

SUCCESSFULNESS OF TECHNICAL-TACTICAL ACTIVITIES IN FREESTYLE WRESTLING OF MEN AND WOMEN IN WORLD CHAMPIONSHIP 2013

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doi:10.16887/86.a1.15

INTRODUCTION

Wrestling is one of the most ancient sport in general. In many countries it is a national sport, although hardly popular for viewers. It is also the reason why the rules of wrestling have been changed so many times what leads also to changes of the way of fighting on a mat to make it the most effective within the allowed rules. In last years has risen the interest for women's wrestling.

Technical factors are one of the most important in the structure of sport's performance of wrestling (Ďurech, 2012; 1992, Bendíková a Pavlovič, 2013). We develop our technical preparation during childhood age and we improve it through all wrestling career. The technical preparation is also very important and it would be impossible to win on the level in wrestling.

Our article is dedicated to analysis of technical-tactical activities in the top event like the World Championship definitely is. We compared the successfulness of technical-tactical activities of men and women.

Many experts focused their research to issue of technical-tactical activities to find out the frequency, variability of a techniques and the efficiency of their applying. For example in judo Štefanovsky (2015, 2010) investigated the applying and the successfulness of the technical-tactical activities in a category of cadets in Slovakia. In wrestling the same issue investigated for example Tropin (2013), Dokmanec et al. (2012), Kruszewski et al. (2011), Kruszewski, Jagiello a Kucharska (2009).

The rules of wrestling have been changed during last years what was marked in appearance and variability of the technical-tactical activities. Kruszewski et al. (2011) analysed Olympic Games 1996 in Atlanta and Olympic Games 2008 in Beijing and adverted to link between a length of a match and a score of each technical-tactical activities. Kruszewski et al. (2011) found out that in Olympic Games in Beijing decreased the efficiency of applied techniques. It was obvious in majority of the one point rated technical-tactical activities (up to 53% of all scored ratings) and the two points rated technical-tactical activities were only in 30,2 %. Olympic Games in Atlanta showed that technical-tactical activities rated by one point and the ones rated by two points reached almost the same level (45,9%, 41,4%). This trend of decreasing efficiency of technical-tactical activities led to the other rules changes that forced the wrestlers to apply higher rated techniques. This changes were necessary also for low popularity of that kind of sport for viewers.

The State Academy of Physical Education in Charkov in 2013 analysed a technical-tactical readiness of wrestlers in a Greek-roman style in Olympic Games 2008 and Olympic Games 2012. They analysed matches of 41 wrestlers who proceeded to final matches. They found out there is a strong rivalry and a prediction

of winner was being changed, for example Iran in 2008 didn't take not even one gold medal and in 2012 took three wrestlers from Iran gold medals and they got the best score in unofficial team review. The research showed that the efficiency of applying technical-tactical activities was 26 % higher in 2008 than in Olympic Games in 2012 in each of weight category. Apart from that, the study revealed the fact that in 2012 the wrestlers used simpler one point rated technical-tactical activities like pushing from the mat or „tackle“. In 2008 were used 8 techniques (16%) in standing position and 42 techniques (84%) in ground position. In 2012 the wrestlers used 14 techniques (48%) done in standing position. In 2012 the wrestlers were more active in standing position and more passive in ground position. They also found out that the efficiency of the technical-tactical activities was higher in 2008 than in 2012. In 2008 the point score of the wrestlers was 5,8 with 66% efficiency. In 2012 it was 3,4 point score for a wrestler with 56% efficiency. The analysis shows that the wrestlers in both Olympic cycles presented a high efficiency and effectivity, but also that in 2008 the efficiency of the technical-tactical activities was 26% higher than in 2012 (Tropin, 2013).

Women wrestling analysed 3 polish authors Kruszewski, Jagiello and Kucharska (2009), who analysed together technical-tactical activities of women wrestlers in Olympic Games in Beijing. They analysed 78 matches in 4 weight categories (up to 48kg, 55kg, 63kg, 72kg). They found out the matches mostly ended by winning for points (41 matches – 54%) after 2 rounds. The most of the technical-tactical activities were done in the second minute of each period. The most of the scored technical-tactical activities were done in the weight category up to 55kg (116 actions – 28% of all successful technical-tactical activities) and the least in the weight category up to 63kg (91 actions – 23% of all successful technical-tactical activities). The most frequently used technique done in standing position in Beijing in the women wrestling were „leg attacks“ (29% of all technical-tactical activities done in standing position). Even 75% of all technical-tactical activities consist of the techniques done in ground position. It could be caused not only by bigger risk of doing the actions in the standing position which are more likely to be counterattacked by the opponent, but also by focusing more on winning match by doing a less attractive kind of the fight.

The goal of our work was to compare the successfulness of scored technical-tactical activities in freestyle wrestling of men and women at the Senior World Championship in 2013 and thus contribute to the knowledge in the area of technical-tactical preparation.

METHODOLOGY

Our research is ex post facto. We observed video records from World Championship of senior in Budapest 2013 and we analysed technical-tactical activities in men and women matches in all weight categories. The subject of our research was the successfulness of each technical-tactical activities. In every single one out of 7 men's weight category (up to 55kg, 60kg, 66kg, 74kg, 84kg, 96kg,

120kg) and 7 women's category (up to 48 kg, 51 kg, 55 kg, 59 kg, 63 kg, 67 kg, 72 kg) we observed 9 matches (quarterfinals, semi-finals, final matches and matches for 3th place). Our research sample consisted of the wrestlers of average age of 25,73 (\pm 3,65), average high 173,88 (\pm 9,92) cm and activity 14,39 (\pm 4,49) years and women wrestlers of average age of 24,52 (\pm 3,48), average high 163 (\pm 7,11) cm and average activity 11,88 (\pm 5,17) years.

Our main method of obtaining data was indirect observation and detailed written records of each technical-tactical activities. In addition to that we also used the method of analysing literature.

During evaluating obtained data we used relational analysis chi-square to find out identity between used technical-tactical activities by men and by women. We applied the logical methods by their interpretation. We counted: arithmetical average, standard deviation, range, minimum and maximum. Alpha was set at \leq 0,05.

RESULTS

The successfulness of technical-tactical activities in a basic standing position (table 1)

Double-leg attack

The successfulness of the „double-leg attack“ was statistically significant in favour of men ($\chi^2=3,99$; $p\leq 0,05$). The men attempted this technique 57 times. Of this amount of the attempts the men executed this technique 25 times (43,86%) successfully and 32 times unsuccessfully „double-leg attack“. The women attempted this technique totally 77 times, successfully 21 times (27,27%) and 56 times unsuccessfully.

Single-leg attack

A „single-leg attack“ was the most often executed technical-tactical activity, in both groups, men and women. The men attempted this technique 317 times. Of this amount of the attempts the men executed this technique 103 times (32,49%) successfully and 214 times unsuccessfully „single-leg attack“. The women attempted this technique totally 222 times, successfully 62 times (27,93%) and 160 times unsuccessfully. The differences between the men and the women in this technical-tactical activity „single-leg attack“ were not statistically significant ($\chi^2=1,281$; $p>0,05$).

Throw

The men attempted this technique 16 times. Of this amount of the attempts the men executed this technique 7 times (43,75%) successfully and 9 times unsuccessfully „throw“. The women attempted this technique totally 40 times,

successfully 26 times (65%) and 14 times unsuccessfully. The differences between the men and the women in this technical-tactical activity „throw“ were not statistically significant ($\chi^2=2,14$; $p>0,05$).

Duck under and Arm drag

The men attempted these techniques 88 times. Of this amount of the attempts the men executed this techniques 57 times (64,77%) successfully and 31 times unsuccessfully „duck under“ and „arm drag“. The women also attempted these techniques totally 88 times, successfully 45 times (51,14%) and 43 times unsuccessfully. The differences between the men and the women in these technical-tactical activities “duck under“ and “arm drag“ were not statistically significant ($\chi^2=3,36$; $p>0,05$).

Table 1. The successfulness of technical-tactical activities in a basic standing position.

Techniques	Men			Women		
	Amount		%	Amount		%
	Techniques total	Techniques successfulness		Techniques total	Techniques successfulness	
„Double-leg attacks“	57	25	43,86 *	77	21	27,27 *
„Single-leg attacks“	317	103	32,49	222	62	27,93
„Throws“	16	7	43,75	40	26	65
„Duck unders and arm drags“	88	57	64,77	88	45	51,14
„Pusching out“	45	24	53,33	20	11	55
„Others“	21	12	57,14	28	15	53,57

Pushing out the opponent from the mat

The men attempted „pushing out the opponent from the mat“ 45 times. Of this amount of the attempts the men executed „pushing“ 24 times (53,33%) successfully and 21 times unsuccessfully. The women attempted „pushing“ totally 20 times, successfully 11 times (55%) and 9 times unsuccessfully. The differences between the men and the women in this technical-tactical activity „pushing out the opponent from the mat“ were not statistically significant ($\chi^2=0,02$; $p>0,05$).

Other techniques

We included in the „other techniques“ category technical-tactical activities, which did not meet all the conditions to be included in the previous categories. The men attempted „other techniques“ 21 times. Of this amount of the attempts the men executed „other techniques“ 12 times (57,14%) successfully and 9 times unsuccessfully. The women attempted „other techniques“ totally 28 times, successfully 15 times (53,57%) and 13 times unsuccessfully. The differences between the men and the women in „other techniques“ were not statistically significant ($\chi^2=0,06$; $p>0,05$).

The successfulness of technical-tactical activities in a basic ground position (table 2)

Gut wrench, tilting into gut wrench

The men attempted these techniques 49 times. Of this amount of the attempts the men executed these techniques 22 times (44,90%) successfully and 27 times unsuccessfully „gut wrench, tilting into gut wrench“. The women attempted these techniques totally 30 times, successfully 16 times (53,33%) and 14 times unsuccessfully. The differences between the men and the women in these technical-tactical activities „gut wrench, tilting into gut wrench“ were not statistically significant ($\chi^2=0,53$; $p>0,05$).

Ankle lace

In this technical-tactical activity the men and women had the same amount of technique starts, as well as identical number of successful endings. The men as well as the women attempted to execute the technique a total of 12 times, of which 6 times (50 %) the ending was successful and 6 times the ending was unsuccessful. No differences have been found in this technical-tactical activity „ankle lace“ between men and women ($\chi^2=0$; $p>0,05$).

Other techniques

Here we included technical-tactical activities, which did not meet all of the conditions to be included in previous groups. The men attempted the „other techniques“ 58 times. Of this amount of the attempts the men executed „other techniques“ 31 times (53,45%) successfully and 27 times unsuccessfully. The women attempted „other techniques“ totally 54 times, successfully 28 times (51,85%) and 26 times unsuccessfully. The differences between the men and the women in „other techniques“ were not statistically significant ($\chi^2=0,03$; $p>0,05$).

Table 2. *The successfulness of technical-tactical activities in a basic ground position.*

Techniques	Men			Women		
	Amount		%	Amount		%
	Techniques total	Techniques successfulness		Techniques total	Techniques successfulness	
„Gut wrenches, tilting into gut wrenches“	49	22	44,90	30	16	53,33
„Ankle laces“	12	6	50	12	6	50
„Others“	58	31	53,45	54	28	51,85

DISCUSSION

We focused our analysis on the World Wrestling Championship in Budapest in 2013. We can state that in given year it was the highest competition to take place, therefore we assumed that the wrestlers of both genders participating in the tournament represented the best of the wrestling world in given year.

Statistically significant higher successfulness of men was confirmed in one of the techniques, specifically „double-leg attack“. The men have attempted this type of attack 57 times, of which 25 attacks (43.86%) were successful. The women entered 77 starting points for attack, however they were only able to get points 21 times (27.27%). These values show that men were able to turn almost a half of their attacks into points. We believe that the higher successfulness of this technique with men can be based on anatomic and physiological differences between the genders. Lower extremities of women are shorter, they have wider hips and center of gravity positioned lower than men, which represents better stability of the female wrestlers and at the same time worsens the techniques, where one has to get under the center of gravity of the female wrestler. Further the women have overall more fat than the men and more fat is stored in the lower half of the body. These dispositions are in the favor of the defending female wrestlers and vice versa, they worsen the conditions of the attacking female wrestlers, which contrary to the men have shorter upper extremities and more narrow shoulders. Further on the women have higher ration of slow contracting fibers and therefore they cannot exercise the same speed when executing a technique as the men. The „double-leg attack“ is physically highly demanding activity because the attacking wrestler (male or female) has to grab both lower extremities, which seems to be much more difficult for the women when compared to e.g. „single-leg attack“.

The difference in successfulness between men and women in the technical-tactical activity „single-leg attack“ was not statistically significant. Of 317 attempts the

men were successful 103 times (32.49 %) and of 222 attempts the women were successful 62 times (27.93 %).

„Leg attacks (single-leg attack, double-leg attack)“ were the most frequently executed technical-tactical activity. The women performed 39 % „leg attacks“, which is identical to the World Championship in 2009. Except for this, even in our analysis the „leg attack“ are the most frequently executed activity. This only supports the fact that for the majority of female wrestlers these types of attacks are crowning techniques. For interest we state that the „leg attacks“ executed by men made up 49% of the overall number of successful technical-tactical activities in the basic standing position, which means that the „leg attacks“ are one of the most frequently used techniques with men as well.

In the successfulness of „throws“ there was no statistically significant difference between men and women, however if we look at the values of the „throws“ in the non-scored and scored attempts we discover that the men group attempted the „throws“ only 16 times, of which 7 (43.75 %) attempts were turned into points. The women group attempted the „throw“ of an opponent into a dangerous position as many as 40 times, of which 26 (65 %) attempts were successful.

The „duck under“ or the „arm drag“ did not confirm a significant difference of successfulness between men and women. We believe this is caused especially by the difficulty of given technical-tactical activity. The technique itself is composed of two main stages, where in the first one the wrestler must get behind the opponent and in the second he has to get the opponent into the ground position. The second possibility of finishing is when in the first stage the wrestler gets the opponent into the basic ground position and in the second phase must get behind the opponent. With respect to the longer time of execution of given technical-tactical activity (especially in the second mentioned possibility of finishing) it happens a lot that the referee ends the action before the technique itself can be done by the wrestler and the wrestlers start again from the basic standing position.

The „pushing out of the mat“ is characterized by a low technical difficulty given that the wrestler gets a point when he pushes the opponent out of the circle. The difference of the successfulness of „pushing out“ has statistically not proven itself.

In „other techniques“ the difference between successfulness between men and women was statistically also insignificant.

In the ground position in individual technical-tactical activities the statistical differences of successfulness were not significant. Even in the „ankle lace“ technical-tactical activity the successfulness equaled 100 %. We can state that men and women perform this technique equally frequently.

Except for acquired information on individual technical-tactical activities we have also discovered how many successful technical-tactical activities were executed altogether in the basic standing position and how many of them were performed from the basic ground position. We discovered that overall the men have performed 244 scored technical-tactical activities in the basic standing position, which represented 75.54 % of the total number of techniques executed at the World Championship. In the basic ground position the men have performed 59 technical-tactical activities,

from which they received point, which represented 18.27 %. 20 points have been awarded for passivity and fouls, which represented the remaining 6.19 %. Also for women the standing techniques were the dominating ones, which were done 195 times, which was 73.86 %, in ground position the women executed 50 scored technical-tactical activities (18.94 %). The women received 19 (7 %) points for passivity and fouls. The percentage comparison confirms that women and men are almost identical in the number of executing successful technical-tactical activities in standing and ground position.

CONCLUSION

The goal of our work was to compare the successfulness of scored technical-tactical activities in freestyle wrestling of men and women at the Senior World Championship in 2013 and thus contribute to the knowledge in the area of technical-tactical preparation.

We observed the successfulness of technical-tactical activities in the basic standing position and in the basic ground position. In the standing basic position the groups of observed activities were as follows: „double-leg attacks“, „single-leg attacks“, „throws“, „duck under and arm drag“, „push-outs from the mat“ and „other techniques“. In the basic ground position the technique groups were: „gut wrench, tilting into gut wrench“, „ankle lace“ and „other techniques“.

We assumed that the successfulness of executed techniques of men would be higher than that of women. This assumption has not been confirmed due to the statistically significant difference in favor of men of all the technically-tactical activities was only in the activity „double-leg attack“. In other observed technical-tactical activities we have discovered similar results.

Our results led us to the belief that woman wrestling is quickly developing and it is becoming equal to the man freestyle wrestling. We believe that all future events should undergo an analysis just like ours, where all trends and changes in the technical-tactical activities of men and women could be observed. These findings subsequently define also the focus of training activity when training and perfecting wrestling techniques.

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ABSTRACT

In our thesis we compared the successfulness of technical-tactical activities in Wrestling Freestyle of men and women at the World Championships in 2013. Our group consisted of wrestlers with an average age of 25,73 (\pm 3,65), average height 173, 88 (\pm 9,92) cm and active practice of 14,39 (\pm 4,49) years and women wrestlers with an average age of 24,52 (\pm 3,48), average height of 163 (\pm 7,11) cm and the average active practice of 11,88 (\pm 5,17) years. The results were obtained by using a detailed video analysis, where we watched 126 matches of which 63 were women matches and 63 men matches in seven weight categories. During evaluating obtained data we used relational analysis chi-square to find out relation between used technical-tactical activities by men and by women. In the monitored technical-tactical activities we found out a statistically significant difference in the number of successful „double-leg attack“ in favor of men ($\chi^2 = 3,99$; $p \leq 0,05$). In other monitored technical-tactical activities were not seen significant differences.

Keywords: wrestling, analysis of technical-tactical activities, successfulness

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