward the lower values in relation to the junior elite wrestlers which have the av-

erage of 4.1 points (Siser, 1984). For this reason, the sample of the students can not be regarded as identical to the sample of the elite wrestlers.

Table 1.

BASIC STATISTICS

	AVER- AGE	STANDARD DEVIATION	MINIM. RESULT	MAXIM. RESULT	MAXIM. DISTAN.
MFLISK	79.24	14.29	47.90	119.25	.03
MFLBOR	62.23	12.72	35.31	97.24	.05
MFLMOS	37.64	12.28	9.55	66.62	.02
MFLPRK	33.42	6.27	19.89	50.96	.02
MFLCES	173.85	13.72	134.47	204.44	.02
BUPP	2.40	1.06	.77	5.51	.04

Kolmogorov -Smirnof test = .16

In the correlation matrix of the predictor set (Table 2.), except for the variable MFLCES, fairly high correlations are observed, and existence of flexibility as latent dimension can on that basis be considered as confirmed.

Table 2.

CORRELATION MATRIX

MFLISK	1.00					
MFLBOR	-.54	1.00				
MFLMOS	.44	-.52	1.00			
MFLPRK	-.37	.47	-.57	1.00		
MFLCES	-.07	.14	-.12	.22	1.00	

The results of regression analysis (Table 3.), show statistically significant relation between the predictor variables and criterion on the level $p = 0.02$. The amount of the explained variance of criterion throw over breast frontwaist is just 12.62%. Out of five variables of flexibility, two have significant correlation coefficients: MFLMOS, MFLDPK, but significant coefficient of partial correlation has only one, wrestling specific variable, MFLCES. Role of the "wrestler bridge" variable in the explanation of criterion variance, have a logical basis, from the structural point of view, i.e. because of similar performance of movement in both motoric tasks.

Table 3.

RESULTS OF THE REGRESSION ANALYSIS

	r	partial r	beta	Q	F
MFLISK	-.14	-.06	-.06	.58	-.49
MFLBOR	.13	-.09	-.11	.36	-.93
MFLMOS	-.33	-.24	-.30	.01	-.94
MFLPRK	.25	.07	.09	.46	.69
MFLCES	.10	.06	.06	.53	.29
ro=.36 r2=.13 F=2.80 dfl=5 df2=97 Q=.02					

It is obvious that students who demonstrate higher ability of the spine flexibility perform better in throwing over breast. The efficacy of performance in this criterion variable is dependent on the regulation of higher levels of central nervous system, specifically of the motion regulation. The result of this research also found their confirmation in studies made by Sorokin and Kodzaspirov (1974).

The obtained results confirm that flexibility has significant but small influence on the degree of acquiring of the wrestling technique throw over breast by front waist hold. For this reason, training would be improved by better spine flexibility.

CONCLUSION

This study was done on the sample of 103 students of the physical education. The relations between 5 variables of flexibility and success of performance of the technique throw over breast by front waist hold were analysed using regression analysis. The results in flexibility tests explained 12.6% of the variance of the criterion wrestling technique. Training aimed at the development of the spine and hips flexibility is recommended for the better acquiring of analysed wrestling technique.

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Josip Marić
Milan Blašković
Stjepan Jerković
Vladimir Janković
Toni Soršak

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Fakultet za fizičku kulturu Sveučilišta u
Zagrebu

RELACIJE IZMEĐU FLEKSIBILNOSTI I GRČKO-RIMSKE RVAČKE TEHNIKE BACANJA PREKO GRUDI - PREDNJI POJAS

Istraživanje je provedeno na uzorku od 103 studenta fakulteta za fizičku kulturu u Zagrebu. Relacije između pet testova fleksibilnosti i tehnike bacanja preko grudi - prednji pojas utvrđene su regresijskom analizom. Rezultati u testovima fleksibilnosti objasnili su 13% varijance kriterijske rvačke tehnike. Stoga se preporučuje program treninga usmjeren na razvoj fleksibilnosti kralježnice i kukova, što bi moglo omogućiti lakše usvajanje ove rvačke tehnike.

Иосип Марић, Милан Блашковић, Степан Ерковић, Владимир Јанковић и Тони Соршак

ВЗАИМНООТНОШЕНИЯ МЕЖДУ ГИБКОСТЬЮ И ТЕХНИКОЙ БРОСКА ЧЕРЕЗ ГРУДЬ ПРИ ПОМОЩИ ПЕРЕДНЕГО ОХВАТА ТАЛИИ СОПЕРНИКА В КЛАССИЧЕСКОЙ ВОРЬБЕ

Настоящее исследование проведено в выборке, состоящей из 103 студентов физической культуры. Анализ взаимоотношений между измерениями гибкости и успешностью в технике броска через грудь при помощи переднего охвата талии соперника проведен при помощи регрессионного анализа. Измерения гибкости объясняют 12.6% вариации описанной техники борьбы. Для улучшения рассматриваемой техники броска рекомендуются тренировочные упражнения, предназначенные для повышения гибкости позвоночника и боков.

