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TYPICAL CONTESTS IN MEN'S ARTISTIC GYMNASTICS IN AN OLYMPIC CYCLE

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Abstract

The Olympic Games have become a major phenomenon that has managed to stir great interest among the organizers. This interest is both from an economic and political perspective. To designate the organizing country, there are very rigorous pre-set criteria and conditions, for this grandiose sports event to achieve its goal. In this regard, the main actors, namely the athletes, train themselves trying to overcome human limits. These efforts are for athletes to get the desirable Olympic medal. In this research, we want to emphasise the increase of performance throughout the training of an athlete in an Olympic cycle in Men's Artistic Gymnastics. The reason for choosing the theme: Even if it is an individual sport, Men's Artistic Gymnastics is a technical sport with a high tactical character. This tactics in contests involves a team approach and also an individual one. The research purpose is to show how to deal with the training of gymnasts throughout the four years of training between two Olympic Games. Research hypothesis: Athletes present exercises of the whole Olympic cycle in the most difficult contests at the Olympic Games. Research methods applied: observation method, monitoring method, statistical method, graphical method, bibliographic study. The duration of the experiment extends over four years and involves the most valuable gymnasts of the moment, participating in the finals in the three editions of the World Championships, in 2013, 2014, 2015, and ending with the Olympics in Rio de Janeiro.

Keywords: Men's Artistic Gymnastics, athletic performance, Olympic Games.

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1. Introduction

Artistic Gymnastics is among the leading sports enjoying a great number of viewers. This assessment is made by the public from the Olympics sports. Athletes are aware of the positive effects of Artistic Gymnastics upon the human physical and psychological status (Grigore, 2001, p. 3). This attractiveness among viewers has developed progressively from one Olympic cycle to another, along with the increasing difficulty, spectacular character, but also due to the media coverage of the great competitions. This progressive growth has also been revealed by the number of competitors (both as individual athletes and as number of teams) and participating countries. The Olympic Games are the standard contest for any athlete. Qualifying for and taking part in this competition is considered a privilege. Most athletes prepare themselves professionally for several years in order to participate, at least once in a lifetime, in a competition of such level.

Because of the raised performance level achieved in Men's Artistic Gymnastics, the coach must adapt to modern training and permanently find methods and means to be applied in their activity with the athletes. Technology must be validated through successful cases, which may become models to follow (Ivan, 2016, p. 376).

In order to achieve the expected performance, during the training period, there are used several types of apparatus and installations (Popescu, 2005, p. 14). Some are used throughout the whole process of athletic training (Hidi, 2008, pp. 14-20) and others particularly in various tests. All this effort is in order to record the level and quality of the training or if the athletes are achieving the progress planned by the specialists, for example the program on the estimation of distance and speed ability (Gavojdea, 2016, p. 349).

Currently, high performance sport in general, but particularly Artistic Gymnastics, due to its complexity, cannot be practised any longer without scientifically applying specialised knowledge (Bocioaca, 2016, p. 5).

1.1. Scope of the research

We shall try to assess the performance limit proposed by each athlete. We aim to investigate: the borderline between the weight of exercise difficulty and the accuracy of the execution; how much one has renounced in favour of the other; how much it is worth performing the training with an emphasis on preparing the exercise difficulty or the athlete's accuracy of execution.

1.2. Research hypothesis

Athletes present exercises of the whole Olympic cycle in the most difficult contests at the Olympic Games.

2. Problem Statement

After the end of the 2016 Rio de Janeiro Olympics, it is worth making an analysis of the entire recently ended Olympic cycle. The growth of athletic values is so fast that, without such an analysis, we would risk remaining behind. No nation can stay in the top of the world hierarchy without trying to keep

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pace with tendencies in sport research, but also with the dynamic development recorded by Men's Artistic Gymnastics worldwide.

This research is updated in order to help both specialists and athletes to better understand the direction and level to start training for the current Olympic cycle.

The amendments brought to the Code of Points also represent a factor that must be taken into account in the next period, in order for the specialists and athletes to find the most effective training directions, methods and means to display in the following competitions the most valuable exercises from both the difficulty point of view and considering the execution, which must reach perfection. It is the only way for an athlete to look confidently towards the very wished-for Olympic medal.

2.1. The amendments of the Code of Points

After each Olympic cycle, the International Gymnastics Federation Men's Technical Committee amends, supplements and develops a new Code of Points. This comes into force at the beginning of the next Olympic cycle.

2.2. The limitative factor of the Code of Points

In the case of athletes reaching the top of their athletic career, an additional amendment of the Code of Points might represent a limitative factor for them to continue their sports activity.

There are athletes with a high level of technical preparation. For them as well, the amendment of the Code of Points might be a problem, so eventually some athletes will give up their careers.

Permanent supplement through the creation and inclusion in the Code of Points of new elements: most times, these new elements are more and more difficult, which has often caused performance athletes to give up.

3. Research Questions

Is it enough that the perspective of the athlete training to be, in terms of the scores for difficulty and execution and the final score, as high as possible?

3.1. Difficulty score

Is it more advantageous for athletes to display more difficult exercises to the detriment of execution?

3.2. Execution score

Is it more advantageous for athletes to focus training only on growing the quality of their execution to the detriment of difficulty?

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4. Purpose of the Study

We suggest in this study to observe the evolution of the first three gymnasts in the apparatus finals at the World Championships and the Olympic Games in the Olympic cycle 2013-2016.

5. Research Methods

In this research, we used the following research methods: observation method, monitoring method, statistical method, graphical method, bibliographic study.

The data were recorded by viewing the most important four competitions of Men's Artistic Gymnastics between 2013 and 2016, namely the World Championships of Antwerp 2013, Nanjing 2014, Glasgow 2015 and the Olympic Games of Rio 2016 (Table 01).

We selected for analysis only the first three medallists in the apparatus finals for the six competition apparatus, namely the Floor, Pommel Horse, Still Rings, Vault, Parallel Bars and High Bars.

5.1. Recordings of the athletes' rank, country, initials and final score at the World Championships 2013-2015 and the OG 2016

Table 01. Final Score at the WC 2013-2015 and the OG 2016

Competition	Rank	Floor	Pommel Horse	Still Rings	Vault	Parallel Bars	High Bars
CM	I	JPN SK 16.00	JPN KK 15.855	BRA NA 15.8	KOR YH 15.533	CHN LC 15.666	NED ZE 16.00
Antwerp	II	USA DJ 15.60	GBR WM 15.633	RUS BA 15.733	USA LS 15.249	JPN UK 15.666	GER HF 15.933
2013	III	JPN UK 15.50	MEX CBD 15.633	USA WB 15.666	GBR TK 15.233	USA OJ 15.533	JPN UK 15.633
CM	I	RUS AD 15.750	HUN BK 16.033	CHN LY 15.933	PKR RSG 15.416	UKR VO 16.125	NED ZE 16.225
Nanjing	II	JPN SK 15,733	CRO UF 15.783	BRA VO 15.733	UKR RI 15.333	USA LD 15.933	JPN UK 15.725
2014	III	BRA HD 15.7	FRA TC 15.6	CHN VH 15.7	USA DJ 15.199	JPN KR 15.666	CRO MM 15.00
CM	I	JPN SK 16.233	GBR WM 16.133	GER PE 15.8	PKR RSG 15.450	CHN YH 16.216	JPN UK 15.833
Glasgow	II	GBR WM 15.566	GBR SL 16.033	CHN YH 15.733	ROU DM 15.4	UKR VO 16.066	USA LD 15.7
2015	III	ESP ZSRM 15.2	ARM MH 15.5	CHN LY 15.7	USA WD 15.350	AZR SO 15.966	CUB LM 16.6

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OG	I	GBR WM 15.633	GBR WM 15.966	GRE PE 16.00	PKR RSG 15.691	UKR VO 16.041	GER HF 15.766
Rio	II	BRA HD 15.533	GBR SL 15.833	BRA ZA 15.766	RUS AD 15.516	USA LD 15.9	USA LD 15.5
2016	III	BRA MA 15.433	USA NA 15.7	RUS AD 15.7	JPN SK 15.449	RUS BD 15.783	GBR WM 15.466

Table legend: we used abbreviation for country names and initials for competitors' names.
CM – World Championship
OG – Olympic Games

5.2. Graphs of D-Score, E-Score and Final-Score recorded at the WC 2013-2015 and the OG 2016

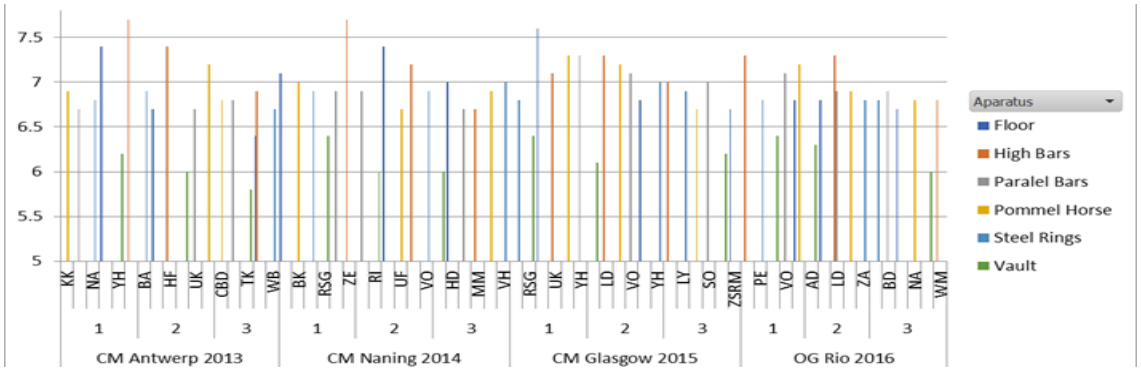

Figure 01. D-score at the WC 2013-2015 and the OG 2016

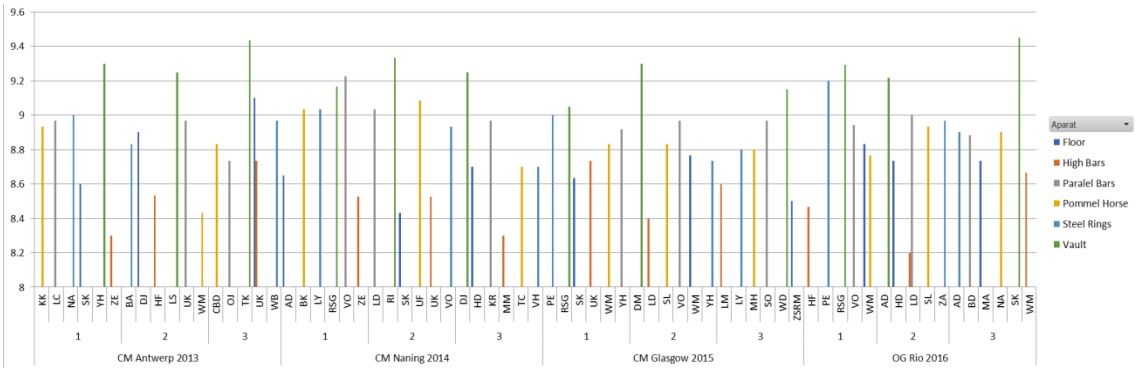

Figure 02. E-score at the WC 2013-2015 and the OG 2016

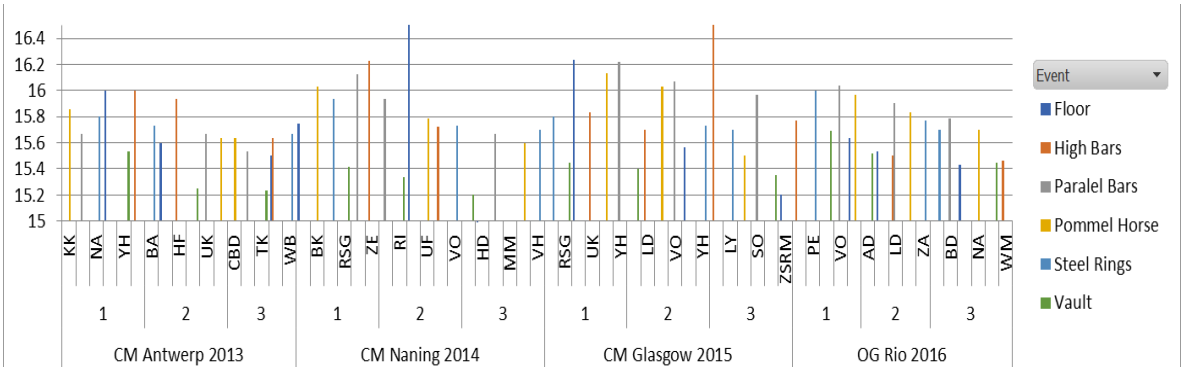

Figure 03. Final-score at the WC 2013 - 2015 and the OG 2016

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6. Findings

The findings must be made objectively in order to offer specialists or those interested a reference point and appreciations regarding this issue.

6.1. General findings

We can see from Table 01 that there are few athletes who win with a large advantage a competition of such level.

The level of the finalists is sensitively equal.

Differences among the first three ranked are often within the same tenth of a point.

In the general research, we had a general perspective over the apparatus results of the eight finalists and we can state that any of these had competitive exercises and could have won if they had displayed their exercise in the superlative.

Any medium or large error brings penalties and the athlete's removal from the fight for medals.

6.2. Special findings

There are finals in which medallists could not be differentiated between them, being ranked with equal points.

In 2013, athletes displayed exercises of a lower difficulty, and as we near 2016, they display exercises of a growing difficulty.

We notice we have athletes specialised in certain events. There are also those with the highest starting points per apparatus.

The number of complete athletes worldwide with a very high difficulty is low.

There is a growth of athletes specialised in events, in one, two or three apparatus.

7. Conclusion

Following the research conducted in competitions extended over a whole Olympic cycle, it would be a mistake to make a recommendation by certainly saying that one can attend competitions with an exercise structured only in one way.

The borderline between the weight of exercise difficulty and its accuracy is represented by the athlete's level of technicality.

Giving up the quality of the execution in favour of difficulty has always proven not be efficient, athletes receiving high penalties or even failing completely, thus always leaving the race for medals (Figure 01).

We also had the surprise to notice there were medallists displaying exercises of a lower difficulty degree, but managing to obtain very good results in the apparatus finals through perfect executions (Figure 03). We can take this aspect into consideration and recommend that it is desirable to emphasise high- level training of the execution, and subsequently to slightly raise difficulty.

The athlete's execution accuracy must be the basis for any exercise (Figure 02).

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If we are to consider the ideal exercise, this is composed as follows: raised difficulty and faultless execution.

Research hypothesis. The athletes present exercises of the whole Olympic cycle in the most difficult contests at the Olympic Games: Yes. The athletes have progressively increased their value from one year to the other. Through these statements, we also answer the research questions previously stated in this paper.

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