

Structure of importance of techniques of throws in different age groups in men judo

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Summary

Introduction. The aim of this study was assessment of the importance of techniques of throws in men junior and senior age categories.

Material and methods. 60 judo throwing techniques that were in accordance with judo bout rules, were in research samples. Sample consisted of 2 variables: juniors and seniors (age categories). The selected variables are similar according to the rules of judo bout- both of them have the same weight categories and the duration of the bout. This type of research is based on expert assessment of techniques in given variables. Experts in this case present items of the test. In this research eight judo experts from 5 countries assessed the importance of 60 judo throws within the given variables giving the grades 1 (not important) to 5 (very important).

Results. The techniques of throws in the senior age category represent more important technical – tactical mean for achieving victory than in junior age category. These results imply that one cannot expect complete technical maturation of judoka till the senior age category. The polarisation of importance of groups of throws that is, unlike in senior age category, present in junior age category implies that seniors because of their experience and technical maturation apply more different throwing techniques in judo bout.

Conclusions. According these results one can conclude that for success in senior judo bout judokas must have bigger technical and tactical knowledge and higher level of motor abilities especially speed, power and timing.

Introduction

The primary goal of every analysis of sport activity is detailed assessment of importance of all characteristics, abilities and motor knowledge which are important for success in one sport. This type of analyses must be a help to the coaches and competitors in perfection and optimization of a training process and match/bout efficiency. A technical and tactical analysis is one of the basic analyses in sport science and its complexity depends of a type of sport activity. Although some coaches put your faith in their own sport experience during the assessment of sport activity probability of a mistake in that case can be very big.

Empirically proved assessment is the key step in determination of technical and tactical structure of each sport. As the complexity of a sport rises rise the importance of empirically proved assessment. Judo, as the polystructural acyclic sport, belongs to a group of sports of big technical and tactical complexity. Judo consists of an eight groups of techniques [1,2] in which are over two hundred independent technical

elements. This paper analyses the group of the most important technical elements in judo bout – group of throws [3,4].

The aim of this paper is to do assessment of the importance of techniques of throws in men junior and senior age categories. The obtained data could be used for the definition of a technical and tactical preparation of male judokas.

Material and methods

Sample of entities for this research consisted of 60 judo throwing techniques that were in accordance with judo bout rules, can be applied in bout and must be used for the purpose of achieving positive scores. All other throws that exist in judo but are not in accordance to actual judo bout rules or are used to pull the opponent down in ground position without a chance of scoring a positive score were not a part of this research.

Sample of variables consisted of 2 variables: juniors – JUN, seniors – SEN (age categories in judo). The selected variables are similar according to the rules of judo bout- both of them have the same weight categories and the duration of

the bout. Also, it is very probable that by the age of juniors judokas have learned all judo throws and that there is a possibility that they would use them in the bout.

This type of research is based on expert assessment of techniques in given variables. Experts in this case present items of the test. Unlike tests for assessment motor abilities one must have more than three items to ensure good reliability. In this research eight judo experts from Japan, Poland, Brazil, Italy and Croatia assessed the importance of 60 judo throws within the given variables giving the grades 1 (not important) to 5 (very important).

The data were processed with program Statistica for Windows 7.0 giving the descriptive parameters and K-S test for assessment of normality of distribution. For the assessment of reliability the analysis of internal consistency was used and was expressed in the form of Crombach alpha. The overall grade of importance of throws is shown in the form of arithmetic mean of all given grades. Techniques of throws were ranked according to the arithmetic mean starting with technique of throw with the highest grade of importance.

Results

The reliability coefficients allow one to interpret obtained data with the big level of certainty. The group of experts have shown the great level of internal consistency even though the observed activity is complex and the experts are the representatives of a different judo style.

According to the values of arithmetic mean represented in table 2 one can say that the techniques of throws in the senior age category represent more important technical – tactical mean for achieving victory than in junior age category. These results imply that one cannot expect complete technical maturation of judoka till the senior age category.

Also, the polarisation of importance of groups of throws that is, unlike in senior age category, present in junior age category implies that seniors because of their experience and technical maturation apply more different throwing techniques in judo bout.

By the results of tables 4 and 5 one can see that the experts have given high and the highest grade of importance (from 5 till 4) to the eighteen techniques for the group of seniors and in group of juniors only nine techniques of throws have been awarded with these high grades.

Discussion

Although the rules of judo bout imply that the bout in junior and senior age category should be similar there are serious differences between them which indicate different style of fight. One can see that seniors should use all groups of throws in bout equally – all groups of throws have almost the same level of importance according to the expert analyses.

Unlike seniors, in junior age category one can notice polarisation between the importance of groups of throws. Experts extract group of Ashiwaza and Koshiwaza techniques as the techniques with higher level of importance for junior judo bout. If the obtained data are analysed one can conclude that for success in senior judo fight judokas should use more different throws in more different directions, with application of different ways of performance of throws (gake, gari, makikomi) and in both sides of body (left and right). The results of this expert assessment are confirmed in several researches with different methodology of collecting information about techniques used in bout [5,6].

Higher importance of Ashi and Koshiwaza throws in junior age category could be explained with higher complexity of Te and Sutemiwaza throws. For performance of these techniques one must use more speed and power connected with the right moment of throw (timing). The ability of right connection of these important characteristics is the attribute of older and more experienced judokas. Also, higher level of importance of Koshiwaza throws is connected with smaller level of importance of Sutemiwaza throws which can be used as the counter throw for them (especially TaniOtooshi, Yoko gruma and UraNage). Results in tables 4 and 5 suggest that Sutemiwazathrows Uranage, TaniOtooshi and Tome Nage, in junior category, are positioned much lower on the scale of importance than in senior category.

Table 1. Reliability coefficients (Crombach's alpha) of the results for the variables JUN and SEN

VARIABLES	Crombach s alpha
JUN	.879
SEN	.883

Table 2. Descriptive parameters and K-S test of normality of distribution for the variables JUN and SEN

VARIABLE S	Mean	Minimum	Maksimum	Std andard Deviation	max D	K-S p
JUN	2,872	1,166	5,000	1,034	0,075	p > .20
SEN	3,428	1,571	5,000	0,919	0,078	p > .20

Variables in which the value of K-S p is marked with (*) are not normally distributed

Table 3. Average grade of importance of the groups of techniques of throws in variables Juniors and Seniors

VARIABLE S	Ashiwaza techniques	Koshiwaza techniques	Tewaza techniques	Sutemiwaza techniques
JUNIORS	3,39	3,29	2,73	2,18
SENIORS	3,84	3,34	3,25	3,13

Table 4. The rank of techniques of throws according to their importance in judo bout in junior age category

RANK	TECHNIQUE OF THROW	MEAN	RANK	TECHNIQUE OF THROW	MEAN
1.	IpponSeoinage	5,00	31.	O Guruma	2,83
2.	MoroteSeoinage	4,83	32..	OsotoGuruma	2,83
3.	Ouchi Gari	4,83	33.	TsurikomiGoshi	2,83
4.	Uchi Mata	4,83	34.	UkiGoshi	2,83
5.	Kouchi Gari	4,67	35.	HaraiTsurikomiAshi	2,67
6.	HaraiGoshi	4,50	36.	KibisuGaeshi	2,50
7.	Osoto Gari	4,50	37.	NidanKosoto Gari	2,50
8.	KouchiGake	4,33	38.	Uranage	2,50
9.	TaiOtoshi	4,33	39.	Morote Gari	2,33
10.	KouchiMakikomi	3,83	40.	NidanKosotoGake	2,33
11.	DeashiHarai	3,83	41.	OsotoMakikomi	2,33
12.	Kosoto Gari	3,67	42.	Sumi Gaeshi	2,33
13.	O Goshi	3,67	43.	AshiGuruma	2,33
14.	SasaeTsurikomiAshi	3,50	44.	HaraiMakikomi	2,33
15.	Sode TsurikomiGoshi	3,50	45.	Kosoto Gama	2,00
16.	Tomoe Nage	3,50	46.	SotoMakikomi	2,00
17.	TsuriGoshi	3,50	47.	Hane Makikomi	1,83
18.	OsotoGake	3,33	48.	UkiWaza	1,83
19.	KosotoGake	3,33	49.	YokoGuruma	1,83
20.	OkuriashiHarai	3,33	50.	YokoOtoshi	1,83
21.	OuchiGake	3,33	51.	HikikomiGaeshi	1,67
22.	SeoiOtoshi	3,17	52.	Sumi Otoshi	1,67
23.	Uchi Mata Makikomi	3,17	53.	Sukui Nage	1,50
24.	Hane Goshi	3,00	54.	UchiMakikomi	1,50
25.	KoshiGuruma	3,00	55.	UkiOtoshi	1,50
26.	KuchikiTaoshi	3,00	56.	YamaArashi	1,50
27.	TaniOtoshi	3,00	57.	Obi Otoshi	1,33
28.	Kata Guruma	2,83	58.	TawaraGaeshi	1,33
29.	OsotoOtoshi	2,83	59.	YokoGake	1,33
30.	HizaGuruma	2,83	60.	YokoWakare	1,17

Table 5. The rank of techniques of throws according to their importance in judo bout in senior age category

RANK	TECHNIQUE OF THROW	MEAN	RANK	TECHNIQUE OF THROW	MEAN
1.	IpponSeoinage	5,00	31.	O Goshi	3,57
2.	MoroteSeoinage	5,00	32..	HaraiTsurikomiAshi	3,43
3.	Uchi Mata	5,00	33.	KibisuGaeshi	3,43
4.	Kouchi Gari	4,86	34.	TsuriGoshi	3,43
5.	TaiOtoshi	4,86	35.	HaraiMakikomi	3,29
6.	Ouchi Gari	4,71	36.	HizaGuruma	3,29
7.	Osoto Gari	4,71	37.	Morote Gari	3,14
8.	KouchiMakikomi	4,57	38.	SotoMakikomi	3,14
9.	KouchiGake	4,43	39.	TsurikomiGoshi	3,14
10.	OuchiGake	4,43	40.	NidanKosoto Gari	3,00
11.	Tomoe Nage	4,43	41.	HikikomiGaeshi	3,00
12.	HaraiGoshi	4,43	42.	AshiGuruma	2,86
13.	SasaeTsurikomiAshi	4,29	43.	Hane Makikomi	2,86
14.	Sode TsurikomiGoshi	4,29	44.	Kosoto Gama	2,86
15.	Ura Nage	4,14	45.	NidanKosotoGake	2,86
16.	DeashiHarai	4,00	46.	O Guruma	2,71
17.	SeoiOtoshi	4,00	47.	YokoOtoshi	2,71
18.	KuchikiTaoshi	4,00	48.	YokoGuruma	2,57
19.	Kosoto Gari	3,86	49.	KoshiGuruma	2,57
20.	TaniOtoshi	3,86	50.	UkiGoshi	2,43
21.	OkuriashiHarai	3,71	51.	YokoGake	2,29
22.	OsotoGake	3,71	52.	UkiWaza	2,29
23.	OsotoOtoshi	3,71	53.	UchiMakikomi	2,14
24.	Sumi Gaeshi	3,71	54.	Sukui Nage	2,14
25.	Uchi Mata Makikomi	3,71	55.	TawaraGaeshi	2,14
26.	Hane Goshi	3,57	56.	Sumi Otoshi	2,00
27.	Kata Guruma	3,57	57.	YokoWakare	2,00
28.	OsotoGuruma	3,57	58.	YamaArashi	1,86
29.	OsotoMakikomi	3,57	59.	Obi Otoshi	1,71
30.	KosotoGake	3,57	60.	UkiOtoshi	1,57

Koshiwaza throws are easier for performance and in methods of teaching judo throwing techniques these throws are first to be learned. Tewaza and Sutemiwaza throws, because of their complexity, come later in the process of learning judo throws.

Conclusions

1. The obtained data suggest that the experts give the higher grade of importance to the group of techniques of throws in senior than in junior age category.

2. Groups of throws have the similar level of importance in seniors varies in juniors one can notice polarisation of importance – Ashi and Koshiwaza throws are more important than Te and Sutemiwaza throws.
3. From these results one can conclude that for success in senior judo bout judokas must have bigger technical and tactical knowledge and higher level of motor abilities especially speed, power and timing.

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