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# Analysis of the Most Important Parameters in Wrestling Matches from the Senior World Championship 2017, the Senior European Championship 2018 and the World Championship 2018

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# ANALYSIS OF THE MOST IMPORTANT PARAMETERS IN GRECO ROMAN WRESTLING MATCHES FROM THE SENIOR WORLD CHAMPIONSHIP 2017, THE SENIOR EUROPEAN CHAMPIONSHIP 2018 AND THE WORLD CHAMPIONSHIP 2018

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# INTRODUCTION

This analysis is based on the three the most important wrestling competitions in Greco-Roman Style in 2017 and 2018, the Senior World Championship (2017), the Senior European Championship (2018) and Senior World Championship (2018).

Beginning on January 1st, 2018, new wrestling rules were applied. The first significant change was related to the change in the number of weight categories. There was an increase in non-Olympic categories from 2 to 4. Because of the different number of weight categories in the two world championships, the complete analysis could not be based on absolute numbers, so the analysis was based on percentages (%).

A second big change in the wrestling rules was the return of the rule where the wrestlers could choose to continue the match in parterre or in the standing position after they have received a first and second warning for being passive. In 99% of cases, the continuation of the match after passivity is in a parterre position. This change in the wrestling rules significantly has changed the structure of the points scored for the performed wrestling techniques.

Changes in the wrestling rules were necessary because, according to the old rules, the winners in the wrestling matches were wrestlers who were physically conditioned and came to win with the least risk.

Because of the change in the wrestling rules, points of passivity were no longer so prominent in the wrestlers who won the match, but more and more points for the techniques were decided by the winner. However, if you look at the structure of the technical points, it is evident that this increase in technical points came mostly due to the implementation of a wrestling technique, the gut wrench (a technique in parterre), which has become the dominant technique in wrestling, which is not very attractive to the audience. By introducing a new rule that the continuation of the match after passivity can continue in the parterre position, the number of points in the parterre position has been significantly increased. At the WC 2017, the number of points from the standing position was 12.31%, EC 2018 - 31.38%, and at WC 2019 - 41.90%. This was a big changing in the past year. The prognosis is that if this trend remains in the future, there will be equal points in the standing and parterre position.

The analysis was done along two samples. The first sample was all matches, and the second was only the medal matches (I-II and III-V place). This was necessary because the results obtained in all matches (due to the large difference in quality) in the 1st and 2nd rounds do not give the most realistic picture of the wrestling at the highest level. The best indicators of changes in wrestling rules are medal matches. By looking at the following figures, it is possible to extract some conclusions about the consequences of changes in the rules of wrestling.

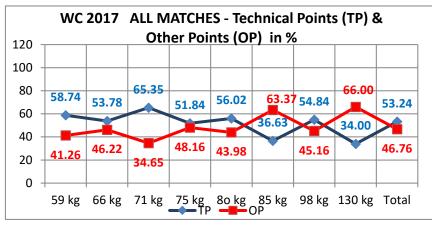
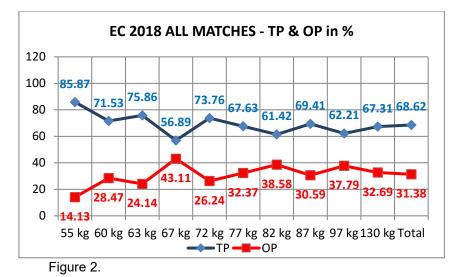
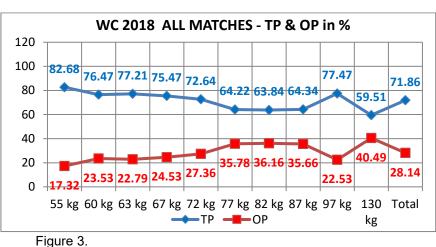
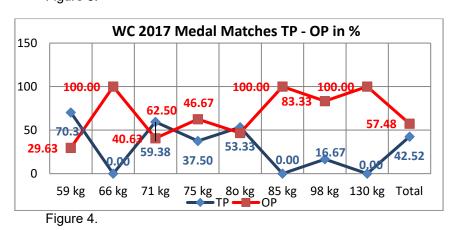


Figure 1







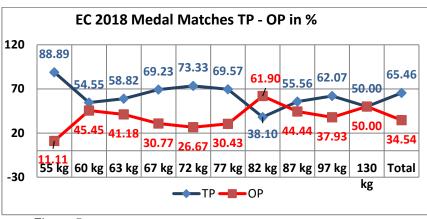
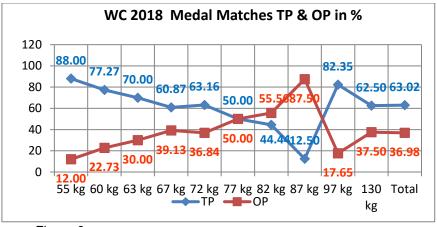
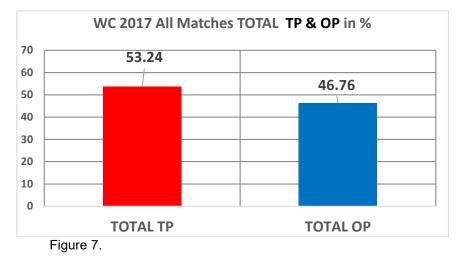
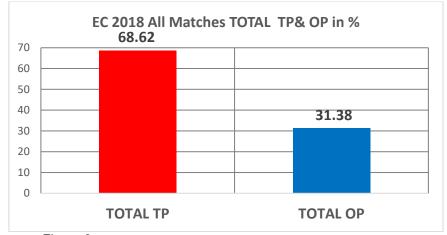


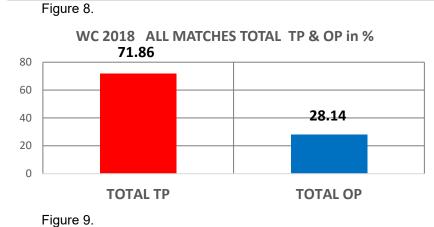
Figure 5.

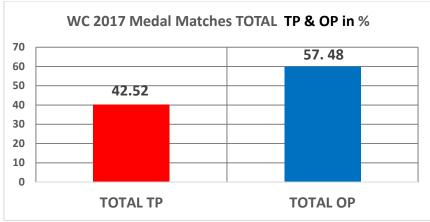




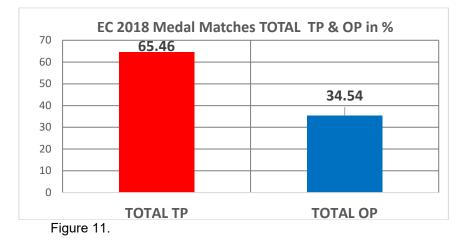




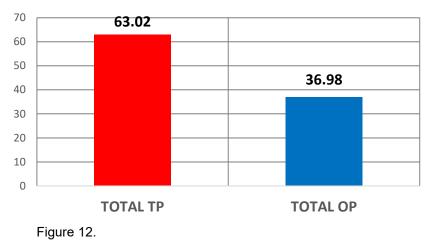












#### **COMMENT** (Figures 1 – 12)

The analysis consists of two parts. The first part has analyzed all wrestling matches, the second part was based on the analysis of medal matches for first place and 3rd place. Figures 1-3 shows the number of points achieved in all matches by weight categories by the following two parameters:

**1. Technical Points as percentage of total points (TP) for performing wrestling techniques -** (STANDING POSITION: throws, take down, counter attack; PARTERRE POSITION: gut wrench, lifts, turn over, counter attack),

**2.** Other Points as percentage of total points (OP) for non-wrestling techniques - (STANDING POSITION: passivity, caution, push out, challenge; PARTERRE POSITION: caution, challenge).

Figures 4-6 show the number of points achieved in medal matches by weight categories by the same two parameters, TP% and OP.

Figures 7-12 show TP% and OP% results for all weight categories combined by both all matches or medal matches.

#### ALL MATCHES

**Analysis of the all matches on WC 2017** TP is lower than the other points (OP). The range between the lowest and the highest percentage of technical points (TP) by weight category was 36.63%, and up to 63.35%. The number of points for other techniques (OP) range ranged from 34.65% to 66.00%. In two weight categories, the percentage of other points (OP) was less than the percentage points for technical points (TP). The means were 46.76% for technical points (TP) and 53.24% for other points (OP).

**Analysis of the all matches for EC 2018 (Figure 2)** in all weight categories, the results are much different after the change of the rules. The range between the smallest and the highest percentage of technical points by weight categories was 56.89%, and up to 85.87%. The number of points for other techniques ranged from 14.13% to 43.11%. In no weight category, were the percentage of technical points (TP) greater than the percentage of points for other techniques (OP). The mean were 68.62% points for technical points (TP) and 31.38% for other points (OP).

**Analysis of the all matches on WC 2018 (Figure 3)** in all weight categories, the results are similar to EC 2018. The range between the lowest and the highest percentage of technical points (TP) by weight categories was 59.51% and up to 82,68%. The number of points for other techniques (OP) ranged from 17.32% to 40.49%. In none of the weight categories, was the percentage of technical points (TP) was not les than the percentage of points for other techniques (OP). Average points were 71.86% for technical points (TP) and 28.14% for other points (OP).

This reason for the change in the the last two competitions was that the wrestlers could choose to continue the fight on the parterre position after passivity, where it is much easier to make points than in the standing position. Comparing EC 2018 and WC 2018, the percentage of points for technical points (TP) in all matches were slightly increased from 68.62% to 71.86% (an increase of 3.24%).

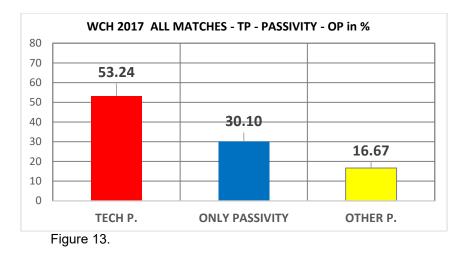
#### **MEDAL MATCHES**

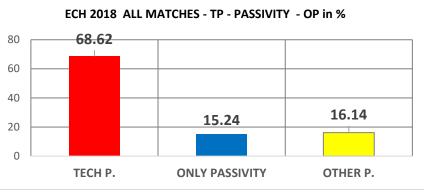
**Analysis of the final matches on WC 2017 (Figure 4)** By weight categories, it is visible that as 5 weight categories the number of technical points (TP) is lower than the other points (OP) that the wrestlers received without having performed any wrestling technique. Particularly significant is the fact that in the final matches, the winners in 3 weight categories won a gold or bronze medal without having made a single technical point, but until the victory they came to the referee assessment who the wrestler was more active in that fight. Average points were 42.52% for technical points (TP) and 57.48% for other points (OP).

**Analysis of the final matches on EC 2018 (Figure 5)** showed that there was a significant change in the points structure in the final matches, analyzing all weight categories separately, in terms of technical points, from 42.52% to 65.46% (an increase of 22.94%). In only one weight category, the number of technical points (TP) was lower in relation to other points (OP) and in one weight category was equal to 50% for these two parameters. An average of 65.46% points were for technical points (TP) and 34.54% for other points (OP).

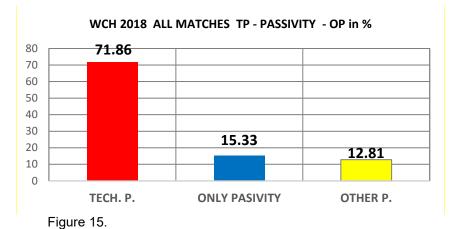
**Analysis of final matches on WC 2018 (Figure 6)** showed a similarity to EC 2018., with a slight decrease in the percentage of technical points (TP) from 65.46% to 63.02% (a decrease of 2.44%). The same as in the previous championship in only one weight category, the number of technical points (TP) was lower than the other points (OP) and in one weight category was equal to 50% for these two parameters. An average of 63.02% points were for technical points (TP) and 36.98% for other points (OP).

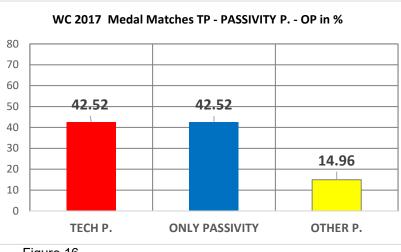
These data suggest that changes have taken place for the better, because the percentage of points for the performed wrestling techniques (TP) in relation to the other points (OP) has increased, but the exceptionally high percentage of points that the wrestlers win without making any wrestling technique above 30% (at the last WC 2018, the percentage in finals matches are very high and it is 36.98%). However, that there is some hope that the effects are headed in the right direction is the fact that in all matches on the WC 2018 technical points (TP) amounted to almost 72%, while the percentage of other techniques (OT) fell below 30% (28.14%).



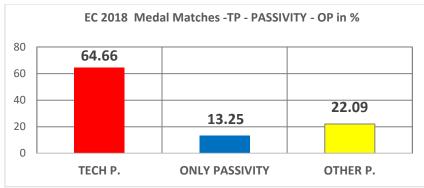






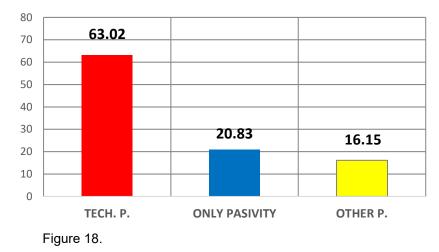








WC 2018. /I-II; III-V / TP - PASSIVITY P. - OP in %



# COMMENT (Figures 13 - 18.)

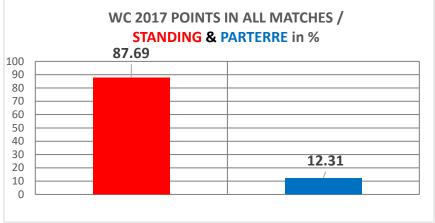
The Senior World Championships 2017 was the last big competition that was contested under the old rules. The analysis of this championship indicates catastrophic results. The information from the medal matches showed that wrestlers scored 42.52% points from passivity (Figure 16), which means that they didn't score with a wrestling technique. This data suggests that something had to be changed in the wrestling rules. After this championship, this was done.

At the following two big championships in 2018. in the medal matches at the Senior European Championships, this percentage of passivity was 13.25% and at the Senior World Championships, 20.83%. There was a significant decrease in points for passivity. Unfortunately, at the WC 2018, the number of points allocated for passivity is again high (20.83%). If all the matches in the championships are analyzed, the number of points for passivity is halved, from 30% it is reduced to 15%.

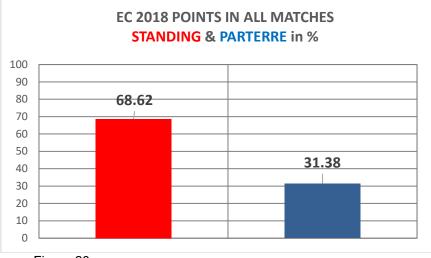
One of the main reasons for this decrease in the percentage of points for passivity is because the wrestlers after the passivity made the points in the parterre and the referee did not have the need to assign passivity so often.

Nevertheless, there was a reduction in points for passivity, but at the same time, there was an increase in other points that were not the result of the wrestling technique. In the final matches at the WC 2017, this amounted to 14.96% (Figure 16), and at the EC 2018 it was 22.09% (Figure 17).

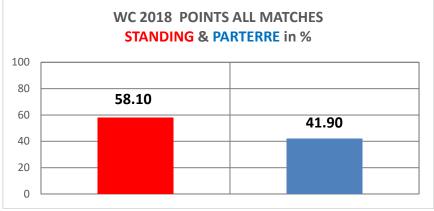
However, there was a decrease in points for passivity, but at the same time there was an increase for other points that were not the result of the wrestling technique, with the exception of all matches at the WC 2018, when for the other points there were a total of 12.81% (Figure 15).



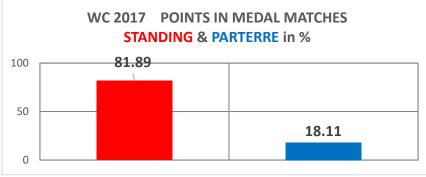














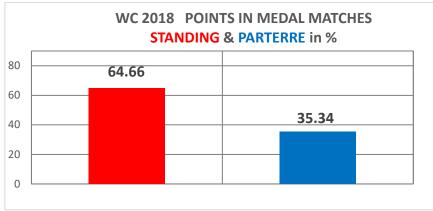
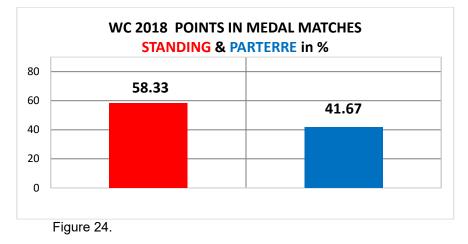


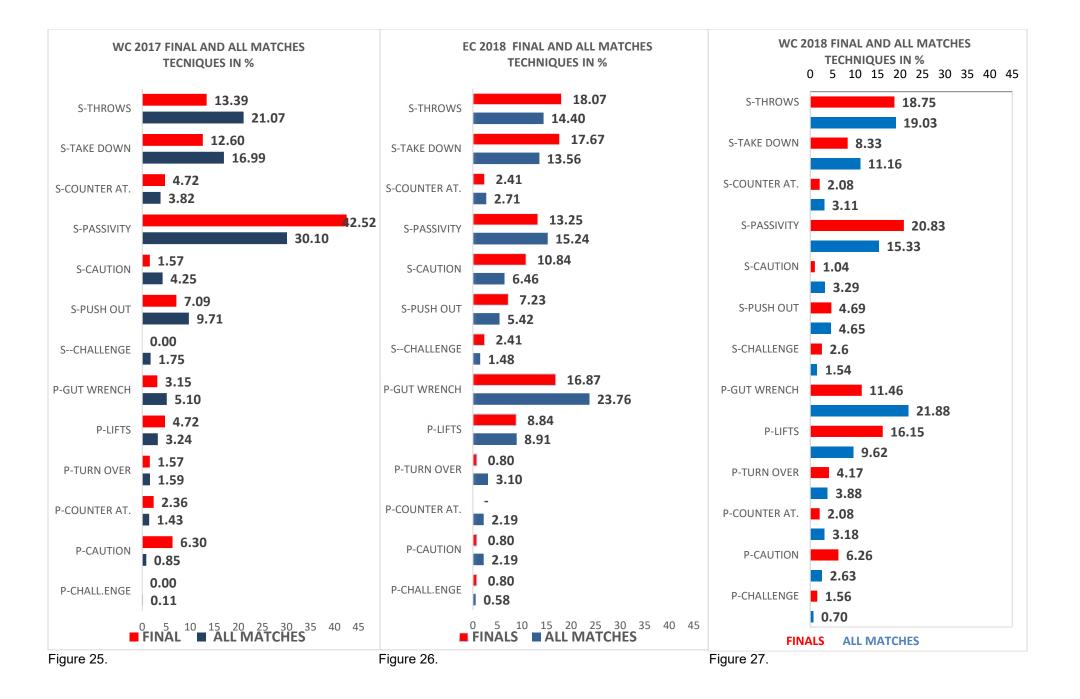
Figure 23.



# COMMENT (Figures 19 - 24)

Changes in the wrestling rules from January 1, 2018, significantly changed the point structure if the points scored in the standing position are analyzed in relation to the points in the parterre position. At the WC 2017, in all matches, only 12.31% of the points were won in the parterre position (Figure 19), and 18.11% in the medal matches (Figure 22). By changing the rules, at the EC 2018, the number of points for parterre techniques in all matches was increased. This increase was dramatic in all matches, amounting up to 31.38% (Figure 22) and 35.34 % in medal matches (Figure 23).

The tendency for scoring points in the parterre was continued at the WC 2018. In all matches, this increase was more than 10% and amounted to 41.90% (Figure 21,) compared to EC 2018. A similar situation was also observed in the medal matches where 41.67% of all points were won in a parterre position (Figure 24) These changes were expected because the wrestlers, after assigning passivity, went to the parterre position. For this reason, the wrestlers had a much more frequent opportunity to make points from the parterre position compared to the WC 2017 where there was not an ordered parterre. This change in the rules of wrestling has dramatically influenced the training of athletes where increased attention is given to the execution of techniques in a parterre position, and to subsequently reduce the points for the performed techniques in the standing position.



# COMMENT (Figures 25-27)

By changing the wrestling rules from January 1, 2018, it was expected that the structure of the points in relation to certain wrestling techniques (TP), as well as in relation to other points (OP) that are not considered as wrestling techniques, will change. Through the analysis of the data in figures 25-27, we can conclude the following:

- 1. The number of points awarded for passive wrestling went from a maximum of 42.52% in medal matches at the WC 2017 to 20.83% at the WC 2018, and was substantially reduced at the EC 2017 to 13.25%).
- 2. Likewise, when all the matches were analyzed, there was a significant reduction in the points that were given for passivity from 30.10% at the WC 2017, to 15.33% at the WC 2018. The EC 2017 value was 15,24%.
- 3. Wrestling throws in medal matches increased from 13% in the WC 2017 to 18%, in the WC 2018, but when all matches are examined the number of throws decreased, from 21.07 % to 19.03%.
- 4. There was a decrease in points for push outs, because the new rule did not automatically call for a point to be awarded. However, by reviewing the videos, it can be seen that referees do not apply the same criterion for giving points for leaving the mat. In one case, one point is given, and in the same situation in the second match, no point is awarded. This inconsistent interpretation of the same situations in a wrestling match must be addressed, or completely abolish this rule.
- 5. Compared to 2017, the gut wrench again became the most dominate technique with which points were scored, so that in the medal matches of the WC 2018, 21.88% of all points were for the gut wrench, and in the EC 2018 it was even higher 23.76%, compared to 2017 when only 5.10% of all points were awarded for the gut wrench.
- 6. The technique that is becoming more and more pronounced is the lift from the mat. With this technique, 16.15% of points were achieved in the medal matches, when compared to 2017 when it accounted for 4.72% of the points, which is 4 times greater. A large increase was also seen in the turn over technique which went from 1.57% in the final matches in the WC 2017 to 4.17% points in the WC 2018,







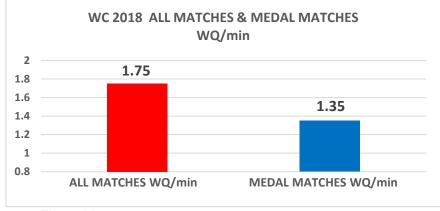


Figure 30.

#### COMMENT (Figures 28-30)

At the WC 2017, the average number of points per minute of the match (WQ/min) in all matches was 1.17 (Figure 28.), a year later at the EC 2018, it was 1.55 (Figure 29), and at the WC 2018 it increased to 1.75 (Figure 30) points per minute of match.

If only the final matches are examined, the situation is somewhat different and the best results are seen at the EC 2017, where this index was 1.64 points per minute of the match (Figure 29). At the WC 2018, this index was 1.35 points per minute of the match (Figure 30).

These results can be considered a significant increase and improvement over the previous period.

# FINAL COMMENTS AND PROPOSALS

Based on the analysis presented, the last three major competitions (WC 2017, EC 2018 and WC 2018), it can be concluded that there has been some progress in the wrestling match.

The wrestlers scored substantially more points in comparison to the previous years, as the number of points scored per minute of the match (WQ/min) increased from 1.17 to 1.75.

The structure of the points according to the analyzed parameters for the implemented wrestling techniques has been changed.

Also, the ratio of points awarded for those situations that cannot be classified as wrestling techniques is different.

There was a significant increase in the number of points made in the parterre position, but this is mostly due to one technique - the gut wrench.

There remains a strong criticism of a significant number of points that are being given where wrestlers do not perform any wrestling technique (OP) and according to the new rules of wrestling it is 36.98%, which is more than 1/3 of all points in the final wrestling matches.

# **PROPOSALS:**

- 1. It is necessary to consider the proposal to abolish the awarding of points for passive wrestling. It is punishment enough that the opponent has to go in the parterre position.
- A rule that defines "DESTRUCTIVE WRESTLING" needs to be fully implemented and consistently applied in the wrestling match, in order to allow wrestlers to perform wrestling techniques. If this rule is not applied, catching and holding fingers, keeping a low head position, will continue to prevent the performance of wrestling techniques. By consistently applying this rule, the percentage of points for other techniques would be significantly reduced (OT),
- 3. It is necessary to reconsider the rule of giving a point for stepping out of the mat, because of the totally uneven administration of this rule by the officials.