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# STUDY REGARDING THE INFLUENCE OF: BREED, SEX ANT TESTS ON THE PLACE AT THE WORLD CHAMPIONSHIPS FOR YOUNG DRESSAGE HORSES IN THE YEAR 2018

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## Abstract

At the World Championship for young dressage horses, year 2018, for the age of 5 years, participated 13 different breeds, belonging to traditional breeds and sport breeds.

For this research we examine all 5 year old dressage horses from Euro dressage World Championships for young dressage horses year 2018, divided in 2 groups for breed variable (traditional breeds and sport breeds), and 2 groups for sex, and test variables.

Data was manipulated using Excel 2007 (Microsoft) and was analyzed using SPSS Version 21 for Windows (IBM, USA).

The aim of the statistical analysis was to explore any differences in the results at the World Championships for Young Dressage Horses in the year 2018 between horses from different breed, sex and test.

The value of alpha was set at 0.05 for all statistical tests.

In preliminary test and in consolation test there were no recorded differences between the sexes of the participating horses.

Instead, if in the preliminary test and in the consolation test participate both: horses belonging to traditional breeds and horses belonging to sports breeds, in the final test only qualifies horses belonging to sports breeds.

The horses results at the World Championships for Young Dressage Horses in the year 2018 at final test is significantly higher ( $p = 0.042$ ) in the case of stallions ( $\bar{X}=8.7250$ ) compared to geldings ( $\bar{X} = 4.5800$ ).

In conclusion we can say that the higher share of participation in the World Championship for young dressage horses and the qualification of the final tests belongs to the horses of the sports breeds.

**Key words:** dressage, preliminary test, consolation test, final test, sport horses, traditional horses

## INTRODUCTION

The purpose of training the horse is to develop it through harmonious education. The horse must be calm, supple, free and flexible, but also confident, attentive and eager, thus obtaining the perfect understanding with the athlete. [4]

By definition, it is a systematic approach to the athletic formation and conditioning of the horse, gradually educating it through a series of gymnastics movements at progressive levels. Each level is based on the previous one, preparing the physical and mental horse for increasingly difficult movements. [5]

Training promotes harmony and communication between horse and rider, because the results are achieved through cooperation and understanding, and not by coercion or force. [2]

In training competitions, each level of development in the continuous instruction of the horse and rider is tested. [10]

This is why a dressage show is different from any other horse show. A training test consists in making certain transitions and movements, in a certain order, in a rectangular arena of 20 x 40 m, marked in letters. The letters assist the rider in knowing when and where to execute a certain movement. Each movement receives a score from 1 to 10, accuracy, promptness and correctness of execution. [3]

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The World Championships (FEI) are open to all nations on the continents. [7]

In this competition, horses from around the world are participating with great attention based on their skills and results. [9]

Nowadays, for most horse breeds of dressage was created a very well developed program of selection with remarkable results. [1]

The superior dressage is especially intended for the confirmed qualities and instructors who, outside the practice of sporting qualities, must assimilated and all the nuances of equestrian art. [6].

Thus, they obtained an elegant horse with remarkable athletic skills and very good results in major training competitions. [8].

## MATERIAL AND METHOD

### 1. Animals

For this research we examine the first 42 dressage horses from Euro dressage, World Championship for young dressage horses, year 2018 [9].

The horses distribution for the four variables taken into account (sex, test and breed) is shown in Table 1.

Table 1 Horse distribution according to gender, test and breed

Breed	Sex			Test		
	s	m	g	Preliminary	Consolation	Final
SB	19	10	6	36	21	16
TB	7	0	0	6	7	0

SB: sport breeds, TB: traditional breeds, s: stallions, m: mares and g: gelding,

### 2. Statistical analysis

Data was manipulated using Excel 2007 (Microsoft) and was analyzed using SPSS Version 21 for Windows (IBM, USA).

The aim of the statistical analysis was to explore any differences in the results at the World Championships for Young Dressage Horses in the year 2018 between horses from different breed, sex and test. The value of alpha was set at 0.05 for all statistical tests.

## RESULTS AND DISCUSSION

The results shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 for the 42 horses taken into study vary between 0.00 and 9.06, with an average of 7.8014 for Preliminary test, 6.78 and 8.96, with an average of 7.7764 for Consolation test and 0.00 and 9.62, with an average of 8.2269 for Final test.

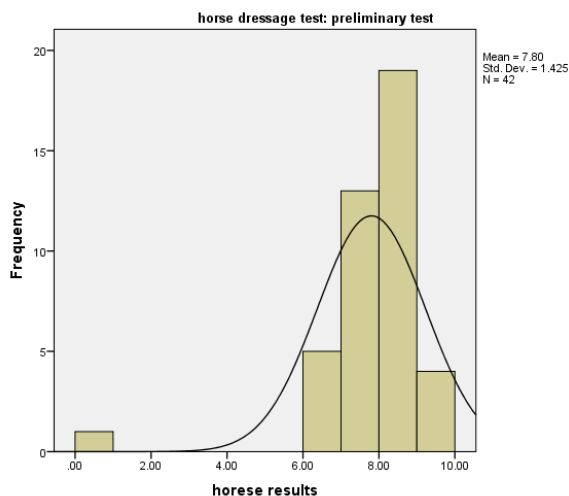


Fig. 1 Normal distribution of the horses results at the World Championships for Young Dressage Horses in the year 2018 for Preliminary test in the studied population

The horses results at the World Championships for Young Dressage Horses in the year 2018 for the 42 horses taken into

study vary between 0.00 and 9.06, with an average of 7.8014 for Preliminary test.

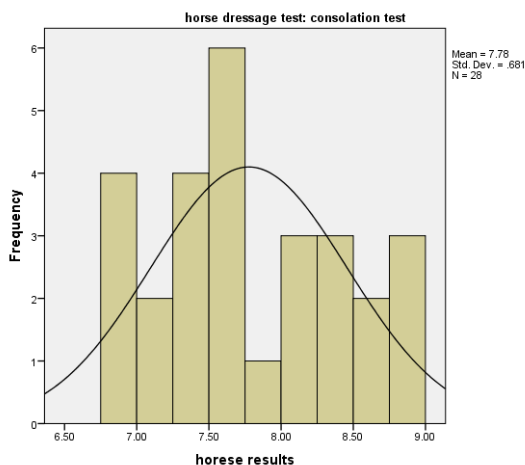


Fig. 2 Normal distribution of the horses results at the World Championships for Young Dressage Horses in the year 2018 for Consolation test in the studied population

The results shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 for the 42

horses taken into study vary between 6.78 and 8.96, with an average of 7.7764 for Consolation test

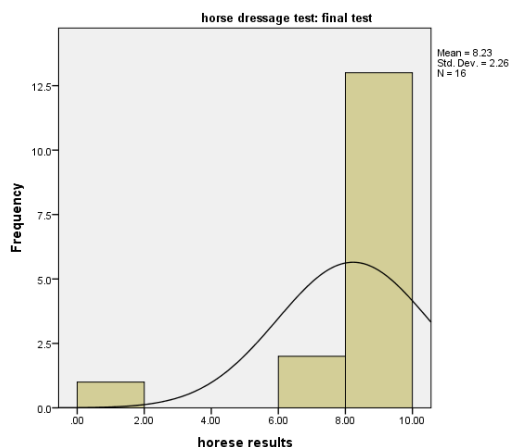


Fig. 3 Normal distribution of the horses results at the World Championships for Young Dressage Horses in the year 2018 for Final test in the studied population

The results shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 for the 42 horses taken into study vary between 0.00 and 9.62, with an average of 8.2269 for Final test.

Championships for Young Dressage Horses in the year 2018 after test variable : preliminary test, consolation test and final test. After that we realized the statistical analysis for sex variable and for breed variable for each tast in part preliminary, consolation and final:

We split the horses results at the World

1. Sex variable

a. Preliminary test:

For the sex variable the results from the statistical analysis shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 does not present a statistically significant differences for the 0.05 significance level ( $F =$

0,751,  $p = 0,511$ ).

So, in the descriptive statistics for  $\bar{X}$  the values are close: for mare = 8.1980, for stallion = 7.5915, for gelding = 8.0500.

We can say that there are no statistically significant differences between mares, stallions and geldings

Table 2 Descriptive statistics for the sex variable in preliminary test

Sex variable	N	$\bar{X}$	s	( $\pm S\bar{x}$ )	Minim	Maxim
mare	10	8.1980	0.52081	0.16469	7.18	8.74
stallion	26	7.5915	1.73572	0.34040	00	9.06
gelding	6	8.0500	0.70083	0.28611	6.96	9.00
Total	42	7.8014	1.42541	0.21995	00	9.06

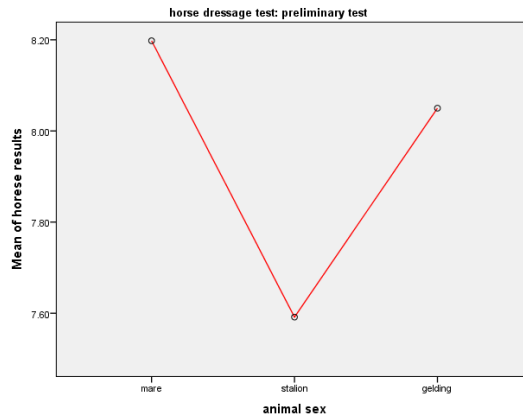


Fig. 4 Means Plots of the results at the World Championships for Young Dressage Horses in the year 2018 for sex variable in preliminary test

The statistical analysis shows that the horses results does not present a statistically significant differences for the 0.05 significance level ( $F = 0,751, p = 0,511$ ).

b. Consolation test:

For the sex variable the results from the statistical analysis shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 does not presents a statistically significant

differences for the 0.05 significance level ( $F = 0,689, p = 0,511$ ).

So, in the descriptive statistics for  $\bar{X}$  the values are close: for mare = 8.0400, for stallion = 7.7400, for gelding = 7.5450.

We can say that there are no statistically significant differences between mares, stallions and geldings.

Table 3 Descriptive statistics for the sex variable in consolation test

Sex variable	N	$\bar{X}$	s	( $\pm S\bar{x}$ )	Minim	Maxim
mare	6	8.0400	0.77014	0.31441	7.10	8.90
stallion	18	7.7400	0.69367	0.16350	6.78	8.96
gelding	4	7.5450	0.49271	0.24636	6.90	8.10
Total	28	7.7764	0.68120	0.12873	6.78	8.96

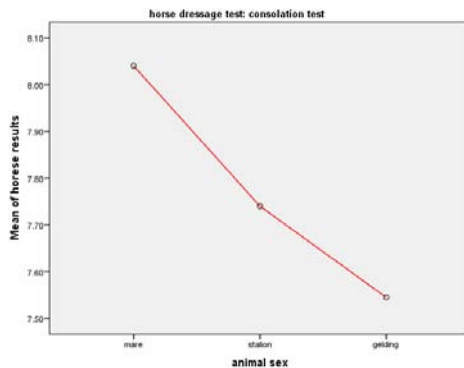


Fig. 5 Means Plots of the results at the World Championships for Young Dressage Horses in the year 2018 for sex variable in consolation test

The results from the statistical analysis shows that the horses results does not presents a statistically significant differences for the 0.05 significance level ( $F = 0,689$ ,  $p = 0,511$ ).

c. Final test:

For the sex variable the results from the statistical analysis shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 present a statistically significant differences for the 0.05 significance level ( $F=4.282$ ,  $p=0.037$ ).

The horses results at the World Championships for Young Dressage Horses in

the year 2018 at final test is significantly higher ( $p = 0.042$ ) in the case of stallions ( $\bar{X}=8.7250$ ) compared to geldings ( $\bar{X}=4.5800$ ), but there is no statistically significant differences between mares and geldings.

So, in the descriptive statistics for  $\bar{X}$  the values are close for mare = 8.8050 and for stallion = 8.7250, but for gelding the  $\bar{X} = 4.5800$  is approximately half of stallion  $\bar{X}$  value. There is no statistically differences between mares and geldings.

Table 4 Descriptive statistics for the sex variable in final test

Sex variable	N	$\bar{X}$	s	( $\pm S\bar{x}$ )	Minim	Maxim
mare	4	8.8050	0.40179	0.20089	8.50	9.38
stallion	10	8.7250	0.64438	0.20377	7.84	9.62
gelding	2	4.5800	6.47710	4.58000	00	9.16
Total	16	8.2269	2.25967	.56492	00	9.62

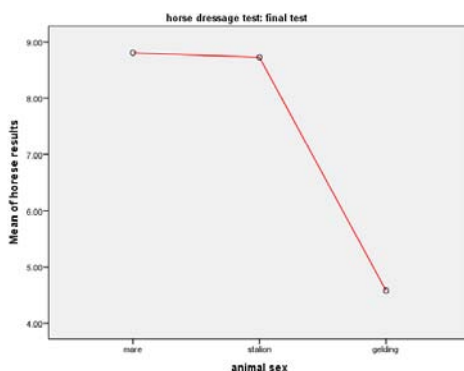


Fig. 6 Means Plots of the results at the World Championships for Young Dressage Horses in the year 2018 for sex variable in final test

The horses results at final test shows that the value is significantly higher ( $p = 0.042$ ) in the case of stallions ( $\bar{X}=8.7250$ ) compared to geldings ( $\bar{X} =4.5800$ ), but there is no statistically significant differences between mares and geldings.

2. Breed variable:

a. Preliminary test:

For the breed variable the results from the statistical analysis shows that the horses results at the World Championships for

Young Dressage Horses in the year 2018 does not presents a statistically significant differences for the 0.05 significance level ( $t = 1.206, p = 0.235$ ).

So, in the descriptive statistics for  $\bar{X}$  the values are close: for sport breeds = 7.8984 and for traditional breeds = 7.0840.

We can say that there are no statistically significant differences between Sport breeds and Traditional breeds.

Table 5 Descriptive statistics for the breed variable in preliminary test

Breed variable	N	$\bar{X}$	s	( $\pm S\bar{x}$ )
Sport breeds	37	7.8984	1.48961	0.24489
Traditional breeds	5	7.0840	0.35367	0.15816

b. Consolation test:

For the breed variable the results from the statistical analysis shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 does not presents a statistically significant differences for the 0.05 significance level ( $t =$

1.945,  $p = 0.063$ ).

So, in the descriptive statistics for  $\bar{X}$  the values are close: for sport breeds = 7.9009 and for traditional breeds = 7.3200.

We can say that there are no statistically significant differences between Sport breeds and Traditional breeds

Table 6 Descriptive statistics for the sex variable in consolation test

Breed variable	N	$\bar{X}$	s	( $\pm S\bar{x}$ )
Sport breeds	22	7.9009	0.67813	0.14458
Traditional breeds	6	7.3200	0.50612	0.20662

c. Final test:

For the breed variable the results from the statistical analysis shows that the horses results at the World Championships for Young Dressage Horses in the year 2018 does not present a statistically significant differences for the 0.05 significance level, the

Independent Sample T-Test can't be performed because there are no horses from Traditional Breeds that qualified to this test.

So, the  $\bar{X}$  value for sport breeds is 8.2269, but for traditional breeds does not exist, because there are no horses from Traditional Breeds that qualified in final test.

Table 7 Descriptive statistics for the breed variable in final test

Breed variable	N	$\bar{X}$	s	( $\pm S\bar{x}$ )
Sport breeds	16	8.2269	2.25967	.56492
Traditional breeds	0 <sup>b</sup>	.	.	.

**CONCLUSIONS**

In conclusion we can say that if first there were no differences between horses belonging to sport breeds and horses belonging to traditional breeds, nor between the sex of the participating horses in the preliminary test and the consolation test, along the way, the final

test is observed that no horse belonging to traditional breeds has been qualified.

At the final test, there were recorded differences between stallions and gelding belonging to the sport races, stallions getting substantial better results.

The horses results at the World Championships for Young Dressage Horses in the year 2018 at final test is significantly higher ( $p = 0.042$ ) in the case of stallions ( $\bar{X}=8.7250$ ) compared to geldings ( $\bar{X}=4.5800$ ).

So, the best results obtained in world-wide dressage competitions were obtained by stallions belonging to the sport races.

The first two seats were occupied by stallions belonging to the sport races, and the 3rd place was occupied by a mare belonging also to sport races.

We can conclude that through intensive and carefully selected reproduction programs, the horses belonging to sports races are the unbeatable champions of dressage competitions.

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