

Competition Efficiency Analysis of Croatian Junior Wrestlers in European Championship

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ABSTRACT

Croatian junior wrestler won a bronze medal at the European Championship 2016 year. Considering the potential of our wrestlers there is an obvious need of technical and tactical analysis so our juniors and seniors U23 wrestlers would be able to achieve even better results. Match analysis were conducted by LongoMatch 0.20.1. Seven matches of Croatian wrestlers were analysed. Time parameters, score efficiency, technical efficiency and tactical structure were observed and analysed from the aspect of attack and defence phase and successful/unsuccessful techniques. This paper shows descriptive parameters and competitor efficiency were calculated. The results show a great number of positive score in a standing position in relation to parterre position. The parameters of competitive efficiency (0.49 points per minute) show better attacking efficiency (1.32 points per minute) in relation to defence efficiency (0.83 points per minute). Croatian wrestlers achieve less score per minute in relation with elite wrestlers, but it is visible a significant progress in technical and tactical efficiency in relation in the past three year. According to place realization of technique, Croatian wrestlers realized more technique in the center, while opponents realized technique in the zone and moving to the zone. Further analysis of efficiency and individualisation training will improve efficiency of Croatian national wrestlers.

Key words: productivity, technical-tactical, Greco-Roman, standing position

Introduction

Junior European wrestling championships (JEW) are maintained every year under the World wrestling federation (United World Wrestling – UWW) organisation. The UWW (2017) define junior age between 18-20 years and seniors U23 age between 19-23 years. On previous European championships, Croatian wrestling national team achieved significant results such as junior European champion Dominik Etlinger (2012), silver medallist (seniors U23 age) Antonio Kamenjasevic (2015) and bronze medallist Ivan Huklek (2016). Following the excellent results, it is evident that medal winning is constant in junior and seniors U23. Junior European Greco-Roman wrestling championship was held in Bucharest (Romania) from 20-22 June 2016. Croatian national wrestling team performed at this championship with three wrestlers, one of them is Ivan Huklek, a bronze medallist in up to 84 kg category. Considering the potential of Croatian national wrestlers (juniors and seniors U23), to improve technical-tactical efficiency at European and World championships and achieve a model technical-tactical values of top wrestlers, there is a need of technical-tactical analysis. Effectiveness is defined as obtaining certain technical points for making a technical-tactical combination (Lopez-Gonzalez, 2013). Modern and attractive wrestling consider a high level of technical-tactical efficiency in standing and parterre. Modern highly-qualified wrestler is characterised by aggressive attack tactics, tendency to technical, physical and psychological superiority over a rival, and the ability to make quick decisions in extreme conditions during the intensive fight (Grigoryan, Lavrichinko & Gomboev, 2011). Determination of technical-tactical parameters is possible with notational analysis. Notational Analysis (also called “Match

Analysis”) uses means to record critical events (movements, situations, interactions, techniques and tactics, even intervention of referees) in which performance can be quantified in a consistent and reliable manner (Lopez-Gonzalez, 2013).

The aim of this paper was to determine technical-tactical efficiency of Croatian national wrestlers at Junior European wrestling championship in 2016. Data analysis will determine score efficiency, technical (attack and defense) efficiency and tactical structure of Croatian national wrestlers.

Methods

Match analysis were conducted by LongoMatch 0.20.1. software package (Copyright ©2007-2010 Andoni Morales Alastruey). Seven matches of Croatian national wrestlers were analyzed. Time parameters, score efficiency, technical efficiency and tactical structure were observed by attack and defense aspect as well as successful and unsuccessful technique. This paper shows descriptive parameters and competitor efficiency was calculated.

Time parameters were obtained by calculating match time of each wrestler. Score efficiency was observed by summing achieved and loss points in all matches which represent wrestlers’ productivity. Some authors (Tünnemann, 2013; Lopez-Gonzalez, 2013) define productivity, quality of wrestlers (WQ) and attacking efficiency as a number of achieved points per minute. Negative quality of wrestlers (neg WQ) or defensive efficiency refers to the number of negative points per minute (Tünnemann, 2013). Total efficiency (WQ index) means the difference between attacking (WQ) and defensive efficiency (neg WQ) (Tünnemann, 2013).

Technical structure is established by recording successful and unsuccessful technique in standing and parterre, while tactical structure is identified according to the place of performing successful technique by Croatian national wrestlers and their opponents.

Results

Croatian national wrestlers achieved four wins and three loss matches with 32:56 minutes in combats.

Table 1. Descriptive parameters of Croatian national GR wrestlers at European Championship 2016.

	win	loss	summ. time	Point structure	posit. points	negat. points	successful/unsuccessful technique
wrestler 1 (66 kg)	0	1	6:00	standing	0	2	0/2 (0%/100%)
				parterre	0	0	0/1 (0%/100%)
				passivity	1	1	
				out	0	0	
				summary	1	3	
wrestler 2 (74 kg)	1	1	9:35	standing	4	4	1/6 (14%/86%)
				parterre	6	2	3/1 (75%/25%)
				passivity	4	0	
				out	0	1	
				summary	14	7	
wrestler 3 (84 kg)	3	1	17:21	standing	26	10	9/2 (82%/18%)
				parterre	2	5	1/1 (50%/50%)
				passivity	0	1	
				out	0	1	
				summary	28	17	
CROATIA	4	3	32:56	standing	30	16	10/10 (50%/50%)
				parterre	8	7	4/3 (57%/43%)
				passivity	5	2	
				out	0	2	
				summary	43	27	14/13 (52%/48%)

As it is obvious from Table 1, Croatian national wrestlers realized more positive points than negative points (43 positive and 27 negative points). The proportion of all the achieved

points shows significantly more points in standing (81.40%) than parterre (18.60%). Technical efficiency is divided (52% successful and 48% unsuccessful technique).

Table 2. Productivity of Croatian national GR wrestlers at European Championship 2016.

	productivity	(tehn.pts/min)			(tehn.pts/bout)		
		WQ pts/min	neg WQ pts/min	WQ Index pts/min	WQ pts/bout	Neg WQ pts/bout	WQ Index pts/bout
wrestler (66 kg)	standing	0.17	-0.5	-0.33	1.00	3.00	-2.00
	parterre	0.00	0.00	0.00	0.00	0.00	0.00
	summary	0.17	-0.50	-0.33	1.00	3.00	-2.00
wrestler (74 kg)	standing	0.86	-0.54	0.32	5.00	2.50	2.50
	parterre	0.64	-0.21	0.43	2.00	1.00	1.00
	summary	1.50	-0.75	0.75	7.00	3.50	3.50
wrestler (84 kg)	standing	1.51	-0.70	0.81	6.50	3.00	3.50
	parterre	0.12	-0.29	-0.17	0.50	1.25	-0.75
	summary	1.63	-0.99	0.64	7.00	4.25	2.75
CROATIA	standing	1.07	-0.61	0.46	5.00	2.86	2.14
	parterre	0.25	-0.22	-0.03	1.14	1.00	0.14
	summary	1.32	-0.83	0.49	6.14	3.86	2.28

Table 2 presents efficiency (WQ index) parameters which is 0.49 points/min, while attacking efficiency is 1.32 points/min and defensive efficiency 0.83 points/min. Furthermore, Croatian national wrestlers achieve 6.14 points/match while opponents produce 3.86 points/match on them. Individual analysis of wrestlers shows greater efficiency of national wrestler 3 in standing position against national wrestler 2 who has a greater efficiency in parterre.

Figure 1 reveals similar number of successful and un-

successful technique in attack (10 successful and 10 unsuccessful). Standing attack structure indicates most successful combination, body drop throws and take downs. Successful combination includes take downs (first phase of technique) and backward throwing (execution phase).

Defensive technical structure (Figure 2) indicates that Croatian national wrestlers lose the highest number of points with take downs (3 take downs), counterattacks (2 counterattack) and outs (2 outs), while in parterre that is only 3 gut wrench.

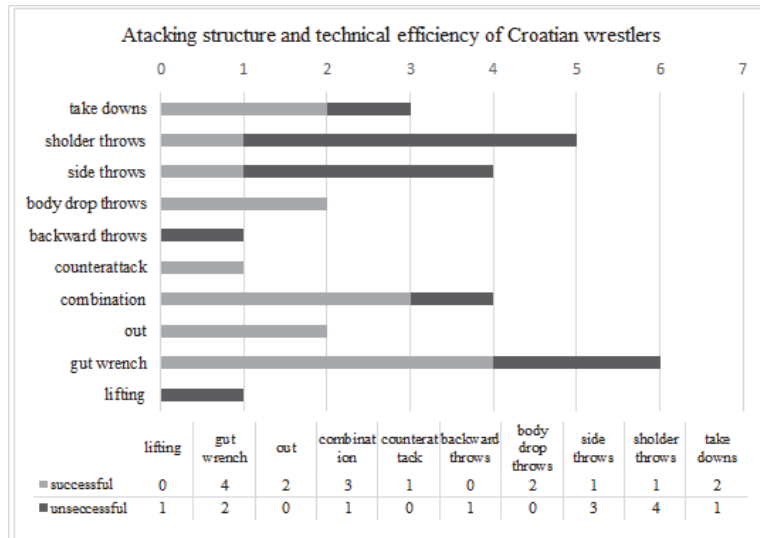


Figure 1. Attacking structure and technical efficiency of Croatian wrestlers at European championship

Figure 3 presents performance of Croatian national wrestlers mostly at the center, while their opponents do that in the

techniques in moving to the zone and an unsuccessful attempt of performing a technique on the zone. Their opponents have a

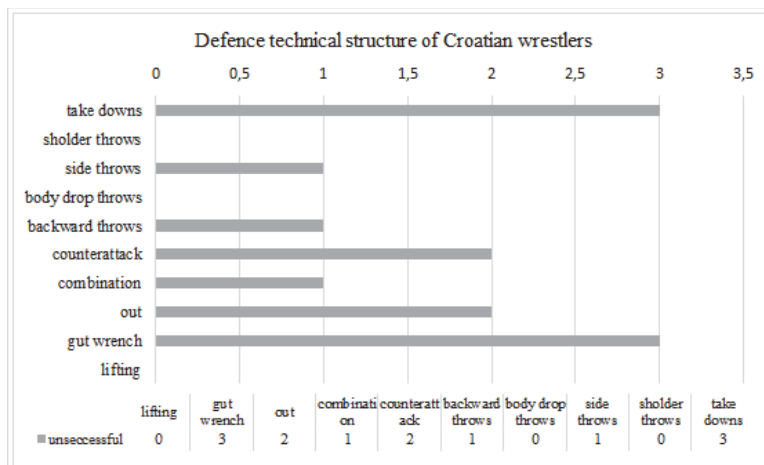


Figure 2. Technical structure of defence of Croatian wrestlers at European championship

zone and moving to the zone. Croatian national wrestlers have similar percentage of successful and unsuccessful technique at the center and a higher number of successfully performed tech-

higher number of successfully performed techniques in the zone and in moving to the zone.

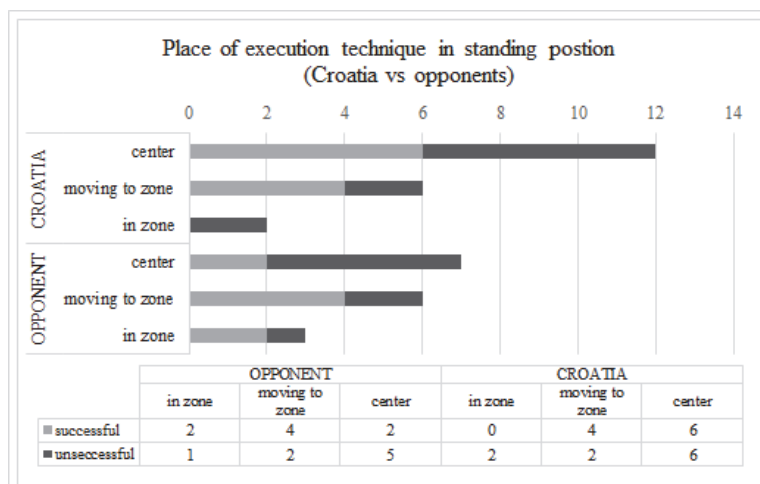


Figure 3. Difference between Croatian wrestlers and their opponents in attack place

Discussion

Results indicate that there is a large number of positive points in standing position and a smaller number of points in parterre. By changing rules these relations vary, so standing - parterre ratio in 2011 (Radchenko, 2012) was 26% standing, 74% parterre. According to 2013 rules, total number of points in parterre was 44.76% and 55.24% in standing (Lopez-Gonzalez, 2013; Tropin, 2013). The results of this study are in compliance with the existing wrestling rules (UWW, 2017). Actual wrestling rules indicate fight without ordered parterre, because of that ratio standing-parterre is greater for standing. It can be said that changing of the rules impacts mostly on match structure and technical-tactical technology preparation as well as condition preparation for important competition.

Points structure in standing position presents points of successful technique, but also judge warnings for insufficient wrestler activity. According to the actual wrestling rules (UWW, 2017), every second referee warning for insufficient activity in standing awards 1 point to the opponent. To increase the attractiveness of GR wrestling, it is necessary to explore ways to make larger strides in the variety of scoring, especially techniques from the standing position (Tünnemann, 2016). Out of all positive points, Croatian national wrestlers achieved 11.62% points by warnings, while opponents realized 8.33% points. That ratio is the result of greater activity in standing for Croatian national wrestlers. However, the activity itself is not enough for achieving victory. Comparing successful and unsuccessful technique, we can say that Croatian national wrestlers have “winning technique” in standing and parterre because their success rate is 75% (category 74 kg – parterre position) and 82% (category 84 kg – standing position). The world leading wrestlers, as a rule, have several “winning move” techniques, and the “winning move” attack efficiency index is 80-100% (Grigoryan, et al., 2011).

Comparing data (Table 2) with previous research (Tropin, 2013) it is evident that Croatian wrestlers have great effectiveness then winners in final matches at European Championship with 5.6 points, and similar (6.8 pts/match) like wrestlers at World championship (Tünnemann, 2013). Croatian national wrestlers at category 66 kg, 74 kg and 84 kg have similar WQ as well as medal winners at World championship (World champion at 66 kg = 1.86 pts/min; 74 kg = 1.57 pts/min; 84 kg = 1.73 pts/min). NegWQ and WQ of Croatian national wrestlers is significantly lower then World champions at the same category. Croatian national wrestlers defence efficiency is of an individual character. The cause of significantly poorer defence efficiency can be insufficient mental preparation (increased anxiety and insufficient focus) and not knowing the situation for achieving advanced grips before the opponent. By prompt recognition and using of outside grip, it is possible to prevent opponents in tactical action and performing their winning techniques.

WQ ratio of the first 12 team is 0.47/1.18 pts/min, neg WQ is -0.82/-0.31 pts/min and WQ index ratio is 0.87/-0.26 pts/min (Tünnemann, 2013). Comparing these results and our results, we can say that Croatian national wrestling team have an average wrestling WQ index, poorer neg WQ, and also greater WQ then World wrestlers. The cause for that can be the change of scoring method (UWW, 2014) and better efficiency of Croatian national wrestlers at European and World championships comparing with previous research (Slacanac, Baic, Starcevic, Sun-

jerga & Penjak., 2016). Poorer defence efficiency can be the result of insufficient adaptation on fighting in standing position and inadequate moving toward to the zone in attacking phase.

Technical structure/attack efficiency of World champions at category 66, 74 and 84 kg (Tünnemann, 2013) indicates that the most common technique are take downs, throws and gut wrench. Technical structure of Croatian national wrestlers refers to combination (take down – backward throwing), take downs and side (head) throwing. Considering the differences compared to the World champions, we can say that Croatian national wrestlers have their “winning technique”. The “winning move” attack technique is the basis of individual style of the fight (Grigoryan et al., 2011). Methodology of the “winning move” technique formation in the individual mastership of beginners and experienced wrestlers is considered to be relevant (Grigoryan et al., 2011). Individual approach of specialization of “winning techniques”, by applying various tactical preparation and combining techniques can promote attacking efficiency of Croatian national wrestlers. Recent analyses, developed after 2013 rules modification, showed that the decisive offensive actions were applied in parterre situations – especially gut wrenches techniques and derivatives of suplex movements (Miarka, 2016). Technical structure of Croatian national wrestlers in parterre is in compliance with previous study (Miarka, 2016; Tünnemann, 2013; Lopez-Gonzalez, 2013).

No matter the level of technical preparedness, in order for effective technique to be at a wrestler’s disposal, its execution is impossible without appropriate tactic preparedness (Tropin, 2013). Tactical structure of Croatian wrestlers in standing position at European championship shows smaller number of successful technique in zone and moving to zone and greater number successful technique at the center. Comparing these results with their opponents’, it can be seen that opponents realized greater number of successfully performed technique in zone and moving to the zone. According to these differences it is necessary to pay more attention to coordination of arms and legs moving forward, achieving advanced grips and fighting on the zone with emphasis on specialization of technical-tactical elements.

In accordance with the aim of this paper, it was necessary to determine competitor efficiency (score, defence and attack efficiency) of Croatian national wrestlers at Junior European wrestling championship in 2016. It is found that Croatian national wrestlers generate more points in standing position then parterre. Higher number points was achieved by combining techniques (take downs – backward throws), take downs and side (head) throws, while gut wrench is the most common technique in parterre. Comparing obtaining results with the values of juniors at World wrestling championship (Tünnemann, 2013), it is visible that Croatian national wrestlers generate less points per minute (WQ index) and have poorer defence efficiency (negWQ), but it is visible a significant progress in technical-tactical efficiency in relation with previous research (Slacanac et al., 2016). The difference in technique execution place was visible. Croatian national wrestlers successfully performed more techniques in the center, while their opponents successfully performed techniques in the zone and moving to the zone. According to the results, it is necessary to have individualised training with emphasis on improving defence efficiency, aggressive fighting and increasing rhythm and tempo fighting in the zone and moving to the zone.

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