ANALYSIS OF A TOTAL OUTCOME IN THE BOXING BY CATEGORIES (LIGHT, MEDIUM, HEAVY) AND AGE (CADET, JUNIOR, SENIOR)

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Abstract

A sample of 147 boxers drawn from the population, defined as a population of light, which is divided into 3 subgroups according to ages, then sample of 176 boxers drawn from the population defined as population mean, which is divided into 3 subgroups according to age groups and sample of 106 athletes drawn from the population, defined as heavy populations that were divided into 3 subgroups, according to the ages. In the overall outcome of the struggle of competitors, which are grouped in the category of light (MANOVA and discriminant .000 .000) indicate that there are significant differences between the three human ages, the round (.000), the overall outcome (.008), with discrimination, round (.257), the overall outcome (.033).

Key words: *boxing, match end, differences*

Introduction

Often considered as boxing toughest, most complex and most specifically the Olympic disciplines. Favorite name among his supporters is ''Noble skill''. Advantage over the opponent and points are realized and obtained a good, visible and well-placed blow. In any other Olympic sport, a deliberate blow to the opponent is severely punishable by a warning, and usually a disqualification. Only boxing entails a deliberate blow to the opponent, the stronger (on the rules defined impact area) in the head and body, the front side, above the waist. Sufficient talent, psychological balance, optimum power, speed, stamina, agility with the necessary perseverance in boxers, taking part together in the realization of the set and the desired task. In order to most efficiently reach the target it is necessary to adopt and implement, together with athletes agreed tactics. It should be noted the level of its achievements and potential, both physical and technical, and motivational - willingly - psychological. When it comes to tactical preparation, in addition to knowledge about their own form (the general state of the organism at a given time and moment), preferred are also aware of the opponent, its characteristics, constitution, style, method of engagement, the results achieved so training and improvement in technical elements box, and progression in primary, general physical properties and characteristics, to obtain better conditions for the implementation and realization of prepared and adopted tactics. Good tactic involves achieving the greatest impact on competition, with less risk and effort. For successful training, development and application of tactics, the decisive role is played by a good tactical thinking boxer. To properly and meaningful impact on development, it is necessary to know all the elements, to sport, and the specifics of the fight in the ring.

It is very important to the proper pedagogical and gradually affect the development of athletes, given the current level of his sporting achievements (forms) competition which is being prepared and we have set a goal that so (designed sports results). Expected result implies the realization of responsible well thought out plan. Gradual in the preparatory period, the wealth of techniques and practical application should be based on specific characteristics and individual characteristics of the individual. Common techniques, individual benefits and specialty were not always equally applicable to any opponent (in style). Very often we have called delayed implementation of technical training, and adoption and implementation of individual achievements and benefits of the respective opponents. This is often caused by individual characteristics, competitors, or the unity of physical, technical, psychological and motivational preparedness. To choose the best tactics in the fight, it is the more relevant information about the opponent: recent results, the style of engagement, experience, constitution, psychological status, good and bad characteristics, techniques commonly used in attack, defense, etc. Information about the opponent is collected and analyzed in order to reach the best and most rational strategy of managing tactical battle in the ring. During performance testing conducted in the preparation of training, athletes are required to perform different techniques, both attack and defense, and counter-attacks. Thus we can clearly assess the level at which the diversity of technical elements, and the rate of change of plan and actions themselves fighting in the ring. Successful application depends on the talent (the assembly of all the features), the volume of its technical sophistication, and level of efficiency and practical application.

Development of tactical opinion is controlled by examining the speed of the new assessment of the situation, the efficiency of pronounced bumps and implementation requires in relation to different sparring partners. And combination of tactical tasks are far smaller in scope than the overall technical achievements of athletes. There is often an opportunity to see training of tactical elements of a perfect application, versatility, imagination and timeliness of actions, while the meeting is often absent and action are mostly monotonous, slow and inefficient. It talks about the poor tactical preparedness, as well as low motivational levels and poor form. Since boxing is one of the acyclic sports, does not mean, if we failed in the first or second attempt to realize a particular idea, it will be next and that should not be more trying. The application of technical-tactical elements during the fight, it is essential for success in combat. Higher levels of performance and capacity of technical elements to a better realization of the given variant of tactical combat in the meeting. A small variety of technical elements to facilitate the implementation of the strategy the opponent defense. This speaks to the diverse and well-trained technique based implementation and execution of tactical elements, both in defense and in attack. Uncertain and unpredictable dynamics of the battle in the ring often changes the agreed tactics. It may not be the stencil, but it is very often caused during the performance of the combat. The application of technical-tactical elements during combat is closely linked and mutually dependent than the general and specific physical fitness, psychological stability and motivation fighter. Constitution, the level of sports mastery (technical skills) and the character of the basic prerequisites of forming individual peculiarities boxer, or his style of training and the leadership struggle, and the finality and its overall success.

Aim and methods

The aim is to emphasize the importance of boxing tactics, and its application through the movement of results during the struggle. This paper covers the results of athletes with two European Championships, held in Sombor 2007 (Junior). and in Novi Sad, 2008 (Cadet). and with an international tournament for seniors'' winner'' Belgrade in Belgrade 2007. It will also determine which are the most common stop fighting in relation to age, as well as movement between Boxers results classified into groups in which is concentrated in several weight categories: lightweight (Paper 48, flies 51, bantam 54 and featherweight 57), medium (light 60, half-velter 64, velter 69 and middle 75) and heavy: (half-heavy 81, heavy 91 and super-heavy +91 kg category). The Cadet European Championships in Novi Sad 2008 was attended by 149 fighters from 20 countries. There were 133 fights. At the European Junior Championships, Sombor 2007th attended by 209 fighters from 37 countries. There were 198 battles. The international tournament for seniors Belgrade Winner'' 2007'' was attended by 73 fighters from 13 countries. There were 63 fights. 4 results were processed with the most fighting ended.

International labels that are applied to the box are: WP (Win on Points) - victory on points, or points, RSC (Win by Referee Stop Contest) - Termination by the judge in the ring, RET (Retired) - (withdrawal), the termination of the coach - RSCO (Referee Stop Contest Overscore), interruption of more than 20 points difference. Will analyze a sample of 147 soldiers belonging to the category of light, divided into 3 subgroups according to ages: Cadets (52), juniors (66), seniors (29). Then a sample of 176 soldiers belonging to the category srednjiih divided into 3 subgroups according to ages: Cadets (50), juniors (90), seniors (36). Finally, the sample of 106 soldiers belonging to the category of heavy divided into 3 subgroups according to ages: Cadets (31), juniors (40), seniors (35). A sample of 133 cadets is divided into 3 subgroups according to the categories: light (52), medium (50), heavy (31). A sample of 196 junior is divided into 3 subgroups according to the categories: light (66), medium (90), heavy (40). A sample of 100 seniors is divided into 3 subgroups according to the categories: light (29), medium (36), heavy (35). Results were obtained using analysis of multivariate variance analysis and discriminant analysis.

Rezultati

Category light

The analysis will be conducted on the total outcome of the struggle of competitors, the overall outcome of the round, on a sample of 147 fights, which consists of 3 ages: schoolboys (52), juniors (66), seniors (29). The total outcome of the fight has 4 modes: the victory on points (WP), interrupt the judge in the ring (RSC), fine-coach (RET), on fine points (RSCO). The total outcome of the rounds has 4 modes: without interruption, in the first round, in the second round, in the third round. The table shows the numeric (n) and percentage (%) representation of the overall outcome of the struggle with the athletes classified in category 3 levels of light for the ages of 2 total results: the overall outcome, the outcome of the round. We will address the important also differences between and within levels. Descriptive procedure is only possible nagovestiti some characteristics of certain levels of total outcome of competitors, while the significance of differences between age groups analyzed later.

Table 1 Total result

	WP		RSC		RET		RSCO	
	n	%	n	%	n	%	n	%
Cadets	34.	65.4	6.	11.5	11.	21.2*	1.	1.9
Juniors	53.	80.3"	3.	4.5	8.	12.1"	2.	3.0
Seniors	27.	93.1*	2.	6.9	0.	.0	0.	.0

It is possible to observe that for most pupils represented the total outcome of the victory on points (WP) consisting of 34 fights (65.4%) of 52, which is significantly higher than the frequency of the total outcome of fine-coach (RET) (11 fights 21.2% p = .000), interrupt the judge in the ring (RSC) (6 fight 11.5% p = .000), the fine points (RSCO) (1 match 1.9% p = .000).

In junior representation on the overall outcome of victory points (WP) is 53 fights or 80.3%, which is significantly higher than the frequency of overall outcome fine-coach (RET) (8 fight 12.1% p = .000), fine judges in the ring (RSC) (3 fights 4.5% p = .000), the fine points (RSCO) (2 fights 3.0%, p = .000). With senior representation of the overall outcome of the victory on points (WP) is a 27 fight or 93.1%, a significantly higher incidence of overall outcome in the end the judge's ring (RSC) (2 fights 6.9% p = .000), fine-coach (RET) (0 struggles .0% p = .000), the fine points (RSCO) (0% .0 fight p = .000). The difference between the ages of competitors: the overall outcome of the victory on points (WP) was most prevalent in elderly persons (93.10%), which is significantly higher than pupils (65.38% p = .007). The total outcome of the termination of the judges in the ring (RSC) is most prevalent in school children (11.54%). The total outcome of the fine-coach (RET) is most prevalent in school children (21:15%), which is significantly higher than seniors (.00% P = .009). The total outcome of the break points (RSCO) is most prevalent in junior (3.03%). Since p = .080 one can say that there is an association with increased risk between the ages of conclusion and overall outcome.

Table 2 By rounds

	No		I round		II round		III round	
	n	%	n	%	n	%	n	%
Cadets	34.	65.4	6.	11.5*	11.	21.2*	1.	1.9
Juniors	53.	80.3"	2.	3.0	4.	6.1	7.	10.6*
Seniors	27.	93.1*	0.	.0	2.	6.9	0.	.0

It is possible to observe that for most pupils represented the total outcome without interruption, which makes 34 fights (65.4%) of 52, which is significantly higher than the frequency of overall outcome in the second round (11 fights 21.2% p = .000), in the first round (6 fight 11.5% p = .000), in the third round (1 match 1.9% p = .000). In the junior representation of the total outcome without interruption, 53 fights or 80.3%, which is significantly higher than the frequency of the total outcome in the third round (7 battle 10.6% p = .000), in the second round (4 fights 6.1% p = .000), And the rounds (2 fights 3.0%, p = .000). With senior representation of the overall outcome of uninterrupted combat, 27 or 93.1%, a significantly higher incidence of overall outcome in the second rounds (2 fights 6.9% p = .000), in the first round (0 struggles .0% p = .000) , in the third round (0 struggles .0% p = .000). The difference between the ages of competitors: the overall outcome without interruption most prevalent in seniors (93.10%), which is significantly higher than pupils (65.38% p = .007). The total outcome in the first round is most prevalent in school children (11.54%), which is significantly larger than the juniors (3.03%, p = .071), seniors (.00%, p = .061). The total outcome in the second round is most prevalent in school children (21:15%), which is significantly higher than seniors (6.90%, p = .098), junior (6.06%, p = .016). The total outcome in the third round is most prevalent in junior (10.61%), which is significantly higher than pupils (1.92%, p = .065) and seniors (.00% p = .072).

Since p = .003 c2 - test, ac = .348 with a confidence interval (.229, .467), which does not contain zero, one can say that there is low correlation between ages and spins.

Tabela 3 Multivariate differences

	n	F	p
MANOVA	2	5.272	.000

	χ	R	F	p
Total	.267	.254	4.959	.008
interruption	.348	.323	8.384	.000

		n	F	p
DISCRIMINATIVE	2		5.265	.000

	discr coeff.
Interruption	.257
total	.033

Since p = .000 rejects the hypothesis H1 and acceptance of alternative A1, which means that there are significant differences between different ages. Since the p < .1 accept the alternative hypothesis A3, which means that there are significant differences between some of the 3 battles of different ages in the total characteristics of outcome (total outcome .008), the outcome of the round (.000 fine). Since p = .000 for 2 synthesized competitor, rejects the hypothesis H2 and accept the alternative A2, which means that there are significant differences, and clearly defined boundaries between some of the struggles of different ages in relation to the overall outcome of the athletes ranked in the category of light the overall outcome and the outcome of the round. The coefficient of discrimination indicates that the largest contribution to the discrimination between the various struggles of different ages in relation to the overall outcome of the athletes ranked in the category of light (ie the largest difference) in the round marks (interruption) (.257) and overall outcome (.033) . Based on previous considerations, a sample of 147 fights, in accordance with the methodology applied, can be logically derived characteristics of each of three age groups, by order of the degree of discrimination. Starting with the largest differences in characteristics: round and overall outcome, with a coefficient of discrimination row: 0257, 0033. Since p = .000 indicates that there is a clearly defined border between the ages of competitors, so it is possible to determine the features of age in relation to the overall outcome of the athletes ranked in the category of light. The outcome of the struggle based on total athletes ranked in the category of light can be said to include: School-age children have the following properties: the struggle to end the first round is significantly higher compared to the other, especially in relation to seniors. The most frequent procedure they stop fighting in the first and second rounds. It is also significant that breaks most of the coaches and judges in the ring. This means that the riders of this age are different levels of tactical and technical preparations boxers and their general level of preparation.

Also noted is that the coaches and judges beneficent and cautious towards this age wanting to protect their health and future development. Seniors have the properties: the outcome of the fight, winning on points because of all the circumstances, technical and tactical levels of physical fitness and the most striking in comparison to other ages. Junior has the properties: termination of the struggle less important expressed in the third round and slightly higher than the break shows the points. Juniors have characteristics similar results with the seniors. Defined characteristics of pupils has 17 of 52 fights, homogeneity was 32.7% (lower), meaning that 35 combat has other characteristics, and characteristics of their group. Defined characteristics of the junior has 60 of 66 fights, homogeneity was 90.9% (higher) because the fight has six other properties. Defined characteristics of seniors has 27 of 29 fights, homogeneity was 93.1% (higher) because the fight has two other features. Calculating the Mahalanobis distance between the ages of competitors gets another indicator of similarity or difference. Distance of different areas can be compared. Results from the table indicate that the minimum distance between the age groups: seniors and juniors (46) (moderate) and the farthest are the struggles of different age groups: seniors and school children (.79) (moderate). Ellipse (the struggle of different ages) show the relationships and characteristics of each of the three struggles of different ages (schoolboys (1) juniors (2) seniors (3)), compared to the two most discriminating features of competitors: round (round), the overall outcome (ishd).
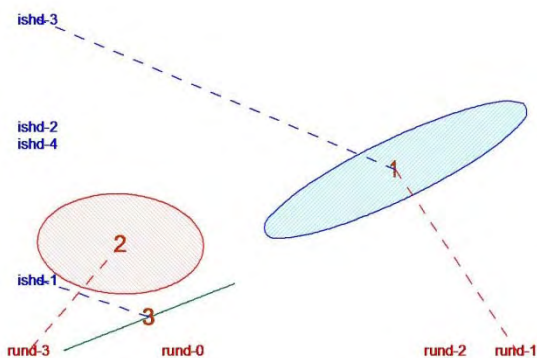

Figure 1 Ellipses fight different ages in relation to the overall outcome of the competitors for the characteristics of round and overall outcome

Legend: schoolboys (1), juniors (2) seniors (3);, without interruption (rund-0), in the first round (rund-1), in the second round (rund-2), in the third round (rund-3); victory on points (WP) (ishd-1), cancel the judge in the ring (RSC) (ishd-2), fine-coach (RET) (ishd-3), cancel the points (RSCO) (ishd-4). The abscissa (horizontal axis) is round (round) and has 4 level scale of total output, and the ordinate (vertical axis) is the overall outcome (ishd) and has 4 level scale of the overall outcome. By looking at the chart we can see that in relation to the axis of the round, the sample of juniors (2) is the highest in the overall outcome in the third round, and the sample of pupils (1) is the highest in the overall outcome in the first round.

In relation to the axis of the overall outcome, the sample of seniors (3) dominates the victory on points (WP), and for school (1) is dominated by fine-coach (RET).

Category middle

The analysis will be conducted on the characteristics of the overall outcome of the round, on a sample of 176 fights, which consists of 3 ages: schoolboys (50), juniors (90), seniors (36). The total outcome has 4 modes: the victory on points (WP), interrupt the judge in the ring (RSC), fine-coach (RET), on fine points (PTS). Characteristic round has 4 modes: without interruption, in the first round, in the second round, in the third round.

Table 4 Total result

	WP		RSC		RET		RSCO	
	n	%	n	%	n	%	n	%
Cadets	39.	78.0	5.	10.0	6.	12.0	0.	.0
Juniors	71.	78.9	5.	5.6	8.	8.9	6.	6.7*
Seniors	31.	86.1	2.	5.6	2.	5.6	1.	2.8

It is possible to observe that for most pupils represented the total outcome of the victory on points (WP), which makes 39 fights (78.0%) out of 50, which is significantly higher than the frequency of the total outcome of fine-coach (RET) (6 fight 12.0% p = .000), interrupt the judge in the ring (RSC) (5 fight 10.0%, p = .000), the fine points (RSCO) (0% .0 fight p = .000). In junior representation on the overall outcome of victory points (WP) is 71 fight or 78.9%, a significantly higher incidence of overall outcome of fine-coach (RET) (8 fight 8.9% p = .000), the fine points (RSCO) (6 fights 6.7% p = .000), fine judges in the ring (RSC) (5 fights 5.6% p = .000). With senior representation of the overall outcome of the victory on points (WP) is 31 fight 86.1%, a significantly higher incidence of overall outcome in the end the judge's ring (RSC) (2 fights 5.6% p = .000), fine-coach (RET) (2 Fight 5.6% p = .000), the fine points (RSCO) (1 match 2.8% p = .000). The difference between the ages of competitors: the overall outcome of the victory on points (WP) was most prevalent in elderly persons (86.11%), total cessation outcomes judges in the ring (RSC) is most prevalent in school children (10.00%), the total outcome of fine-coach (RET) is most prevalent in school children (12.00%), the total outcome of the termination points (RSCO) is most prevalent in junior (6.67%), which is significantly higher than pupils (.00%, p = .064). Since p = .427 can be said that by C2 - the test is not significant link between age groups and overall outcome. It is possible to observe that for most pupils represented the total outcome without interruption, which makes 39 fights (78.0%) out of 50, which is significantly higher than the frequency of overall outcome in the second round (7 battle 14.0%, p = .000), in the first round (4 fights 8.0%, p = .000), in the third round (0 struggles .0% p = .000). In the junior representation of the total outcome without interruption for 71 or 78.9% struggle, which is significantly higher than the frequency of the total outcome in the third round.

Total 9 battle 10.0%, p = .000, in the second round (8 fight 8.9% p = .000), and the rounds (2 fights 2.2% p = .000).

Table 5 By rounds

	No		I round		II round		III round	
	n	%	n	%	n	%	n	%
Cadets	39.	78.0	4.	8.0	7.	14.0*	0.	.0
Juniors	71.	78.9	2.	2.2	8.	8.9	9.	10.0
Seniors	31.	86.1	0.	.0	1.	2.8	4.	11.

With senior representation of the overall outcome of uninterrupted fighting, 31 or 86.1%, a significantly higher incidence of overall outcome in the third round (4 struggles 11.1% p = .000), in the second round (1 match 2.8% p = .000), And in the round (0% .0 fight p = .000). The difference between the ages of competitors: the overall outcome without interruption most prevalent in seniors (86.11%), the total outcome of the rounds and the most prevalent in school children (8.00%), which is significantly higher than seniors (p = .00% .086). The total outcome in the second round is most prevalent in school children (14.00%), which is significantly larger than Senir (2.78%, p = .081).

The total outcome in the third round is most prevalent in elderly persons (11.11%), which is significantly higher than pupils (.00%, p = .018). Since p = .043 c2 - test, ac = .262 with a confidence interval (.166, .359), which does not contain zero, one can say that there is low correlation between ages and features round. Since p = .003 rejects the hypothesis H1 and acceptance of alternative A1, which means that there are significant differences between the 3 battles of different ages.

Since the p <.1 accept the alternative hypothesis A3, which means that there are some significant differences between the three different ages struggle with characteristics: overall outcome (total outcome .088) and round (.002 fine). Since p = .003 for 2 synthesized competitor, rejects the hypothesis H2 and accept the alternative A2, which means that there are significant differences, and clearly defined boundaries between some of the struggles of different ages in relation to the overall outcome of the athletes ranked in the category, srednjiih the characteristics of the overall outcome of the round.

Table 6 Multivariate differences

	n	F	p
MANOVA	2	4.123	.003

	χ	R	F	p
Total	.181	.166	2.461	.088
Interruption	.262	.265	6.519	.002

	n	F	p
DISCRIMINATIVE	2	4.167	.003

Ellipse (the struggle of different ages) show the relationships and characteristics of each of the three struggles of different ages (schoolboys (1) juniors (2) seniors (3)), compared to the two most discriminating features of competitors: round (round), the overall outcome (ishd).
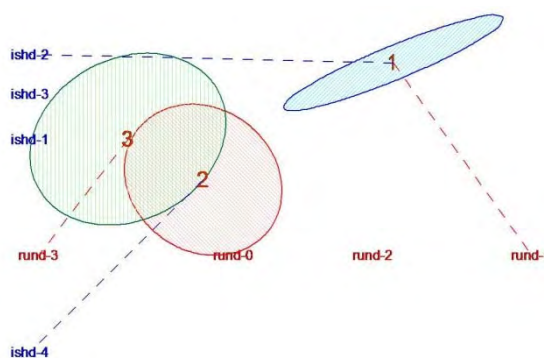

Figure 2 Ellipses fight different ages in relation to the overall outcome of the competitors for the characteristics of round and overall outcome

Legend: schoolboys (1), juniors (2) seniors (3);, without interruption (rund-0), in the first round (rund-1), in the second round (rund-2), in the third round (rund-3); victory on points (WP) (ishd-1), cancel the judge in the ring (RSC) (ishd-2), fine-coach (RET) (ishd-3), cancel the points (RSCO) (ishd-4)> The abscissa (horizontal axis) is round (round) and has 4 level scale of total output, and the ordinate (vertical axis) is the overall outcome (ishd) and has 4 level scale of the overall outcome. By looking at the chart we can see that in relation to the axis of the round, bza subsamples seniors (3) is the most frequent outcome of the total in the third round, and the sample of pupils (1) is the most frequent outcome in the total and round. In relation to the axis of the overall outcome of the sample of juniors (2) dominates the overall outcome of the break points (RSCO), and for school (1) dominates the overall outcome of the termination of the judges in the ring (RSC).

Category heavy

The analysis will be conducted at 2 marks overall outcome of the competitors and the overall outcome of the round, on a sample of 106 fights, which consists of 3 or age pupils (31), juniors (40), seniors (35). The total outcome has 4 modes: the victory on points (WP), interrupt the judge in the ring (RSC), fine-coach (RET), on fine points (RSCO). Characteristic round has 4 modes: without interruption, in the first round, in the second round, in the third round.

Table 7 Total result

	WP		RSC		RET		RSCO	
	n	%	n	%	n	%	n	%
Cadets	21.	67.7	4.	12.9	5.	16.1*	1.	3.2
Juniors	28.	70.0	5.	12.5	4.	10.0	3.	7.5
Seniors	27.	77.1	3.	8.6	1.	2.9	4.	11.4

It is possible to observe that for most pupils represented the total outcome of the victory on points (WP), which makes up 21 fight (67.7%) out of 31, which is significantly higher than the frequency of the total outcome of fine-coach (RET) (5 fight 16.1% p = .000), interrupt the judge in the ring (RSC) (4 struggles 12.9% p = .000), the fine points (RSCO) (1 match 3.2% p = .000).

In junior representation on the overall outcome of victory points (WP) is a 28 fight or 70.0%, which is significantly higher than the frequency of overall outcome in the end the judge's ring (RSC) (5 fight 12.5% p = .000), fine-coach (RET) (4 struggles 10.0%, p = .000), the fine points (RSCO) (3 fights 7.5% p = .000). With senior representation of the overall outcome of the victory on points (WP) is a 27 fight or 77.1%, a significantly higher incidence of overall outcome at termination points (RSCO) (4 struggles 11.4% p = .000), interrupt the judge in the ring (RSC) (3 fights 8.6% p = .000), fine-coach (RET) (1 match 2.9% p = .000). The difference between the ages of competitors: the overall outcome of the victory on points (WP) was most prevalent in elderly persons (77.14%), the total outcome of the termination of the judges in the ring (RSC) is most prevalent in school children (12.90%), the total outcome of the fine-coach (RET) is most prevalent in school children (16.13%), which is significantly higher than seniors (2.86%, p = .066). overall outcome at termination points (RSCO) is most prevalent in elderly persons (11.43%). Since p = .526 can be said that by C2 - the test is not significant link between age groups and overall outcome.

Table 8 By rounds

	bez prekida		u I rundi		u II rundi		u III rundi	
	n	%	n	%	n	%	n	%
Cadets	21.	67.7	4.	12.9*	6.	19.4*	0.	.0
Juniors	28.	70.0	1.	2.5	0.	.0	11.	27.5*
Seniors	27.	77.1	0.	.0	1.	2.9	7.	20.0*

It is possible to observe that for most pupils represented the total outcome of uninterrupted struggle which makes up 21 (67.7%) out of 31, which is significantly higher than the frequency of overall outcome in the second round (6 fight 19.4% p = .000), in the first round (4 struggles 12.9% p = .000), in the third round (0 struggles .0% p = .000). In the junior representation of the total outcome without breaking the 28 combat or 70.0%, which is significantly higher than the frequency of overall outcome in the third round (11 fights 27.5% p = .000), in the first round (1 match 2.5% p = .000), in the second round (0 struggles .0% p = .000).

With senior representation of the overall outcome of uninterrupted combat, 27 or 77.1%, a significantly higher incidence of overall outcome in the third round (7 battle 20.0%, p = .000), in the second round (1 match 2.9% p = .000), And in the round (0% .0 fight p = .000). The difference between the ages of competitors: the overall outcome without interruption most prevalent in seniors (77.14%), the total outcome of the rounds and the most prevalent in school children (12.90%), which is significantly larger than the juniors (2.50%, p = .094), seniors (.00%, p = .032). The total outcome in the second round is most prevalent in school children (19:35%), which is significantly higher than seniors (2.86%, p = .033), junior (.00% p = .005). The total outcome in the third round is most prevalent in junior (27.50%), which is significantly higher than pupils (.00%, p = .002).

Since p = .000 c2 - test, ac = .442 with a confidence interval (.340, .545), which does not contain zero, one can say that there is a moderate correlation between ages and features round.

Table 9 Multivariate differences

	n	F	p
MANOVA	2	7.960	.000

	γ	R	F	p
total	.215	.218	2.581	.081
interruption	.442	.484	15.717	.000

	n	F	p
DISCRIMINATIVE	2	8.314	.000

Since p = .000 rejects the hypothesis H1 and acceptance of alternative A1, which means that there are significant differences between the 3 battles of different ages. Since the p <.1 accept the alternative hypothesis A3, which means that there are some significant differences between the three different ages struggle with characteristics: overall outcome (total outcome .081) and round (.000 fine). Since p = .000 for 2 synthesized competitor, rejects the hypothesis H2 and accept the alternative A2, which means that there are significant differences, and clearly defined boundaries between some of the struggles of different ages in relation to the overall outcome of the athletes ranked in the category, teškiih the characteristics of the overall outcome of the round. School-age children have the following properties: termination of the struggle in the first round is significantly higher compared to the other, especially in relation to seniors. The most frequent procedure they stop fighting in the first and second rounds. It is also significant that breaks most of the coaches and judges in the ring. This means that the riders of this age are different levels of tactical and technical preparations boxers and their general level of preparation. Also noted is that the coaches and judges beneficent and cautious towards this age wanting to protect their health and future development. Similarity is observed at a group of school children of light. Juniors and seniors, middle group, similar to the seniors of the same group as the athletes classified in group light. So the derived characteristics similar to characteristics of the light group. Seniors have the properties: the outcome of the fight, winning on points because of all the circumstances, technical and tactical levels of physical fitness and the most striking in comparison with June, while in relation to school children differ.

It also notes that the termination of the fight in the third round of the senior major in relation to school children because they like the third round, finishing. Junior has the properties: termination of the struggle is more expressed in the third round in relation to school children and slightly more than the seniors. Juniors have characteristics similar results with the seniors. Ellipse (the struggle of different ages) show the relationships and characteristics of each of the three struggles of different ages (schoolboys (1) juniors (2) seniors (3)), compared to the two most discriminating features of competitors: round (round), the overall outcome (ishd).
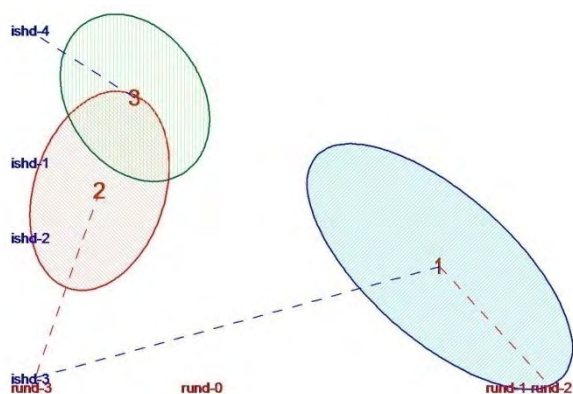
Figure 3 Ellipses fight different ages in relation to the overall outcome of the competitors for the characteristics of round and overall outcome

Legend: schoolboys (1), juniors (2) seniors (3);, without interruption (rund-0), in the first round (rund-1), in the second round (rund-2), in the third round (rund-3); victory on points (WP) (ishd-1), cancel the judge in the ring (RSC) (ishd-2), fine-coach (RET) (ishd-3), cancel the points (RSCO) (ishd-4). The abscissa (horizontal axis) is round (round) and has 4 level scale of total output, and the ordinate (vertical axis) is the overall outcome (ishd) and has 4 level scale of the overall outcome. By looking at the chart we can see that in relation to the axis of the round, the sample of juniors (2) is the most frequent outcome of the total in the third round, and the sample of pupils (1) is the most frequent overall outcome in the second round. In relation to the axis of the overall outcome, the sample of pupils (1) dominates the overall outcome of the break-coach (RET), and for seniors (3) dominates the overall outcome of the break points (RSCO). Looking at all three weight groups is evident that the juniors and seniors with similar results by indicators, which suggests that tactical preparations for these groups is very similar bearing in mind the length of their their fitness level, and both technical and physical fitness. Room for improvement in this area was significantly higher among school children which is the responsibility of trainers to compensate the difference.

Conclusion

A sample of 147 boxers drawn from the population, defined as a population of light, which is divided into 3 subgroups according to ages, zatin sample of 176 boxers drawn from the population defined as population mean, which is divided into 3 subgroups according to age groups and sample of 106 athletes drawn from the population, defined as heavy populations that were divided into 3 subgroups, according to the ages. In the overall outcome of the struggle of competitors, which are grouped in the category of light (MANOVA and discriminant .000 .000) indicate that there are significant differences between the three human ages, the round (.000), the overall outcome (.008), with discrimination, round (.257) , the overall outcome (.033). In the overall outcome of the struggle of competitors, which are grouped in a category, srednjiih (MANOVA discriminant .003 and .003) indicate that there are significant differences between the three human ages, the round (.002), the overall outcome (.088), with discrimination, round (.074), the overall outcome (.022). In the overall outcome of the struggle of competitors, which are grouped in a category, teškiih (MANOVA and discriminant .000 .000) indicate that there are significant differences between the three human ages, the round (.000), the overall outcome (.081), with discrimination, round (.354), the overall outcome (.024).

In the overall outcome of the struggle of competitors schoolkids (MANOVA discriminant .266 and .259) indicate that there is no difference between the three human ages. In the overall outcome of the fight junior (.006 MANOVA and discriminant .005) indicate that there are significant differences between the three human ages, the round (.005), the difference was not observed in, the overall outcome (.156), with discrimination, round (.058) , the overall outcome (.021). In the overall outcome of the struggle of competitors seniors (MANOVA discriminant .083 and .083) indicate that there are significant differences between the three human ages, the round (.031), the overall outcome (.068), with discrimination, round (.176), the overall outcome (.014).

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ANALIZA UKUPNIH REZULTATA U BOKSU PO KATEGORIJAMA (LAKE, SREDNJE, TEŠKE) I UZRASTU (KADETI, JUNIORI, SENIORI)

Sažetak

Uzorak od 147 boksača izvučen iz populacije, definirana kao populacija lakih, koja je podijeljena u 3 podskupine prema dobi, a zatim uzorak od 176 boksača izvučen iz populacije definiran kao srednji po težini, podijeljeni u 3 podskupine prema dobi skupine i uzorak od 106 sportaša izvučen iz populacije, definiran kao teških populacija koje su podijeljene u 3 podgrupe, prema uzrastu. U ukupnom ishodu borbe natjecatelja, koji su grupirani u kategoriji lakih (MANOVA i diskriminantna 0,000 0,000) pokazuju da postoje značajne razlike između tri ljudske dobi, okrugli (0,000), ukupni rezultat (0,008), s diskriminacijom, okrugla (0,257), ukupni rezultat (0,033).

Ključne riječi: *boks, završetak meča, razlike*

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